Contents

Views of Domestic Violence from the Perspective of Immigrant Mexican Women as a Norm in Their Romantic Relationships. by Catalina Alvarez-Alvarez........................................................................................................1

California Indian Women Basketweavers As Grassroots Political Activists by Amber Bill.........................................................................................................................18

Catastrophic Flood Prevention in the Downtown Sacramento and Natomas Regions: Compared and Contrasted with New Orleans and Hurricane Katrina by Kalil Kamara..................33

Understanding the Challenges, Experiences and Developmental Needs of English Language Learners Students at Loma High School by Alicia Marquez.................................................................48

Assessment of Eating Habits, Attitudes and Knowledge of African American Females in Relation to Coronary Heart Disease (CHD) by Lusi Marcia Martin.................................................................65

The Quest for Glory: Pericles and The History of the Peloponnesian War by Carmelita Miller.................................................................83

The Effects of Native Californian Plants on Estrogen Receptor Positive Breast Cancer Cells by Pang Mou.................................................................97

Validation of Food Frequency Questionnaire for Asian Indian Gujarati Women in the Greater Central Valley of California by Priti Patel................................................................................109

Unknown History: The Affects of the Bracero Guestworker Program, 1942-1964 by Jessica Ramirez.................................................................117

Transformation of Gender Roles among First and Second Stage Immigrant Mexican Couples by Adrián Rocha-Alvarez..........................136

Understanding Alexithymia and Its Relation to Binge Eating Disorder in Obese Individuals by Jennifer Anne Simpson..............................152

Differences in Intelligence Scores Across Ethnic Groups by Adrienne Taylor................................................................................168
Dr. Ronald E. McNair was a mission specialist on the Challenger space shuttle. This year marks the 20th anniversary of his death, which launched a legacy of access to graduate education through the McNair Scholars Program for students across our country. The research articles in this volume represent the beginning of an academic enterprise for a group of talented individuals, making them beneficiaries of Dr. McNair’s legacy. The work in this journal is evidence of not only the talents of the McNair Scholars in our program, but also of the overall quality of students attending California State University, Sacramento. The scholars represent the excellence of our academic programs and the positive impact of our faculty’s dedication to fostering an active learning environment.

As a community of educators, we are especially proud to see how these students have grown as scholars. Through their research experience, the McNair scholars have learned the skills necessary to produce new knowledge. The McNair Scholars Program staff appreciates the guidance, expertise, and patience of our faculty mentors, which benefits the scholars and, thereby, the academic community as a whole. Our students are also fortunate to have a large support network of dedicated and professional staff members who work with the students as social mentors, encouraging and nurturing their hopes and dreams for rich intellectual futures. With the work presented here, the scholars have laid the foundation for productive careers in the academy.

I congratulate our scholars for their work, and I salute Dr. McNair for the legacy of academic exploration he has afforded to our students.

Chevelle Newsome, Ph.D.
Associate Dean for Graduate Studies and
Director for the McNair Scholars Program
Views of Domestic Violence from the Perspective of Immigrant Mexican Women as a Norm in Their Romantic Relationships

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Abstract
This study investigates influencing factors that contribute to immigrant Mexican women (IMW) between the ages 20-60 viewing domestic violence (DV) as a romantic relationship norm. The term romantic relationship refers to women who are living with or married to a male partner. Six women from Stockton, California were interviewed. The interviews consisted of open-ended and close-ended questions, and were conducted in Spanish, as the participants were unable to either speak or write English. The phase of the interview containing open-ended questions was audio-taped. The researcher used descriptive statistics to analyze the data obtained from the close-ended questions, and transcribed interview data from the audiotape. Context analysis was used to identify emergent themes.

The Violence Against Women Act (VAWA) of 1994 “was the most expansive federal legislation to address violence against women in the United States,” as explained by Nancy Americk-Meyer in The Violence Against Women Act of 1994, An Analysis of Intent and Perception. Although women in an abusive relationship are now protected by the law, some do not seek help. This research focuses on the probability that domestic violence is seen as a relationship norm by Immigrant Mexican Women (IMW) between the ages of 30 and 60 years old. If a woman’s inner thoughts tell her that domestic violence is wrong, but that it is a normal part of romantic relationships, then this woman might view the abuse as acceptable part of the relationship. The focus of this study is to identify factors that may lead IMW to view domestic violence as a norm of their romantic relationships.

Rationale
This study will contribute to the limited body of knowledge about domestic violence and IMW. Although other studies have explored reasons why IMW remain in abusive relationships, as explained by Loue in Intimate Partner Violence, Societal, Medical, Legal, and Individual Responses (2001, p. 134), the gap that remains is the lack of exploration concerning the possible influence of cultural norms and gender roles on the situation. Studies exploring the reasons why IMW remain in abusive relationships also looked at the possibilities of why these women do not (or rarely) seek professional help to leave their abusive relationships. These studies, too, have not explored the possible cultural role norms that may play a role in the decisions IMW
make about their relationships. Such studies have generated important data concerning domestic abuse in the lives of IMW; however, there is a limited body of research that focuses on the possibility that IMW may see the violence as a component of their significant relationships. The possibility that IMW accept domestic violence as a part of their relationships is what drove this study.

**Literature Review**

The discussion of how domestic violence is seen by the immigrant Mexican community requires a definition of domestic violence. Throughout time, the idea of abusive households has been titled with different terminology, such as: battered women, abused women, and family violence (Jones, 2000, p. 86). Although these terms have been closely related with abusive husbands or partners, the most common term used is domestic violence (Jones, 2000, p. 88). For the purpose of this study, *domestic violence* is defined as a combination of the following three statements: 1) “being made to feel inferior at all times, not allowed to make any decisions, must be totally dependent on the dominant person”; 2) “a husband not letting his wife leave the house because he is jealous or doesn’t trust her”; and 3) “when a spouse demands to exert control over the other spouse by words and actions constantly” (Morrison-Malley & Hines, 2004, p. 15). The prevalence of domestic violence in the United States is striking; Jones said “every day at least four women die violently at the hands of the men who profess to love them” (p. 86). The women who do not die as a result of such physical violence end up in emergency hospital rooms, often suffering permanent injuries, such as “brain damage, blindness, deafness, speech loss through laryngeal damage, disfigurement and mutilation, damage to or loss of internal organs, paralysis, sterility, and so on” (Jones, 2000, p. 87). While no population is left untouched by abusiveness, its presence in the immigrant Mexican community is often viewed as an act of pride and Machismo (meaning male dominance). Although the concept of machismo has both a positive and negative connotation, in the Mexican community a “macho” man is supposed to be violent, drunken, and harsh with children (Morrison-Malley & Hines, 2004, p. 153).

Whereas many studies have focused on why IMW remain in abusive relationships, very few studies have explored the possibility that IMW might view the violence as a norm in intimate partner relationships. Acevedo (2000) described the traditional gender roles that IMW may identify with: “…males and females acquire specific roles, particularly in marriage, in which the male is the head-of-household, breadwinner, and decision-maker, and the female is self-sacrificing and submissive” (p. 247). Psycho-Social stressors, such as undocumented status, inability to speak English, financial deficiencies, and feelings of isolation add to the risk of IMW being abused by their male partners (Acevedo, 2000, p. 248). In addition, the “norm” of domestic violence as an element of intimate relationships with male partners
may be passed from one generation to the next in the immigrant Mexican community. For example, some of the IMW who participated in Acevedo’s study shared that their mothers had experienced domestic violence, but had chosen to remain in their relationships. Acevedo’s (2000) findings are based on a set of interviews with IMW. Sharing some of the statements from Acevedo’s interviews may give us a better understanding of how domestic violence may be viewed as a norm in some relationships. Comments shared by the participants that were given to them as advice from their mothers included: “My mother believed/said, “You wanted to leave the house, God Bless you, I give you my blessings, whether they eat you, kill you, I present you, you gave yourself…” and “I thought that was how life was, and I accepted it however it came” (p. 259). Such advice from their own mothers may not only reinforce a norm of domestic violence in romantic relationships, but may also convey the message that should the woman leave her relationship, she would not have her mother’s support.

As noted previously, some IMW enter marriage or a serious romantic relationship believing that domestic violence is a norm. The women in Acevedo’s (2000) study did not question the “why” of the domestic violence occurring in their relationships, but they did recognize that the violence began to occur as the men expected more of them. Further research conducted by Salcido and Adelman (2004) included a participant who stated “I spent more and more time at home and his demands became greater and greater. At first it was having the dinner ready when he got home, then that it be warm and served by the time he would walk in the door, this was the first time he slapped me” (p. 2). It appears that after some IMW commit themselves to their marriage or serious relationship they are abused as their partners expect more of them and the women cannot or will not give more. The abuse takes the form of aggressiveness and physical violence, and in the form of control (Salcido & Adelman, 2004, p. 7). Men tend to control IMW by imposing their machismo over them. Most abusive male partners threaten their IMW victims (if the IMW are undocumented) to deport them if they do not obey, or complain while doing so (Salcido & Adelman, 2004, p. 4). Undocumented means that the person is illegally residing in a foreign country, in this case, the United States.

The types of control imposed by the male partners of the IMW can take many forms, with spirituality being one of them. For example, Chave, a devoted, religious Catholic woman who was a participant in the Salcido and Adelman study, continuously told her husband that it was her desire to go to church. Her husband’s response was “…you love God so much, then you can stay and sleep with him in church” (2004, p. 6).

**Cycle of Violence**

Although domestic violence can occur abruptly, it usually follows a cycle. The cycle of domestic violence describes some of the behaviors that both the abuser and victim fall into before and after the abuse has occurred. Wexler’s
(2000) description of the three primary stages in the cycle of family violence is: “(1) tension-building (escalation); (2) violence (explosion); and (3) calm, loving (honeymoon)” (p. 64). It is important to note that while not all couples experience domestic violence in this way, this cycle of violence depicts the typical pattern. During the tension-building phase, the victim usually feels guilty for feeling uncomfortable, while the abuser denies responsibility for his actions by blaming the victim as the tension-maker. One example might be the abuser blaming his victim for the difficulties the abuser had at work or with traffic. Moving on, during the explosion phase the victim usually denies her injuries to others by saying things like “It is only minor,” or “I bruise easily” (Wexler, 2000, p. 67). In this phase, the abuser continues to blame his female partner, justifying his acts with phrases such as “She had it coming” (Wexler, 2000, p. 67). Lastly, the calm and loving phase is when the victim minimizes her injuries using phrases such as “It could have been worse” and believes that the violence will stop. At this point in the cycle the abuser promises his victim that the abuse will terminate, as he also believes that it won’t happen again. The cycle of violence can be broken in the lives of couples if one partner decides to abandon the relationship (Wexler, 2000, p. 69).

The cycle of violence might not be recognized in the immigrant Mexican community because physical maltreatment and verbal abuse are oftentimes considered a normal component of a romantic relationship. A person’s ethnicity is fundamentally influential when determining gender roles, norms, and values that significantly shape his/her responses to domestic violence. Roberts (2000) provides information on how Hispanic women view violence as part of romantic relationships, and how government social services agencies lack the ability to properly assist this community (p. 464). Also, Roberts emphasizes that “cultural factors such as machismo (male dominance), marianismo (female submission), and traditional family structures with strictly defined sex roles and a strong Catholic tradition are key determinants of the responses of Latina women to domestic abuse” (Roberts, 2002, p. 466-67).

Roberts (2002) conducted a study with 25 Latina women and 25 Anglo-White women that focused on women’s attitudes toward wife abuse. In addition, the researcher explored their perception of what constituted abuse (Roberts, 2002, p. 467). Robert’s study found that the Latina women were more tolerant of wife abuse than the Anglo-White women, and had different views on the issue. For example, acts, such as hitting or verbal abuse, had to occur on almost a daily basis in order for the Latina women to consider it abuse. The Anglo-White women did not share the same belief, as they reported that abuse could take place both physically and verbally. In addition, Anglo-White women considered abusive behavior to include verbal abuse and the failure to provide adequate food and shelter; however, Latina women did not consider such behaviors abusive (Roberts, 2002, p. 468). One Latina woman reported that on one occasion she believed she was being abused by her partner;
however, she was undocumented and afraid of reporting the abuse. Like this woman, other Latinas are not only being abused by their male partners but also live in fear of deportation (Roberts, 2002, p. 470).

As devastating as physical domestic violence might be in the lives of IMW, emotional abuse is as equally painful and occurs as frequently (Loring, 1994, p.12). Loring’s (1994) conducted research on women who were emotionally abused by their husbands or partners. Observing that, perpetrators generally abuse their victim emotionally and then transcend to physical maltreatment (p. 13). Men in the immigrant Mexican community, due to their gender and gender roles, hold more power in their marriages or committed relationships than, women do (Morrison-Malley & Hines, 2004, p. 152-153). Consequently, these men may feel superior to their female partners and may use violence to maintain his position. For example, if the woman does not agree with what her partner says and her partner feels that his beliefs are superior to those of his partner, he may utilize violence. The violence might not necessarily be physical, but rather emotional (Loring, 1994, p. 15).

**Emotional Abuse**

Much literature concentrates on the forms of emotional abuse, the trauma that may result from it, and its treatment techniques. Loring notes that emotional abuse is, “Fraught with degradation, fear, humiliation, and described as the most painful and detrimental to self-esteem” (1994, p. 15). Emotional abuse is perhaps defined with such statements because it “dismembers the victim’s self by systematically attacking [the women’s] personality, style of communication, accomplishments, values, and dreams” (Loring, 1994, p. 15). The cycle of emotional abuse starts when an abuser ignores, diminishes, or insults his wife or partner. The most typical phrases said an abuser can include “You do not know what you’re talking about, consult someone who knows about that,” “That doesn’t make sense,” “How can you feel that way,” and “You are stupid” (Loring, 1994, p. 20). As the insults get worse and are utilized on a daily basis by the abuser, the possibility of physical abuse occurring increases. In most cases that involved emotional abuse, the women defend their partners by saying that they had a bad temper at the moment of the incidence (Loring, 1994, p. 23).

**Exposing the Realities of Abuse**

There are forums for IMW to express their discontent with an abusive relationship. Projects such as the Framing Safety Project produced by Lisa Frohmann, provide women with “a medium for self-exploration, expression, and reflection on the violence in their lives” (2005, p. 1398). The project has three main phases: 1) the project as it unfolds; 2) the photography exhibits; and 3) the research. The women who participated in the project received a camera to take pictures of places and things that somehow represented the violence in their relationships. One woman in the study photographed the bathroom door in her house, stating: “This is my bathroom door, I feel safe in here because this door has two locks and the others only have..."
one. My partner picked open the locks with a knife and I was very scared” (Froghmann, 2005, p. 1409). Once the women’s photographs were developed, the women formed groups to discuss the “significance of the pictures taken” and their feelings about their abusive relationships (Froghmann, 2005, p. 1410). The women then organized several exhibits with their photographs and explanations in popular places, such as the Mexican Consulate in New York. The names given to the exhibits were *Suenos y Realidades* (Dreams and Realities) and *De la Oscuridad a la Luz* (From Obscurity to Light) (Froghmann, 2005, p. 1410). The exhibits are significant because they are ways for the domestic violence victims to inform society about the cycle of abuse. As a result of participating in the project and despite cultural gender roles, about one fourth of the IMW left their abusive relationships.

Another way women have received support to leave abusive relationships has been through spirituality and religious institutions. These two factors are also noted to increase a victim’s self-esteem (Gillum, 2006, p. 240). Gillum’s study concentrated on the following three identified dimensions of religious support: “God support, congregational support, and church leader support” (Gillum, 2006, p. 241). The study found that all three dimensions were positively related to social support, decreased depression, and increased life satisfaction (Gillum, 2006, p. 241). Gillum interviewed 151 battered women who had experienced physical violence from an intimate partner or ex-partner within a four-month period. The interviews explored the following issues: physical abuse experienced, psychological abuse experienced, depression, quality of life, social support, self-esteem, spirituality or God as a source of strength, and involvement in organized religion (Gillum, 2006, p. 244). When asked about their involvement with church as a coping skill, 97% reported that they felt that spirituality or God was a source of strength or comfort to them (Gillum, 2006, p. 245). Interestingly, the number of children the women had played a key role in their levels of self-esteem and depression. The greater the number of children the women had, the greater their self-esteem and the lower their level of depression. This may suggest that survivors of DV who do not receive positive reinforcement from their relationships may “receive added psychological satisfaction from their responsibilities as mothers and the closeness of their relationships with their children” (Gillum, 2006, p. 247).

Similarly, for some women, the decision to leave or remain in an abusive relationship depends on whether or not they have children (Gillum, 2006, p. 248). Whereas some women might fear that they will not be able to raise their children alone, and resign themselves to remain with the abuser, there are others who leave their relationships because they do not want their children to grow up in a violent atmosphere. For IMW who were raised believing that abuse is a norm in romantic relationships making it an insufficient reason to get a divorce, the idea of leaving the relationship was unlikely to occur (Gillum, 2006, p. 250).
Weitzman (2000) noted how, for some DV victims, their children are seen both as the reason for staying or leaving the relationship. Some women view their decision to stay in the relationship as an act of self-sacrifice. An example of this is best expressed by Irene, a woman interviewed by Weitzman, who said “I had not great educational background to provide for my four children. There were times that I wanted to get out […] but I would back off, asking myself ‘How am I going to take care of four kids’” (Weitzman, 2000, p. 159). The women who indeed decide to remain in their abusive relationships do so until the day their children are grown up and well provided for (Weitzman, 2000, p. 160). The women Weitzman interviewed often blamed themselves for even thinking about separating their children from their fathers with expressions such as “I had brought them into this world, and no matter what I was to do, I had to take care of them” (Weitzman, 2000, p. 160). When the women were asked by a therapist the reasons for feeling guilty when considering the idea of separating their children from their fathers their most common response was that the commitment and devotion they had towards their family was far more important than the pain of being victims of abuse (Weitzman, 2000, p. 161).

Children of mothers who remain in abusive relationships are at risk for development of psychological problems (Weitzman, 2000, p. 261). The symptoms become apparent throughout infancy up to the adolescent years. Ammerman and Hersen (2000) conducted a study in which several case studies were analyzed as a means of better understanding how witnessing domestic violence affects children in terms of mental trauma. For instance, Maria, a 7-year old girl, and her two sisters witnessed their father beating their mother, leaving her crying desperately, bruised, and bloody. “Maria cried frequently at home, had aggressive outbursts toward her sisters, [did not sleep well], and seemed confused about her feelings toward her father” (Weitzman, 2000, p. 260). Eventually, the mother left her abusive partner after receiving proper counseling. She is now working as a nurse, and is focused on making sure that Maria’s trauma is treated with proper care and therapeutic interventions.

Similarly, some mothers see their children as the most important reason for escaping an abusive environment. For the most part, such decisions often occur after the aggression of the abuser directly threatens the children’s safety (Weitzman, 2000, p. 262). A question these studies raise is: Why do the mothers leave for their children’s sake but not their own? It might happen because the role of motherhood is stronger than the mother’s level of self compassion (Weitzman, 2000, p. 161).

**Methodology**

For this study, six immigrant Mexican women between the ages of 20-60 years old were interviewed regarding the role of domestic violence in their romantic relationships. The women were interviewed using a snowball
sampling technique. Snowball sampling means that one person refers someone they know to the researcher who they think would be good to the study. If the person recommended fits the profile and has the desire to participate, the researcher includes the person in the study. If the person does not fit the profile or does not wish to participate then this person recommends someone else to the researcher, until the researcher get to interviewing as many subjects as he or she needs for the study. The study’s data was acquired through interviews using both close-ended and open-ended questions. The study was completed in four phases.

Phase I - Negotiating Entry
The six IMW resided in Stockton, California at the time of the study and were all living with or were married to a male partner. The women resided in a neighborhood considered to be an immigrant Mexican community. The researcher began to knock on doors in the neighborhood asking women who fit the profile if they were interested in being part of the study. Once the first person that was interested and suffered domestic violence was found, the researcher then implemented the snowball method to further locate more participants.

Phase II - Interviewing Process
This researcher completed structured interviews using both open-ended and close-ended questions. The interviews were conducted in places where the participants felt comfortable sharing information with the researcher, such as in their homes (when the male partner was not present) and public places, such as a café. All interviews were conducted face-to-face; however, in some cases the researcher contacted the women via telephone for further information. A tape recorder was used to record the responses to the open-ended questions. The time frame for each interview to be completed was approximately two hours. A small gift of gratitude in the form of a vase with fresh flowers was given to the participants upon completing the interviews, along with a short list of community resources for domestic violence victims.

Phase III - How Data was Analyzed
Theoretical constructs were developed thru the process of data coding and grounded theory, which is “theoretical constructs, derived from and grounded in, the participant’s own understanding” (Auerbach & Silverstein, 2003, p.142). Data coding means that a procedure for organizing the text of the transcripts, and discovering patterns within that organizational structure. Five theoretical constructs were identified, and direct quotations were incorporated as part of the constructs as evidence that the theoretical constructs were relevant to the data.

The researcher designed the Process of Analysis (Figure 1) designed and organized the information from data coding toward emerging grounded theory, and to find out the underlying reasons why domestic violence is considered a relationship norm by IMW.
Figure 1 shows how the researcher analyzed information. After the interviews had been transcribed into English, it was necessary to identify information that was relevant to the research question. Once relevant information was identified, it was time to look for repeating ideas from the participant’s answers to the questions. It was noted that all of the participants had similar views about domestic violence in their marriages or serious committed relationship. From here, the final step was to identify the theoretical constructs that represented the reasons why the women viewed domestic violence as a relationship norm.

The researcher obtained significant demographic information from the interviews and captured it in Table 1.

<table>
<thead>
<tr>
<th>Participant Identification</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
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<td>50</td>
<td>49</td>
<td>60</td>
<td>54</td>
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<tr>
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<td>Catholic</td>
<td>Catholic</td>
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<td>Catholic</td>
</tr>
<tr>
<td>Educational Level</td>
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<td>AA degree</td>
<td>3rd grade</td>
<td>3rd grade</td>
<td>4th grade</td>
<td>2nd grade</td>
</tr>
<tr>
<td>Educated in Mexico, U.S. or both</td>
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<td>U.S.</td>
<td>Mexico</td>
<td>Mexico</td>
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<td>Mexico</td>
</tr>
<tr>
<td>Language Spoken</td>
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<td>Spanish</td>
<td>Spanish</td>
<td>Spanish</td>
</tr>
<tr>
<td>Years married or living with partner</td>
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<td>35</td>
<td>9</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>Years living in the U.S.</td>
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<td>20</td>
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<td>13</td>
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<td>3</td>
<td>11</td>
<td>9</td>
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<tr>
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<td>2</td>
<td>3</td>
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</tr>
<tr>
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<td>None</td>
<td>Annually</td>
<td>None</td>
<td>Annually</td>
<td>Five times</td>
</tr>
</tbody>
</table>

Table 1. Case Studies Matrix

Phase IV – Research Findings

The findings of this research are contextualized along with repeating ideas and themes (reasons why participants see the violence as a relationship norm) in the outline shown in Appendix A. Transcripts of participants’ interviews provided the raw text that resulted in the relevant text, followed by the repeating ideas and finalizing with the themes. The ideas and themes emerged from the relevant text using the data coding method described previously.

The roman numerals used in the figure represent the preliminary theoretical constructs. The theoretical constructs are followed by the themes, which are supported with direct quotations from the participants.
DISCUSSION

The shared experiences this study’s subjects demonstrate that domestic violence is a norm in their marriage or committed relationship, due to the fact that the male figure was the sole authority in the household. For example, Participant 5 said “men are the head and women are the feet in a relationship”; she clarified to the researcher that the feet would only act following whatever commands the head had created. One can further use the metaphor that these women are not even seen as women, but more like puppets controllable by the hands of their abusive partners. Although every woman’s experience in regards to viewing violence as a norm might be different, those views are determined from social interaction with others, or perhaps the witnessing of violence in their families of origin.

The main purpose of this study was to find out the relevant reasons why IMW view domestic violence as a norm in their marriage or serious relationship. After applying content analysis of the relevant text from the transcriptions, the following five key theoretical constructs were noted to arise from repeating ideas.

Gender Roles

The first theoretical construct was gender roles. All of the women said that they had a responsibility to both the household and the relationship. In terms of the household, they felt responsible for always having the house clean, cooking three times daily, and taking care of their children properly. Not only did the women agree with the idea that they had responsibility towards the relationship, but, in fact, all of the responsibility belonged to them. These women felt that they were responsible for treating their partners with respect and a good attitude regardless of how the men treated them. One of the women noted that she had to please her husband sexually even after abuse had taken place and she did not feel like having sex. She said “I had to please him sexually…even after he had slapped me for not having the food ready on time.” Lastly, another woman shared that, for her, the men represented the head in a relationship and that the women represented the feet, because the feet would act on whatever command the head had already decided. She noted “In a marriage the woman needs to understand that the men represent the head in the relationship because they are the good thinkers, where as the women are the ones who represent the feet and should follow what the head has already planned on doing.”

Infallible Contract of Marriage

The second theoretical construct was the infallible contract of marriage. The women grew up in an environment in which their parents and other family members reinforced the norm of the omnipotent male authority in a marriage or relationship. Where the men were the ones with full control of the relationship, the women were the ones to blame if the relationship was unsuccessful. Not only was it expected for the relationship to continue
without exception, but the women reported that they understood they were the only ones responsible for working towards having a harmonious relationship. This theoretical construct also reveals that these women feel as if they would not be good housewives if they do not deal with the circumstances. A woman reported, “If my mother did it, [dealt with the violence] I should be able to do it.” Indeed, the women believe that their level of being a good wife could be measured on how well they accepted violence as a norm and tolerated abuse. All of the women reported that their husbands or partners were superior to them, and that their husband/partner had the right to possess the power and the most authority because they are the male of the house.

**Domestic Violence is Pervasive**
The third theoretical construct captured the idea that domestic violence is pervasive. All of the participants described an abusive encounter they have had with their partners. Although all of the abusive encounters described included verbal abuse, one was especially so graphic that included many instances in which a participant’s husband would put a knife to her throat telling her that she was his property. Another participant reported “That night was the most horrible night of my life, because he kicked me around the house, abused me sexually, and threw me on the street.” This incident occurred in the summer of 2005 when the reporting participant confronted her husband after discovering that he was having sex with a co-worker in his and the participant’s bedroom.

Despite the fact that these women were suffering constantly, they still felt a level of safety in the midst of their abusive relationship. One participant shared that she felt “one thousand times safer” with her husband than without him. Another participant said that “she had never even considered the idea of leaving her husband because she felt safe with him.” It is this type of contradictory idea and sentiment that depicts the domestic violence experience as one in which the victim feels equally safe and unsafe in the same environment.

**Culture**
As all of the women shared advice that had been passed from their families to them, it was important for this researcher to also think about the Mexican culture and how cultural norms had contributed to the women’s views of domestic violence. Indeed, references to the culture did come up in the data collection, forming the fourth theoretical construct of culture. Under this theoretical construct the researcher noted that participants felt a great deal of loyalty to their cultural beliefs. One of the women said “All of the men in the Mexican culture tend to have affairs, and it comes to be part of the norm.” From this statement, it can be determined that, not only has this woman accepted the domestic violence as a norm because of her beliefs about the male’s level of superiority, but has also accepted that a male’s sexual affairs outside of the primary relationship are a norm. Another woman expressed
that, in reality, a woman does not have much to say once her partner has already made up his mind to do something because even if she does not agree, he is going to do whatever he wants.

**Feeling Invisible and Unappreciated**
Lastly, the fifth contextualized theoretical construct was that of feeling invisible and unappreciated. Living as domestic violence victims, the women get to a point in the relationship in which they feel invisible and unappreciated by their partners. Participants shared the following feelings: “I accepted I was a good for nothing and stupid”, “I lost my sense of identity”, and “It is all about him and I no longer play a part in the relationship.” After realizing that they no longer had a place in the relationship in terms of feeling loved and appreciated, the women then expressed their fears related to the possibility of leaving their partners. Often looking down and speaking in a low tone of voice, the participants confessed their innermost fears. Four out of the six participants were afraid of not having enough food to feed their children. Another woman was afraid that she would die of sadness and would not fight for her life any longer, whereas the most dramatic response came from another participant who said “…for him to look for me, find me, and kill me.” Although the participants’ fears were different, they each represent the barrier that prevents these women from escaping their abusive partners.

Thus, all of the theoretical constructs bring to the light different aspects of the experiences and perceptions of abusive relationships. The women viewed domestic violence as part of the relationship and also felt victimized by their own cultural beliefs, which reminded them, that the male figure was the authoritative one.

**Theoretical Framework**
The data collected from transcribing the interviews from Spanish to English was analyzed following the theoretical framework of the Social Constructionist Perspective. In order to understand human behavior, the social constructionist perspective’s main focus is on how people learn “through their interactions with each other, to classify the world and their place in the world” (Hutchison, 2003, p.65). As this view holds that social interaction with people that enables individuals to develop an understanding of the world it is appropriate for this researcher to learn about the immigrant Mexican community and its views about domestic violence. There was a dynamic process between the IMW and their environment because the “sociopolitical environment and history of any situation play an important role in understanding human behavior, particularly if these are significant to the individual” (Hutchison, 2003, p.66). This statement is important because it suggests that, if the IMW in the study had grown up in an environment where domestic violence was typical, they might have thought about it as normality. Once a certain thing crosses the boundary of being considered normal, it becomes almost unquestionable.
The Formative Theoretical Model shows the emergent theoretical constructs that IMW have about domestic violence (Figure 2). These theoretical constructs represent the four reason areas for the women to view domestic violence as a relationship norm.

The circle in the middle of Figure 2 represents the IMW and the other circles represent their social interactions and cultural beliefs. The result of all of the interactions between the women and the factors results in their view about domestic violence. It would be inaccurate irrelevant to say that a woman is born believing that domestic violence is a norm, but it is accurate to say that experiences and social interactions may guide a woman to believe, even before she gets married or committed to a relationship, that domestic violence is a norm.

LIMITATIONS

Due to the limited time available to conduct this study, a larger sample size was not obtained. A larger sample would have required more time for transcribing and analyzing the results, which would have extended the time frame for the study. Despite the fact that in this study the average age for domestic violence victims was more than forty years old, only one participant was between twenty and forty years old, so overall generalization cannot be made about the women in this age group.

Also, Participant 1 was afraid to openly respond to questions and offer detailed explanations during the interview. She noted that she was afraid that her husband would arrive home and discover what type of questions the researcher was asking. She said that if he found out the content of the interview she could face an argument with him.

Similar to this participant, it is possible that the other participants were not completely honest with the researcher. The fear of being physically or verbally punished by their abusers might have prevented these women from sharing their experiences as domestic violence victims.
CONCLUSION

This study found out that IMW between the ages of 20-60 years old view domestic violence as a relationship component. Such belief is the resulting influence of factors such as cultural norms, the meaning of marriage or relationship to women, religions beliefs, and beliefs about gender roles. All of these factors play an important role in the beliefs that women have in the Mexican community. Studies concerning domestic abuse and the immigrant Mexican community have focused on the fact that the violence follows a cycle, which is not limited to physical harm but also includes emotional abuse. It is important to recognize how the Mexican community views domestic violence because it will provide a clue as to what should be considered when trying to provide these women with proper intervention.

APPENDIX A

The following is an outline of the contextualized findings and repeating ideas and themes identified in this study.

I. Gender Roles

A. It’s a matter of responsibility to the household:
   1. Clean the house daily
   2. Cook 3 times daily
   3. Take care of children at the home

B. The responsibility for the relationship belongs to the woman:
   1. Always treat the man with respect and with a positive attitude regardless of the circumstances
   2. Please him sexually, even if I do not want to have sex
   3. The man represents the head of the house and the woman the feet.

II. The Infallible Contract of Marriage

A. Advice from the family regarding the male’s omnipotent authority in marriage:
   1. The man in the house is more powerful than the woman.
   2. In my house, my father was always the one in control.
   3. My mother got angry...and told me that my responsibility as a wife was to be with my husband all of the time, regardless of the form [in which] he treated me.

B. It’s the woman’s duty to maintain a harmonious relationship:
   1. If my mother did it (meaning dealt with the violence), then I should be able to do it.
   2. Loving someone does not guarantee I will be loved.
3. Since then I understand that my duty is to be with him and not leave him under any circumstances

III. Domestic Violence is Pervasive

A. The experiences of abuses of every kind:
   1. In arguments, he ends up slapping me, kicking me, humiliating me, and making me have sex against my will.
   2. Many times he has put knives to my throat saying that I am his property.
   3. That night was the most horrible night of my life, because he kicked me around the house, abused me sexually, and threw me on the street.

B. Feeling safe in the midst of abuse:
   1. I have never even considered leaving my husband.
   2. [Do you feel safer with your husband...than without him?] Yes, one thousand times!
   3. I feel that everything that I have had through my life has been enough to keep me happy.

IV. Culture

A. Loyalty to beliefs in the Mexican culture:
   1. All of the men in the Mexican culture tend to have affairs, and it comes to be part of the norm.
   2. When they [men] say they are going to do something, the woman has to agree because if she does not, the man will still do what he wants to do.

V. Feeling Invisible and Unappreciated

A. The invisible woman as victim:
   1. I accepted [that] I was a good for nothing and stupid.
   2. I lost my sense of identity.
   3. It is all about him and I no longer play a part in the relationship.

B. The women’s inevitable fears:
   1. For him to look for me, find me and kill me
   2. To not be able to have anything to feed my children
   3. I would die of sadness, and would not fight for my life any longer
REFERENCES


CALIFORNIA INDIAN WOMEN
BASKETWEAVERS AS GRASSROOTS
POLITICAL ACTIVISTS

Amber Bill
Faculty Mentor: Annette Reed, Ph.D.

ABSTRACT
This study examines the grassroots political activism of California Indian women basketweavers. Traditionally, basketweavers were not thought of as political activists. However, due to various historical and contemporary factors, which include upheaval of culture, colonization, and land, political and pesticide issues, California Indian basketweavers chose to become political activists in order to continue the tradition of basketweaving. Using qualitative data from interviews and literature, this researcher analyzed the importance of California Indian basketry, the formation of the California Indian Basketweavers Association (CIBA), and the efforts of California Indian women to perpetuate basketweaving. Five interviews with founding and non-founding members of CIBA, representing various California tribes, help provide an understanding of the challenges basketweavers have faced, in order to preserve tradition.

“As has been well documented elsewhere, the impact of Ibero- and Euro-American invasion into California, the subsequent episodes of genocide, the rapid displacement of Native peoples, and the degradation of environment and ecosystems as a result of mining, logging, ranching, and agriculture had many serious effects on Native populations and cultures” (Bibby, 1996). This quote informs the reader that colonization and federal governmental policies of forced assimilation undermined traditional practices and ways of life whose effects are felt currently. The oral traditions of Indian people explain what the indigenous way of life was like before the above mentioned policies. Native ways and practices set the foundation for knowledge of the land, its inhabitants, and nature, religion, and creation stories before the invasion of Western culture (Deloria Jr., 1997).

This research paper reports the findings of California Indian women basketweavers who have organized as grassroots political activists to help perpetuate the continuation of their culture. Traditionally, basketweavers would not play the role of political activist. However, due to the upheaval of culture, colonization, and current land, political and pesticide issues, basketweavers had to become political activists in order to continue the tradition of basketweaving. Using qualitative data from interviews and extensively reviewed literature, this researcher examines the importance of California Indian basketry to California Indian culture, the formation of the California Indian Basketweavers Association (CIBA), and the efforts of California Indian women to perpetuate basketweaving. Five interviews with founding and non-founding members of the CIBA, representing various
California Indian tribes, provide an understanding of some of the challenges California Indian women basketweavers face while trying to pass on the tradition of basketweaving to future generations.

**LITERATURE REVIEW**

Baskets are an important part of California tribal culture. They are interdependent with all aspects of California tribal existence. Baskets are deeply woven with symbolic and cultural value, and they also provide a strong sense of Indian identity as well as a strong tie to ancestral lands. Baskets were essential to the every day survival of California Indian people. Uses include cooking, storage, food gathering, holding water, carrying babies, and trapping. Although in the new millennium these baskets are not required for survival, the need to create something from the earth remains. “It requires deep commitment to practice the cultural tradition of one’s ancestors, especially in a world determined to crush that tradition,” states Julia Parker (Ortiz & Parker, 1991).

California Indian basketry is also important to California Indian people because baskets are a link to the past, present and future. To many California Indians, baskets contain energy, the history of Native peoples, memories, knowledge, and stories. “Tribal oral traditions often attribute the original knowledge of basketry to mythic or spiritual sources” (Bibby, 1996). Creation stories explaining the origins of baskets are significant and important to the relationship between California Indian people and the world in which they live. These creation stories are not simple naïve myths of how baskets came about (Bibby, 1996).

California Indian women basketweavers are vitally important to Native communities, for they are the carriers of tradition. They play a big part in educating the public on California Indian culture, identity, and history. Traditional ideologies and ways of life continually persist and endure through Indian women (Loupe, 2004). California Indian women have taken the responsibility of maintaining their communities through cultural and educational leadership. Rich in culture and tradition, California Indian women basketweavers have shed traditional roles and stepped into the activist role, not because they wanted to, but because they had to (“From the Roots”. [Videocassette]. 1996).

Compared to literature about Euro-American women feminists, a small body of literature has been written on California Indian women as grassroots political activists. According to Prinderville and Bretting (1998), “several studies of women in grassroots politics reveal that empowering women to affect public policy through community mobilization is legitimate political action and integral to understanding politics.” Smith (2005) found that the work of some Indian women activists understood the difference in being sovereign nations and having state rights. Smith states that whereas state rights, which are often surrounded in bureaucratic politics and special
interest groups, differ from the Native view of sovereignty which includes environmental responsibility and interdependence. “Native American activists argue that rights-based theories predispose Western cultures to abuse the earth and to oppose other societies that value their relationship to the earth” (Udel, 2001). According to Udel (2001), when discussing the difference between rights and responsibilities, Native American women speak more of their responsibilities than Euro-American women feminists who speak about their rights.

**Pesticides**

To many CIBA members, being a basketweaver means being an activist (“From the Roots”. [Videocassette]. 1996). In 1992, California Indian women basketweavers established the California Indian Basketweavers Association (CIBA Web site, http://www.ciba.org, 2006). Its members have faced challenges such as gaining access to traditional plant gathering sites and dealing with the use of pesticides in those areas. The use of pesticides directly impacts this group as California Indian basketweavers have endured health problems due to contact with herbicides. In Northern California, Indian people have contracted various forms of cancer and respiratory ailments, suffered miscarriages, and skin rashes. In addition, Turnbaugh and Turnbaugh (1999) found that “farming and residential development, modification of streams and wetlands, and the extensive use of pesticides, have seriously reduced Native basketry plants in many areas.” Due to issues of environmental destruction, CIBA’s main objective was to educate local, state and national federal agencies on traditional land management.

**Environmental Managers**

With responsibility to the land, proper land management is vital to the survival of traditional basketweaving materials:

> Seventy-eight different species of plants representing thirty-six families have been identified among the basket materials of California tribes, a remarkably small number in the total flora of the state and in the list of plants used by the Indians, whose faculty of turning everything in the natural environment to some purpose is well known (Merrill, 1923).

By carefully harvesting materials in their proper seasons, pruning shrubs and trees to encourage straight new shoots, and judiciously using fire to reduce thatch and foster fresh growth, Indian women nurture the native plants they need for their craft (Turnbaugh and Turnbaugh, 1999). For example, according to Allen (1972), pruning is essential for optimum growth to prevent roots from entangling, making it difficult for basketweavers to dig them up. This method also creates straight shoots every three years. In addition, the use of fire by California Indian people is necessary for the growth of basket materials. “Without such interaction with the environment, plants useful for weaving would be composed of old, brittle, and crooked
branch growth, sometimes harboring insects and diseases, making them useless for basketry material” (Jordan, 2003). But before California Indian basketweavers can initiate fires on traditional gathering sites, California Indian basketweavers need access to these sites.

**Access**

Garitty (1996) states that the materials needed to create traditional California baskets are being commercially gathered by non-Indian people. As private land becomes more and more unavailable for gathering, basketweavers begin to look to national forest lands for these resources. CIBA has continually strengthened communication with agencies such as the Forest Service, the Bureau of Land Management, the National Park Service and the California Department of Parks and Recreation (CIBA Web site, http://www.ciba.org). Organizations such as CIBA have established relationships with federal/state government agencies and basketweaving associations to monitor traditional plants. Indian women have organized political groups to ensure access to lands in order to perpetuate their livelihood (Lee, 2003). According to Garitty (1996), Indian environmental management practices of natural resources on public lands and their rights to harvest Native plants should be given priority over others. “This priority stems from the Native people’s extensive knowledge of plants and their unique qualities, along with a long experiential relationship with plant communities, led Native people to maintain microenvironments that foster healthy growing and living conditions for the plants and optimum quality materials for the weavers” (Bibby, 1996).

Turnbaugh and Turnbaugh (1999) argue that “a people's basketweaving tradition may be altered or even vanish if the technical skills and aesthetic principles relevant to basketmaking, including the knowledge of when and how to properly prepare basketry materials and the familiar habitats where basketweavers gathered native plants, are lost or forgotten, even within the short span of one generation.” The weavers share other concerns as well, especially about the destruction of gathering sites (Ortiz, 2002). For example, CalTrans workers, possibly ignorant of the cultural uses of basketry plants, pulled some of them out of the ground. In one instance, uninformed Forest Service personnel have rejected basketweaver’s requests to gather, adds Ortiz.

**Problem Statement**

The objective of this study is to examine and analyze why California Indian women basketweavers organized to ensure the continuation of the basketweaving tradition. The goal of this research project is to provide insight into the issues hindering basketweavers; those of which have a direct impact on California Indian communities. By comparing and contrasting the literature with oral interviews, this study attempts to answer the following research questions (RQ):
• RQ1: Why is basketweaving important to contemporary California Indian people?
• RQ2: What issues have limited or obstructed the continuation of basketweaving for California Indian people?
• RQ3: How have California Indian basketweavers addressed these issues as political activists?

**Methodology**

This research was conducted within a five month period, beginning in January 2006. The main sources of data were: (a) secondary and primary sources of literature and (b) qualitative interviews with five California Indian basketweavers (four women and one man) involved in the California Indian Basketweavers Association. The research questionnaire contained 18 open-ended questions, created by the researcher. Prior to scheduling interviews, the researcher obtained permission from the California State University, Sacramento’s Human Subjects Committee.

**Data Collection**

The researcher collected data using the following steps.

*Step 1*

This researcher contacted the Director of CIBA, Shannon Brawley, and was given the names of recommended basketweavers to interview. Individual selections were made solely upon the participant’s availability and willingness to participate in this research project. Participants were contacted via phone or e-mail, during the week of March 13, 2006. After making initial contact, dates and times to meet were established through phone calls. Each participant determined where they wanted to be interviewed and were given a choice whether to be videotaped or digitally recorded.

*Step 2*

Interviews were conducted over the course of three to six weeks, lasting approximately one to two hours. This researcher traveled to various cities with the Northern and Central Valley regions of California. Participants were asked to sign the researcher’s consent form and were not given compensation for their time.

*Step 3*

The researcher explained to each participant that his/her interview would be transcribed and made available to him/her upon request. In addition, the participants were given the option of either having their name used in the research or to remain anonymous. The researcher asked 18 open-ended questions that addressed the participant’s background and experiences pertaining to basketweaving.
Data Analysis
The researcher analyzed the data collected through interviews by categorizing each participant’s responses. The questions centered on the following categories:

- Importance of basketweaving to participant, their respective tribe(s) and their community
- Access to gathering sites
- Biggest threat(s) to basket materials
- Pesticides
- CIBA

Next, the participants’ responses were compared within each category’s subgroup. The analyses of each category’s sub-groups provide the data needed to answer the research question.

Results
Analysis of the data shows many similar patterns. For example, all of the participants stated that experience in basketweaving is not a factor when dealing with the issues that limit basketweavers from carrying on the tradition. The issues affect every level of basketweaving.

Participant Don Hankins, a Plains Mewuk/Osage and Assistant Professor at California State University, Chico, explains the importance of carrying on his culture: “So much of the culture has died out and basketweaving is really one of the key things; the means of carrying on the culture. It is really important to maintain it” (D. Hankins, personal communication, April 14, 2006).

Hankins mentions that once techniques in basketweaving are lost, it is more difficult to bring them back. When he sits down to weave, he has a strong connection with a tradition that goes back thousands of years.

Another participant, Kimberly Stevenot, a Northern Sierra Mewuk and experienced basketweaver of 35 years, adds, “It (basketweaving) is important to me because it is a part of my family history” (K. Stevenot, personal communication, May 6, 2006). Kimberly is a fifth generation basketweaver and basketweaving teacher. She states, “Weaving has always been a very integral part of our culture. We believe our baskets will keep our culture alive and keeps us together, and that is one of the reasons why I try to keep it going and try to teach others about basketweaving” (K. Stevenot, personal communication, May 6, 2006).

Another important reason why basketweaving is important to California Indian culture is the tie to ancestral lands. According to participant Diana Almendariz, of Maidu/Wintun/Hupa/Yurok and Cherokee/Aztec ancestry, having a relationship with the earth grounds her. She states, “I do not lose a connection with the environment by being a basketweaver. Humans still have a dedication and duty to be within the environment, to take care of it. That
is why I feel it is a duty to be a basketweaver, to use these beautiful things that grow on the earth” (D. Almendariz, personal communication, May 8, 2006). Almendariz also points out that basketweaving pulls Indian people to their Indian origins. She states, “it (basketweaving) is good for all of us because it brings us back to who we are and what we need to do to make this earth healthy” (D. Almendariz, personal communication, May 8, 2006).

Kathy Wallace, a Karuk, Yurok and member of the Hoopa Valley Tribe as well as an experienced basketweaver of 30 years, explains that basketweaving is a tie to many things. She states that, “It [basketweaving] ties me to my family, the landscape, the plants, my culture, and the history of my people” (K. Wallace, personal communication, March 29, 2006). Wallace believes that basketweaving is built on a balance between humans, the land, and nature; by having a healthy relationship with the land, respect for living things, and being responsible for taking care of the land, human beings will learn that they are just a small part of this world. Howell (1994) pointed out that the natural environment, especially in the national parks, was negatively affected when Native people were removed from their ancestral lands.

Basketweavers maintain precious ties to the land. They cultivate personal relationships with the plants, gathering them in their proper seasons, then preparing and processing them for weaving. Basketweavers remember to say “thank you” for what they are given and know they have a responsibility to keep the earth healthy and in balance. When weaving, they not only think of the past, but also of the future, and recognize the importance of keeping these traditions alive. In an article by Cunningham (2005), he states, “Native Californians have, since the very earliest times, enjoyed elemental interactions and relationships with their landscapes.” Annette Reed, an enrolled member of the Smith River Tolowa Rancheria and Director of Native American Studies at California State University, Sacramento states, “I have learned from Mabel McKay (traditional basketweaver and renowned Medicine Woman) the ideology that plants have a life to them. Therefore, the plants and the baskets are all intricately connected to a Native world view” (A. Reed, personal communication, May 23, 2006).

Each of the participants expressed their concerns with issues they face when trying to pass on the tradition of basketweaving. Lydia Bojorquez, an Ohlone from the Big Sur area, on the Pacific coast discusses how basketweavers have to be careful where they gather their materials. She explains, “If we see some (materials) on someone’s property, we ask them. But we let them know how it helps (when you go in there and cut off some of the shoots). It helps the growth” (L. Bojorquez, personal communication, May 11, 2006). Many Sierra Nevada tribes do not have sufficient land bases, which forces them to gather on public lands (Anderson & Moratto, 1996).

But Bojorquez made it clear in the interview that she does not gather where she notices a specific area has been well taken care of. Almendariz also shared the same sentiment. She explained how basketweavers must respect
one another and where they gather; one should not impose on an area that is already been taken care of by another basketweaver. Almendariz states, “I do not want to gather in someone else’s place. If I see some place that looks really good, someone has been collecting there. So I do not touch it” (D. Almendariz, personal communication, May 8, 2006). California Indian basketweavers turn to local, state and federal lands to gather basket materials. Hankins gathers within Plains Mewuk traditional territory, which happens to be on federal land. At a nearby governmental facility, Hankins created an agreement to gain access. He credits his background in Conservation Biology when having to deal with government agencies. He states, “It helps. I can offer them some other kind of service, like biological monitoring” (D. Hankins, personal communication, April 14, 2006). By building a relationship, access was granted and Hankins was able to collect his materials.

In an effort to support one another, California Indian basketweavers created the California Indian Basketweavers Association in 1992. CIBA is a statewide, intertribal, non-profit organization dedicated to perpetuating the tradition of California Indian basketry. The mission of CIBA is to promote and to provide opportunities for basketweavers, to preserve the tradition of basketweaving and perpetuate California Indian culture (CIBA Web site, http://www.ciba.org, 2006). By raising awareness and educating the public on issues that affect California Indian basketweavers, the organization has strengthened networks of basketweavers, creating solidarity and influential relationships. In addition, CIBA has worked to create healthy conditions for California Indian basketweavers, which include: physical well-being, community involvement, and a spiritual and economic vitality for California Indian culture. Also, by gaining access to traditional gathering sites and discouraging the use of chemicals such as pesticides and herbicides on traditional basketry plants, CIBA has encouraged traditional California Indian environmental practices to help maintain important cultural and traditional gathering sites. Parker (2005) explains that as an organization, CIBA has advocated for basketweavers by working to “educate officials with the United States Forest Service, the Environmental Protection Agency, and the California Department of Pesticide Regulation since 1992” about concerns of basketweavers and to shed light on health risks associated with non-Native forestry management practices.

But not all government agencies are that accommodating. The National Forest Service is implementing fees on basketweavers. Stevenot states, “They (the National Forest Service) want to impose a $15 permit fee for every time we go and gather, and they also want to set limits to how much we can gather” (K. Stevenot, personal communication, May 6, 2006). At State Parks, basketweavers have to apply for gathering permits. According to Wallace, “If it is a State park, you actually have to get a permit. You have to go to the district office and apply” (K. Wallace, personal communication, March 29, 2006). Basketweavers expressed their concerns with Forest Service staff that are unaware of their own policy when it comes to basket material
gathering. This lack of knowledge has created confusion and widened the gap of communication. The most important issue, which threatens gathering rights of California Indian basketweavers in National forests, is a proposed federal policy on Special Forest Products and Forest Botanical Products (36 CFR Part 223, Subparts G and H) (CIBA personal communication, May 6, 2005). This policy was created to reduce commercial gathering of economically valuable forest products; however, the proposed draft only benefits treaty tribes. None of the California Indian tribes have ratified treaties; therefore, California Indians would have to pay for their materials, if they exceed more than $20 worth of basketry plants. CIBA has taken the initiative in representing California Indian basketweavers’ interests. Due to the 18 unratified treaties of 1851-1852, many California Indian tribes lost their ancestral lands. However, CIBA believes that non-treaty tribes as well as non-federally recognized tribes should be eligible for fee waivers for traditional gathering purposes. The language of the proposed policy should recognize and distinguish between California Indian traditional gathering rights and those who gather commercially (CIBA, personal communication, May 6, 2005). CIBA is collaborating with California Indian tribes to get involved and comment on this proposed policy, which could be devastating to California Indian culture.

Pesticide and herbicide use has emerged as one of the key issues for CIBA. The use of pesticides and herbicides threatens the quality and vitality of basketry plants and the health of many California Indian basketweavers, as basketweavers use their mouth during processing and weaving. Wallace shared her fears on how pesticide and herbicide use affects entire Indian communities. She offers:

> When you are processing or weaving, you’re using your mouth, which is like your third hand. From (using) those materials (while) making baby baskets, cooking baskets, baby rattles, they are going to be ingested. The most susceptible to any of these chemicals are babies, children and elders (K. Wallace, personal communication, March 29, 2006).

Greensfelder stated in *Roots and Shoots* (1993), CIBA’s monthly newsletter, that “people in areas that have been sprayed have suffered increased cancers, reproductive disorders and acute symptoms of pesticide poisoning.” A more disturbing fact is that pesticide and herbicide use, and also in areas where basketweavers gather their materials, is on the rise. Parker (Spring 2005) reports that in a 2005 data analysis by the California Department of Pesticide Regulation, use of pesticides on right-of-ways (roadsides) totaled “4,242,138 pounds, a 16 percent increase over the previous year.” Although pesticide and herbicide use can be devastating to basketry plants, CIBA is also concerned with pesticides and herbicides contaminating watersheds and Native habitats. Because pesticide use is regulated by law and cannot be legally sprayed near streams or places where water is used by people, it does not mean that these
places or animals are immune. Most of the time, people are unaware that they are consuming pesticides and herbicides. Fish and other wildlife are also affected, causing a chain distribution of contamination in the cycle of life. CIBA is doing their part to monitor spraying and the amount of pesticides and herbicides used, especially in traditional gathering sites.

Another prominent issue that hinders traditional basketweaving is new development/construction. Much of what was Native California is now owned and controlled by the federal government or is owned by private citizens. New development strips basketweavers of traditional gathering sites while destroying traditional basketry plants. Anderson (1993) found that traditional gathering sites, now labeled “public” or “private” lands resonate the old ways and carry with them a voice and memory. “Furthermore, the common natural resource agency stance is that plants in wilderness areas are best left alone—untouched by human hands or trampling” (Anderson, 1993). Traditional gathering sites must compete with non-Native species, such as foreign insects, non-Native plants, orchards, vineyards, agricultural fields, and other deteriorating invasive species (Anderson, 1993). When interviewed, Almendariz discussed how new development and construction presents a problem when trying to pass on the tradition of basketweaving. She states:

You go look at places where the new development is and all they are doing is using tropical, non-Native plants. They are actually creating an area where Native species can’t live in, like honey bees which live along these areas. They are doing a lot of things to squeeze out Native animals and animals are a big part of plants. You need them to tend to the plants as well. It keeps everything healthy (D. Almendariz, personal communication, May 8, 2006).

California Indian basketweavers have made the initiative in creating opportunities for themselves. Through their newsletter, *Roots and Shoots*, and the organization’s resource directory, California Indian basketweavers can be contacted to conduct educational and basketweaving workshops, demonstrations, panels, or to discuss basketweaving in general. Also, California Indian basketweavers have the opportunity to have their work displayed in museums; or as a CIBA member, basketweavers have the opportunity to handle old baskets (in museum collections) that were made by their ancestors. In an effort to support basketweavers to maintain their cultural traditions, CIBA offers and announces grants to its members and holds annual gatherings. The California Folk & Traditional Arts Apprenticeship Program “encourages the continuation of traditional arts and culture by providing grants to artists” (*Opportunities*, 2001). CIBA supports its members by recommending them for the award.

Furthermore, once a year, CIBA holds a statewide gathering where basketweavers get together, share experiences or techniques, teach younger basketweavers, and discuss current issues in their respective areas. Gatherings are a perfect opportunity for basketweavers to network with each other.
In addition, government officials and workers are encouraged to attend so that they can better understand the issues basketweavers face. It is through educating the public and government agencies that California Indian basketweavers are able to continue the tradition of basketweaving. Lastly, CIBA has become a model for other basketweaving organizations and/or associations across the country to emulate, and it has established relationships with international basketweavers from Australia and New Zealand.

**Discussion**

This research study answers the following research questions (RQ) and sheds light on some of the issues hindering California Indian basketweaving.

**RQ1: Why is basketweaving important to contemporary California Indian people?**

All of the participants stated that basketweaving is important for California Indian culture. It ties family, history, identity, the land, animals, and people together. By carrying on this tradition, California Indian culture is kept alive; basketweavers are also able to have a relationship with the plants and the responsibility to the environment. All of the participants stated that basketweaving connects them with their ancestors, other contemporary Indian people and the future generations of Indian people.

**RQ2: What issues have limited or obstructed the continuation of basketweaving for California Indian people?**

Access to traditional gathering sites, the use of pesticides and herbicides on basket plants, and new development, construction, logging and timber companies pose a threat to the continuation of basketweaving. Because contemporary California Indian people do not have sufficient land bases, California Indian basketweavers find themselves gathering their basket materials on private, local, state and federal lands. Participants expressed the hardships of gathering materials, often stating the fear of being caught and prosecuted for trespassing on these lands. The use of pesticides and herbicides on Native basket plants also poses a problem to the quality of basket materials and creates health hazards to California Indian people. Participants have emphasized the destructive nature of the chemicals found in pesticides and herbicides to their basket plants; once the basket plants are sprayed or contaminated, these plants are no longer safe to use or have become a catalyst to the destruction of new growth. Also, health problems have risen in California Indian communities due to pesticide and herbicide use. During the process of preparing materials, the basketweaver uses his/her mouth to split their materials; thus, there is a direct contact route in which these chemicals are exposed.
RQ3: How have California Indian basketweavers addressed these issues as political activists?

All of the participants state that by organizing and educating the public and governmental agencies about the issues basketweavers face, they have become effective political activists. One of the participants explained how some government agencies contact the California Indian Basketweavers Association (CIBA) before they implement policies or spray highways or roads where basket materials grow. By giving California Indian basketweavers a voice to express concerns, CIBA has advocated for basketweavers. In addition, CIBA has given basketweavers an opportunity to share their experiences with each other and teach future generations of California Indian people about the importance of California Indian basketweaving through annual gatherings, demonstrations, museum displays, and educational outreach. The Tending and Gathering Garden in Woodland, California was created, with the help of CIBA, for basketweavers to gather pesticide and herbicide-free materials. California Indian basketweavers are maintaining traditional land management practices and traditional basketweaving within the Tending and Gathering Garden. Not only is the garden a source of basket materials and traditional Native plants, it is easily accessible to elders. By participating and becoming involved with CIBA, California Indian basketweavers have gained political empowerment. California Indian basketweavers and numerous Indian communities are able to challenge public policies and perceptions, discuss crucial gathering policies with government agencies, and participate in the decision making process. By educating the public on Native traditional practices, it is hoped that these practices will be incorporated and used in every aspect in which basketweavers and their communities will be affected.

LIMITATIONS

This study focused on the California Indian women basketweavers who were involved in the creation of California Indian Basketweavers Association (CIBA). The majority of members of CIBA are from the Northern California region. However, there are CIBA members located in Southern California which this researcher could not access. Due to the time constraints and interview accessibility, the study featured only five interviews. Given more time, a more comparative study may have been conducted and would have included additional interviews. A second study could analyze various California Indian women basketweavers from different regions of California and the several basketweavers associations that were created after the formation of CIBA.

Only a small body of documentary materials and literary sources give insight to California Indian women basketweavers grassroots activism. With the lack of information available on this subject, it is hoped that this study, and future studies on California Indian women grassroots activism, will contribute to the ability to make local, state and federal policies that will have a positive effect on Indian communities and the preservation of Indian culture. Also,
this research study can contribute to future research of Native plants and their uses; Indigenous Basketweaving organizations, not just in the United States but internationally; the tie between traditional basketry and economic development; the significance of traditional basketry designs; and lastly, the passing on of Indian traditions through education.

**CONCLUSION**

It is clear from this study that basketweaving continues to hold great importance to California Indian basketweavers. When faced with numerous obstacles, California Indian basketweavers individually and collectively designed strategies, as grassroots political activists, that would ensure the perpetuation of the basketweaving tradition for future generations.
REFERENCES


Bojorquez, L. (personal communication May 11, 2006)

CIBA Web site: http://www.ciba.org


Hankins, D. (personal communication, April 14, 2006)


Reed, A. (personal communication, May 23, 2006).


Catastrophic Flood Prevention in the Downtown Sacramento and Natomas Regions: Compared and Contrasted with New Orleans and Hurricane Katrina

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Abstract
The levee break in New Orleans during Hurricane Katrina caused some residents in particular areas of Sacramento to question the safety of Sacramento’s levees. This research study investigates the readiness of the City of Sacramento to respond to an event such as Hurricane Katrina and the potentiality of a flood occurring. In addition, the researcher examines what the social, economic, and political implications would be from a serious flood. The area of Sacramento central to this study is downtown Sacramento, which is the central business district, and a suburb of Sacramento called Natomas; a growing neighborhood with newly built homes. A few topics discussed in the research include flood history, different flood control agencies and a flood map showing the flood depths in Natomas and downtown Sacramento.

This paper focuses on the political, economic, and social costs of a flood occurring in downtown Sacramento and the Natomas area. In addition, what occurred in New Orleans as a result from Hurricane Katrina is compared and contrasted to these areas of Sacramento.

Before Hurricane Katrina occurred in New Orleans, national administrative officials did not ensure that local governments had adequate plans and training for a Category five hurricane inundating New Orleans and southeast Louisiana. Editors Amy Goldstein and Spencer Hsu of the Sacramento Bee newspaper explained how, “The director of the National Hurricane Center said this was the big one, but when this happened Bush is in Texas, Card is in Maine, the vice president is fly-fishing. I mean who’s in charge here?” (Goldstein & Hsu, 2006, p. A-1). Hurricane Katrina is the nation’s most costly disaster, causing more than $150 billion in damage and killing 1,307 people along the Gulf Coast. The Louisiana Recovery Authority has estimated that Hurricane Katrina destroyed more than 200,000 homes, in part because the levees in New Orleans were not adequate enough to protect the residents and businesses in the area. Lives were affected in terms of health, education, transportation, employment, and evacuation. Goldstein and Hsu also explain that, “In the first of several reports about the response to Hurricane Katrina, investigators with the Government Accountability Office said the White House and Homeland Security Chief Michael Chertoff failed...
to provide decisive action when Katrina struck” (Goldstein & Hsu, 2006, p. A-1).

Editor J.T. Long wrote, “In the wake of Hurricane Katrina, California politicians and flood control agencies are crying out for billions of dollars to reinforce 1,600 miles of levees and modifications to a key dam that protects the Sacramento-San Joaquin Delta and Southern California’s water system” (Long, 2005, Vol. 255 Issue 11). A levee is an embankment raised to prevent a river from overflowing. Sixteen hundred miles of levee protect Sacramento and other communities in the Central Valley. Chinese workers using wheelbarrows to pile silt and sand on loamy peat riverbank foundations built many of Sacramento’s levees in the 1800s. These levees are now in need of desperate repair, which is made even more serious because the Sacramento Central Valley is the most rapidly urbanizing area in the state of California. In addition to levees, flood protection systems are also important.

Sacramento currently has a 100-year flood protection system, meaning its levees can withstand major storms with a one percent chance of striking in any given year; which is half of New Orleans’ 200-year flood protection system, meaning its levees can withstand a storm with a half-percent chance of striking any year. So, the levees in New Orleans supposedly had a better chance of withstanding a storm before Hurricane Katrina, compared to Sacramento’s chance right now. Writer for sacbee.com, Matt Weiser explains how, “More importantly, none of them [levees] was built to protect human lives. Instead, they were built mainly to protect crops. To protect people in a rapidly urbanizing valley, they must be bigger and stronger” (Weiser, 2006, p. 2). Therefore, the levees in Sacramento need to be repaired before a major storm occurs or Sacramento will have a disaster like New Orleans experienced with Hurricane Katrina.

The City and County of Sacramento created several flood maps that show hypothetical levee breaks in downtown Sacramento and Natomas (see Appendix). These maps also show rescue and evacuation routes, the time it would take for water to rise in different neighborhoods, and inundation levels. The areas that would be affected by a flood in downtown Sacramento are K Street, Capitol Avenue, Broadway, North B, and North 7th Streets, with flood depths of up to 15 feet in some areas. In Natomas, the areas that would be affected are Del Paso Boulevard, Truxel Road, and San Juan Road. Sacramento officials also conducted a city flood scenario to prepare for a flooding disaster. Next, they created a series of maps that illustrated what would happen if a flood occurred on the Sacramento or American Rivers. They determined that the downtown Sacramento and Natomas areas would be seriously affected if a levee broke in the Sacramento region because these areas are close to the American and Sacramento Rivers, both surrounded by levees that need repairing.
Rationale

This study examines the potentiality of a flood in the Natomas area, a suburb of Sacramento, and the downtown Sacramento area, which is five miles from Natomas. Sacramento needs to be prepared in the event of a flood because the economic loss may be greater than what New Orleans experienced. This study is important because it may help prepare Sacramento and other cities in the case of a major flood. The two main focuses of this research are: 1) the readiness of Sacramento to respond to a flood in downtown Sacramento and the Natomas area, and 2) the social, economic, and political implications for Sacramento if the city is not prepared in the event of a flood. This study also looks at the history of floods in the Sacramento area, its various flood control agencies, and how well the government will respond in the future to a flooding disaster.

Literature Review

This research covers several topics that provide significant information regarding the prevention and analysis of flooding in urban areas, including: the flood history of Sacramento, the role of various flood control agencies and services, the implications of flooding in the areas of Natomas and downtown Sacramento, and the current plans to improve Sacramento’s levees.

Sacramento is the capitol of the seventh largest economy in the world. Much of Sacramento’s housing was built in flood-prone areas. Most of the levees in Sacramento were built to protect farms, not big population centers; so one can see that the levees in Sacramento would cause a lot of damage to businesses and housing if they failed during a major storm. After Hurricane Katrina left $150 billion in damage along the Gulf Coast, geologist and professor Jeffrey Mount of the University of California, Davis was questioned in an interview with Claudia Dreifus, editor for the New York Times newspaper about where he thought the next “New Orleans” would be. Dr. Mount stated, “I’d say the Sacramento area. The common denominator is concentrated urban development in the shadow of flooding and levees. You have around 400,000 people at risk from flooding, and the number will grow in the next few years because of intense development” (Dreifus, 2006, p. 1). Even more compelling was Dr. Mount’s comments about Sacramento’s development:

Because the new gold rush in California is real estate. Moreover, local governments are often reluctant to exert controls over developers because of the tax revolution. Do you remember Proposition 13 in 1978, which limited increases in property taxes on existing homes? It decimated the ability of localities to fund services. So money for basic services that people expect is now raised through growth (Dreifus, 2006, p. 2).
The U.S. Army Corps of Engineers found the levees in Sacramento offered a very low level of flood protection, stating that its level of protection was probably the lowest for any metropolitan area in the country. Sacramento’s main problem is that it is situated between the American and Sacramento Rivers, and at the base of the 12,000-foot Sierra Nevada Range. Both rivers are prone to flooding and powerful storms come in from the Pacific Ocean that slam against the mountains causing heavy rainfall over these rivers and the areas they surround. Not only do the levees provide flood protection, but the rivers they protect are a part of California’s water supply. Dr. Mount also stated if there was a disaster in the Sacramento-San Joaquin Delta, “the drinking water of 23 million Californians would be at risk” (Dreifus, 2006, p. 3).

A large part of California’s water supply flows through the Sacramento-San Joaquin Delta, which is a maze of leveed waterways with islands and channels that flows into the San Francisco Bay. The Delta is sinking because of post-agricultural practices. According to Long, “California’s 1,600 mile Sacramento-San Joaquin Delta levee system is at risk. Water resource managers and engineers say that the old and frail network has a protection level strong enough for only a 100-year flood event, offering less scrutiny than floodwalls in New Orleans” (Long, 2005, p. 1).

**History of Flooding**

Sacramento’s flood history is of major importance to future preparation of flooding so previous problems can be looked upon as a way to correct the mistakes that were made in the past. There have been written records of floods in California for the past 150 years. Severe floods occurred in the 1800s because there were no dams, levees, or modified channels in all of California. The Department of Water Resources reports, “The Legendary Great Flood occurred in the winter of 1861-62. Three heavy storms between Dec. 9, 1861 and Jan. 10, 1862, extending from Canada to Mexico provided some of the greatest discharges of water ever experienced in California” (Brown, Johnson, & Robie, 1980, p. 25). Each California flood resulted in extensive loss of human life, livestock, and property. The floods of March 1907 caused the inundation of more than 300,000 acres of cropland. Many miles of levees also had to be rebuilt. According to The Department of Water Resources:

*The floods of 1907 and 1909 demonstrated the inadequacy of the then proposed plan of carrying all the floodwaters of the Sacramento River and its tributaries in an enlarged levee channel. This led to the development of the present Sacramento River Flood Control Project which uses the three classic methods of managing floods—leveed channels, leveed bypasses, and foothill reservoirs* (Brown et al., 1980, p. 25).

Sacramento has had an extensive history of flooding.
Documents from the Department of Water Resources also note that, “The flood in the Sacramento River basin caused by 1970s storms was the third most destructive in recorded flood history for this area. Damage was estimated at $28,500,000 and approximately 223,000 hectares (550,000 acres) were inundated” (Brown et al., 1980, p. 25).

The 1997 flood in Yuba County killed three people and destroyed 100 homes when its levee broke. Observers believe that the government did not adequately respond to this situation. According to editor Stuart Leavenworth, “Within a few years, California leaders had moved onto other crises, such as power blackouts and the state fiscal meltdown. By 2001, Gov. Gray Davis was cutting funding for flood control. Levees started leaking” (Leavenworth, 2005, p. 29). In contrast to these floods of 10 or more years ago, consider the current flood problems Sacramento is facing.

Recently, Sacramento and nearby areas have had several floods. Some of the areas at greatest risk in the city limits include the Natomas and Pocket areas. On April 5, 2006, in San Joaquin County, 60 residents in the city of Mossdale were forced to evacuate due to rising floodwater. On April 7, 2006 in Calaveras County, near the city of Jenny Lind, approximately 35 acres of farmland were flooded after the Calaveras River released water from the New Hogan Dam causing an 80-foot levee breach. Journalist Elizabeth Bishops writes:

Gov. Schwarzenegger has declared a state of emergency for seven counties in Northern California in the wake of last week’s storms. Those storms caused local levees to fail and prompted the evacuation of residents in some areas of Amador, Calaveras, Fresno, Merced, San Joaquin, San Mateo, and Stanislaus counties (Bishop, 2006, p. 1).

In addition to understanding the history of flooding in the Sacramento region, understanding the role of flood control agencies and services are important to this study.

Flood Agencies and Services
Several agencies were formed to deal with events such as a catastrophic flood. The Sacramento Area Flood Control Agency (SAFCA) was created in 1989 to deal with Sacramento’s vulnerability to catastrophic flooding and to provide the Sacramento region with flood protection along the Sacramento and American Rivers. SAFCA’s mission is to reduce the risks from a potential flood and lower the effects of floods on the lifestyle of human beings. According to SAFCA.org, SAFCA was also created to “preserve and enhance the environmental and aesthetic values that floodplains and floodways contribute to the quality of life in the Sacramento region” (SAFCA.org). Another major flood control agency is the Department of Water Resources, which deals with the prevention of flooding in the Sacramento area. Its mission is to:
Develop a strategy to control the water resources of California while working with other important flood control agencies, to benefit the citizens of California

- Protect, restore, and enhance the natural and human environments
- Provide dam safety and flood control services
- Assist local water districts in water management and conservation activities
- Promote recreational opportunities
- Plan for future statewide water needs

Another Sacramento area organization central to resolving flood control issues is the Sacramento Area Council of Government (SACOG), which provides transportation planning and funding for Sacramento and other counties, and serves as a forum for the study and resolution of regional issues. SACOG explains how, “SACOG staff has started work with the Sacramento Flood Control Agency to support the ad hoc Flood Management Committee in formulating a regional flood control strategy that can be taken to the legislature” (SACOG, 2006, p. 1). On the national level, there is a federal agency central to flood control and services for California.

The Federal Emergency Management Agency (FEMA) has the responsibility of leading the effort to prepare the nation for all hazards, and effectively manage the federal government’s response and recovery efforts following all national incidents. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program.

Now, knowing which agencies are involved in flood control and planning, this literature review examines the implications of flooding on the areas of Natomas and downtown Sacramento.

**Implications of Flooding in the Natomas Area**

Natomas is a Sacramento community with newly built homes and businesses. There are several important infrastructures located in Natomas, such as the Sacramento International Airport and Arco Arena, a major sports and entertainment arena that is home to the basketball teams of the Sacramento Kings and the Sacramento Monarchs. The levees in Natomas are in desperate needs of repair, and if they do not hold during a major storm, could cause a flooding disaster.

There are 26 miles of levees in Natomas, 20 of which need major repairs to control deep seepage that could cause them to fail when the rivers get high, and two miles of levee suffer from severe erosion. The seepage that is weakening the entire levee system was first discovered after the flood of 1997 in Yuba County. This seepage can cause levees to weaken as water migrates though porous underground layers. According to Internet News Producer C. Johnson:
A small amount of underseepage was expected but what engineers found surprised them. Apparently the amount of seepage posed enough risk to undermine flood protection levels. Specifically, the study revealed that almost 20 miles of levees on the north, west, and south flanks of the Natomas basin are susceptible to seepage (Johnson, 2006, p. 1).

The Sacramento Area Flood Control Agency’s (SAFCA) goal is to reach a 200-year flood protection system for the entire Sacramento area, but in order to reach a 200-year flood protection system in Natomas, 16 miles of levee needs to be raised: five miles across the Natomas Canal and 11 miles along the Sacramento River. The residents in this area face some of the greatest risks in the state of California. Editors Deb Kollars and Matt Weiser of the Sacramento Bee newspaper note that, “Natomas is surrounded on four sides by rivers and canals held in place by man made levees. Like New Orleans, this area would fill up like a bowl if a flood happened, with depths of 20 feet in some places” (Kollars & Weiser, 2006, p. A-22).

The repair of weak levees in the community of Natomas will cost $270 million to fix, and may require a new tax assessment on homeowners. Kollars and Weiser explain that, “Property owners in Natomas could see their tax bills rise to $300 a year to cover the levee work” (Kollars & Weiser, 2006, p. A-1). According to SAFCA geological testing results of the levees in Natomas indicate that its levees do not meet a minimal 100-year level of flood protection. In comparison, New Orleans had a 200-year levee protection system, prior to Hurricane Katrina, yet its levee still broke in 2005. Many residents and workers in the Natomas region were unaware that they had less than a 100-year flood protection system. One resident reported, “We were told we were not in a floodplain. We were assured, ‘Oh no, there won’t be a problem’” (Kollars & Weiser, 2006, p. A-1). Residents in the Natomas area face a greater risk than other residents in Sacramento if a flood occurs because they live very close to the American and Sacramento Rivers. In New Orleans, homes have not been rebuilt for the past 11 months and people are still awaiting help from the federal government. In a similar disaster it could take weeks or months before people could return to their homes and their jobs in Natomas depending on the size of the flood. In addition to residential areas, freeways and businesses operating in Natomas are also in danger of being destroyed by a possible flood.

For example, a flood occurring near Arco Arena would cause Natomas billions of dollars in property damage and untold losses in sales tax revenues. The Sacramento Kings and Monarchs would also have to find another city in which to play basketball. The Sacramento International Airport is another major business in the outlying area of Natomas. A flood occurring near the airport would cause transportation issues and major losses in revenue from halted airport transportation. A flood may cause damage to any of the three major highways and freeways around the Natomas area (Highway 99, Interstate 80 and 5), which would affect commercial and commuter traffic.
On the hypothetical flood maps (see Appendix) one can see the green lines representing evacuation routes, but with these major highways and freeways destroyed from a possible flood, it would be hard for citizens to evacuate. Also impacted by major flooding would be schools in the Natomas Basin.

A flood in Natomas would affect 14 schools and approximately 11,000 students. Some of these schools include Natomas High School, Two Rivers Elementary School, Natomas Middle School, and Discovery High School. According to the superintendent of the Natomas Unified School District, Dr. Steve Farrar, four schools would face flooding of approximately 5-10 feet, and 9 schools would face flooding of approximately 15-20 feet. The damage caused by such massive flood waters would require rebuilding and or near total rehabilitation of every school. In comparison to the experience of New Orleans’ students, the students attending Natomas’ schools would be out of school for the equivalent amount of time Hurricane Katrina students were out of school. In addition to challenges faced by educational institutions, businesses in the Natomas area would suffer significant losses in the event of massive flooding.

The businesses operating in Natomas employ a large number of individuals who might be unemployed if a flood affected this area. Leavenworth stated that the Sacramento area flood scenario, “also examined the economic impact of a levee break. According to a prominent local economist, a major flood would affect 242,388 jobs and cause $7.7 billion in total damages” (Leavenworth, 2005, p. 31). In comparison, approximately 200,000 people were unemployed after Hurricane Katrina, but if a flood happened in Sacramento, these numbers might be higher. In contrast, the damage caused by Hurricane Katrina ($150 billion) in New Orleans was much higher than the predicted damage that Sacramento would face from a flood.

**Implications of Flooding in Downtown Sacramento**

Downtown Sacramento is the central business district of Sacramento, which if flooded could lead to a high percentage of unemployment. As stated earlier a flood would cause $7.7 billion in damage and affect 242,388 jobs in Sacramento. After Hurricane Katrina, the economic effect of unemployment severely impacted the New Orleans area. USA Today reported that, “In December, Louisiana had 200,000 fewer jobs than a year earlier, according to the state Labor Department. Most of the losses are in the New Orleans area” (USA Today, 2006, p. 4). When a flood causes economic disturbances, such as unemployment, many people’s lives are affected in such a way that can lead to homelessness and a loss in total income.

In the flood scenario of Sacramento, several important infrastructures would be negatively affected if a flood occurred in downtown Sacramento. About the flood scenario, Leavenworth writes, “The State Capitol is surrounded by floodwaters and several other local, state, and federal government buildings are inaccessible” (Leavenworth, 2005, p. 29). Capitol Mall is another area with major businesses and government agencies in downtown Sacramento.
After a flood, the lives of many employees would be affected, which would have a negative effect on the economy of Sacramento. Downtown Sacramento is the central business district of Sacramento, which if flooded could lead to a higher percentage of unemployment. As stated earlier a flood would cause $7.7 billion in damage and affect 242,388 jobs in Sacramento. Also worth considering is how transportation services would be affected by a flood in the downtown area.

Amtrak is a major transportation service provider for Sacramento. With the probability of a flood occurring near the Amtrak station located in downtown Sacramento, the rail transportation system for Sacramento could become jeopardized.

Sacramento State University is located five miles from downtown Sacramento, and has a levee nearby. A levee failure next to the university would affect the lives of 28,000 students, in addition to faculty, staff, and other employees. The sheer number of people affected would make a noticeable impact on the local economy. In addition to the businesses in downtown Sacramento, the lives of individuals who live downtown would be highly impacted by a major flood.

A large number of disabled, poor, and elderly residents living in downtown Sacramento are becoming aware of flood risks. They need to develop their own emergency response plans before a flood happens. The large number of disabled, poor, elderly and homeless people who live in downtown Sacramento would be at risk if a flood occurs there. Journalist Heidi Kriz explains how:

*This is the nexus between Loaves and Fishes and The Salvation Army shelter, two of the busiest shelter and service programs in the area. Everyday several hundred homeless people gather for food, friendship, and if their lucky, a roof over their heads for at least one night* (Kriz, 2005, p. 1).

Phillip Reese adds:

*The homeless? “There is no plan. Nobody has told us what to do. We’d like to know,” said Garren Bratcher, co-director of Friendship Park, part of Loaves & Fishes, which provides aid to the homeless. He estimates about 300 homeless people stay very close to rivers in Sacramento and several hundred more stay in alleys and streets near downtown.*

In comparison, Hurricane Katrina left thousands of people homeless in New Orleans. Poor and minority communities were deeply affected by Hurricane Katrina in terms of social, public health, and economic disparities. Residents of downtown Sacramento may have the same or greater experience after a major flood in this area. Next, a solution for avoiding such a situation may be found in the city’s current plans to improve Sacramento’s levees.
Current Plans to Improve Sacramento’s Levees

Governor Schwarzenegger is making progress towards improving Sacramento’s levee system with a $6 billion state bond, half of the proposed $12 billion needed to repair the entire flood safety system in the Central Valley and beyond. Editor David Whitney writes:

> If approved by voters, the $6 billion would mean faster progress on levee repairs and bolster protection for urban areas including Sacramento, said Les Harder, acting deputy director of public safety at the Department of Water Resources. “California has a flood crisis” he said, and one of the lessons of Hurricane Katrina is that repairs now could avert devastating losses. “Flood control is extremely expensive but something has to be done” (Whitney 2006, p. 1-2).

By declaring a state of emergency on February. 24, 2006, Governor Schwarzenegger heightened awareness of the flood risks in the Sacramento region. Governor Schwarzenegger wrote:

> The California Department of Water Resources shall immediately develop a plan to accomplish critical levee erosion repairs this year and shall coordinate a statewide effort to complete repairs at the 24 critical levee erosion sites on the Sacramento River flood control system, identified in a report by consultants for the U.S. Army Corps of Engineers dated December 29, 2005. All State agencies with responsibilities, regulatory authority or expertise related to the critical levee erosion sites or repairs shall cooperate fully and act expeditiously in coordination with the California Department of Water Resources to facilitate the completion of all repairs on the 24 critical levee erosion sites this year (DWR, 2006, p. 1).

With the recent example of the New Orleans levee failure during Hurricane Katrina, there is no question about flood protection being an urgent priority for the Sacramento region. Sacramento Mayor Heather Fargo is focusing on flood protection because Sacramento is the most at-risk city in the U.S. for a major flood event. The biggest setback for achieving flood protection in the Sacramento area is financing. Elizabeth Bishop writes:

> About $300 million has been spent over the past two decades to strengthen levees along the American and Sacramento rivers, but experts say currently Sacramento is in a riskier position than New Orleans was before Hurricane Katrina. Those areas along the river where homes have been built in the shadow of levees that in many cases don’t rise to a 100-year level of flood protection (Bishop, 2006, p. 1).

According to Long, after the U.S. Army Corps of Engineers repairs the entire levee system in Sacramento, the city will still have “the lowest protection system compared to any metropolitan area in the country, including New Orleans” (Long, 2006, p. 3).
This study investigates whether or not the levees in downtown Sacramento and Natomas will be repaired before a major storm occurs, so that Sacramento avoids the same losses as New Orleans experienced during Hurricane Katrina. The research question at hand is: What would be the possible social, economic, and political effects of a flood occurring in downtown Sacramento and Natomas, using Hurricane Katrina for supportive evidence.

**Methodology**

This study examined the relationship between New Orleans and Sacramento by comparing the effects of a flood situation. In order to obtain the information for this research, the researcher relied upon secondary data because this area of research has few journal articles. The researcher spent four hours per day from January 2006 to May 2006, searching and reading articles related to flooding in Sacramento to compile information for this study.

**Discussion**

The researcher chose to examine the political, social, and economic costs of a flood occurring in Sacramento for the following reasons: The researcher chose to look at the political costs to find out how the government deals with situations that citizens have little or no control over. When a flood happens in most cities, citizens rely upon the state, federal, and local authorities for assistance. If the government does not follow through with its obligations, it has failed to do its job. The social and economic aspects were reviewed to understand the impact of a flood on the economy. A flood disturbs the education of students, the jobs of employees, and destroys the homes of residents, leaving an overall negative impact on the economy.

Sacramento currently has a 100-year flood protection system and it is SAFCA’s goal to upgrade Sacramento to a 200-year flood protection system. The current flood protection system that Sacramento has now is half of the flood protection system that New Orleans had when Hurricane Katrina struck. If a major storm or series of storms occurs now while Sacramento is desperate need of levee repair, there is a good chance that a major flood could happen in Sacramento.

The questions and issues raised in this research can be used in the future as a guide to better prepare Sacramento and other cities for a possible flood.

**Limitations**

The information used for this study was researched with a limited amount of time and resources. Due to time constraints, the researcher was unable to research all the different factors that were the focus of this research. There
were also few academic resources the researcher was able to locate on the topic, which increased the reliance upon commercial media sources. Much information came from newspaper articles and official news Web sites. These newspaper articles and Web sites are good sources of information, but are secondary data compared to scholarly journal articles.

**CONCLUSION**

Sacramento officials should be look at Hurricane Katrina as a way to prepare the City of Sacramento for a possible flood. The levees in Natomas and downtown Sacramento need to be repaired before a major storm occurs and causes a catastrophic flood. It is also important for taxpayers to realize the importance of the levee system being repaired, so they may become more willing to pay more money to repair the levees, particularly because federal dollars are not being earmarked for the repair of California’s levees.

Governor Schwarzenegger met with President Bush to discuss the federal government’s contribution to the state of California for levee repairs. President Bush stated that the federal government would not support California with the financing it needs to repair the levees, so it is important that the citizens of California agree that they may have to pay more taxes in order for the levees to be repaired. Levee repair is extremely expensive, but it is better to be prepared than have a disaster such a catastrophic flood cause economic, social, and political disturbances like Hurricane Katrina did in New Orleans.

The political issues surrounding levee repair are a major factor when it comes to the actual levees being repaired. The U.S. Army Corps of Engineers is responsible for doing the actual repairs of the levees in Sacramento, at an estimated cost of $12 billion for the entire levee system. The issue at hand is: Where will all of this money come from? Will the money come from increased taxes imposed upon citizens, or will it come from the various flood control agencies whose responsibility is to prevent a catastrophic flood from happening? The levee system will not be repaired until this entire amount of money is allocated from some source. Political representatives in the State House and Senate are debating about the funds needed for the Sacramento area in order to approve flood control spending.

The entire nation saw the damage that Hurricane Katrina caused in New Orleans. Sacramento will have the same or an even more catastrophic experience if the government is not prepared to take action to protect the citizens of Sacramento. Sacramento has a chance to prevent a situation like Hurricane Katrina from happening so it is important for Sacramento to develop a plan that will prevent such a disaster.
REFERENCES


CALIFORNIA STATE UNIVERSITY, SACRAMENTO

UNDERSTANDING THE CHALLENGES, EXPERIENCES AND DEVELOPMENTAL NEEDS OF ENGLISH LANGUAGE LEARNERS STUDENTS AT LOMA HIGH SCHOOL

Alicia Marquez
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ABSTRACT

Since the passage of Proposition 227 in California, a measure that outlawed most forms of native language instruction, research has shown that the quality of instruction has decreased for English Language Learners (ELL) students. To further understand the challenges faced by ELL students, this author conducted a research study that surveys eight ELL students and one teacher at a high school with a growing population of Mexican immigrants. This study revealed the challenges ELL students face at school, as well as the consequences of a school system that does not prepare them for the world outside of school.

At least 3.5 million children identified as limited English proficient (LEP) are enrolled in U.S. schools. However, many schools have no programs for LEP students, and many others have only minimal English as a second language (ESL) or bilingual classes (Miller & Endo, 2004). However, this growing portion of the population often experiences a deplorable school completion rate. More than one third of English Language Learners Latino students drop out of high school on a yearly basis (Huerta-Macías & González, 1997). Many studies show that the growing population of students learning English is not getting the resources needed to succeed academically, or to be prepared for life outside of school. For example, Ochoa and Cadiero-Kaplan’s study found that, while the school districts they studied have the capacity and personnel to provide pedagogically sound programs to ELL Latino students, districts are lacking the consistency and academic rigor needed to provide equal educational access. This situation occurs because many public schools continue to treat Latino students as second-class citizens, and fails to nurture their bicultural educational development (Ochoa & Cadiero-Kaplan, 2004).

However, within any school environment, students who are learning English often do not receive the same privileges and opportunities as other students. One way public schools deliver unequal opportunities to ELL students is by spending less money in schools serving high concentrations of low-income and minority children, which often includes a large number of ELL students, compared to those schools serving more affluent and White children (Education Trust, 2005). Between 1990 and 2000, the percent of school-aged children who spoke a language other than English increased from 35 percent to almost 43 percent of the population (UC Linguistic Minority Research Institute, 2003). In 2000, more than 40 percent of all bilingual students and
almost 30 percent of school-aged bilingual students resided in California, with most of these students reporting their first language as Spanish (Ibid.). Of 3.5 million children identified as limited English proficient (LEP), almost 1.6 million children--approximately 25 percent--reside in the state of California. This statistic means that California’s student population contains one of the highest concentrations of English Language Learners in the United State. Additionally, of these 1.6 million English Language Learners in California, 85 percent are Spanish speakers (Gándara, Maxwell-Jolly, & Driscoll, 2005). Despite the large number and widespread recognition of the students’ special educational needs, several researchers have found that California has largely failed to monitor the educational opportunities of English Language Learners, as well as to guarantee that English Language Learners have appropriate teachers, curriculum, instruction, assessment, supportive services, and general learning conditions needed to successfully meet the high academic standards the state has set for all its students (Rumberger & Gándara, 2004).

These learners face several difficulties due to a number of factors, including the fact that many English Language Learners lack an understanding of how the school culture and system operates. In addition, there is often a lack of funds available to develop instructional strategies when educators approach this new English-learning community. In order to comprehend the necessities and struggles many ESL students face, we must further study some of the difficulties they encounter as immigrant students new to the English language and American culture.

The purpose of this study is to add to the existing body of knowledge about the English Language Learners, and to analyze the effectiveness of an ESL program within a growing suburb filled with immigrant students from Mexico. The study focuses on a secondary school, which is identified as Loma High School for the purpose of this research. Loma High is located in the northwest part of California, in a growing suburb that has emerged from an agricultural farm town. From interviews with English Language Learners and teachers in this setting, this study provides qualitative and statistical evidence to show the type of personalized educational research needed when educators aim to understand the struggles ELL students face while working to improve their academic performance.

**Literature Review**

When Proposition 227 passed in California in 1998, it became more difficult for teachers to teach students in languages other than English for more than one year or without parental consent. Since then, research has shown that the quality of native language instruction has not kept pace with student need. Prior to 1998, 43 percent of teachers providing instructional services to English Language Learners were not fully certified to provide those services (UC Linguistic Minority Research Institute, 2003). Of this 43 percent, 33
percent were in training to provide English Language Development (ELD) or Specially Designed Academic Instruction in English (SDAIE) (Ibid., italics added). However, three years after Proposition 227 passed, 25 percent of teachers providing instructional services to English Language Learners were still not fully certified in this area by the 2001-02 school year. As the concentration of English Language Learners in California schools increased, so have the percentage of teachers without full credentials to teach them. These statistics give educational researchers cause for concern, because students with limited English language skills require close attention from trained teachers (Rumberger & Gándara, 2004).

Compounded by the fact that English Language Learners are less likely than others to have qualified teachers are the many challenges associated with teaching these students. English Language Learners have greater challenges than other students because they are immigrants, who frequently come from circumstances in which their early lives and education may be disrupted by war, poverty, and/or residential mobility (Ibid.). Therefore, when they enter U.S. schools ELL students’ ages, grade placements and educational levels often do not match those of a typical North American student. Additionally, Garcia pointed out that:

*The major tenets of reform (standards, accountability, and school-based decision-making) have had almost no influence in raising academics achievement for those students who these reforms were supposed to assist. In California underachievement is still the norm for poor, ethnic minority and limited-English speaking children”*(2003).

Lastly, Haycock writes that:

*...42 of 49 states continue to spend less money on poor kids than they do to educate rich kids. Equity’s real hard in those circumstances. The bottom line is that what poor kids and kids of color need isn’t some mysterious, weird, voodoo education. What they need is the same things other kids need: well prepare teachers who know their subjects and know how to teach them in a rigorous curriculum that challenges not only students but teachers as well”*(2003).

As the U.S. population continues to grow more diverse, more immigrants will be adding to the makeup of communities in California, whether they are agricultural or industrial areas. This growth signals a greater need for both trained teachers and coordinated communication between schools and the migrant community. Zehr, an educational researcher, noted, “Their English-acquisition programs must be taught by someone trained in the appropriate teaching methods, and LEP students’ parents have the right to receive information about their children’s progress in their native language” (Zehr, 2001).

Fuhrman (2003) emphasized the need to pay attention to the deep issue of teacher quality and instructional improvement, “We’ve got to make
instruction better; we need better teachers, better material, better curricula and more equitable distribution of those. We need to focus on instruction and work steadily to improve it” (Fuhrman, 2003).

In a study by Rumberger and Gándara, the researchers point out that during 2000-2001 a total of $50,866,000 was provided for teacher professional development, and of this amount only $8,358,104 was designated for professional development in the area of English Language Development. In other words, only 16% of the professional development funding was designated to English Language Learners (ELL), despite the fact that the ELL students constitute more than 25% of the students in the state, and are indisputably the most educationally disadvantaged of all students (Rumberger & Gándara, 2004). This same study, reported that only 18% of teachers heard about such professional development training and, even worse, only 8% had actually attended one or more professional development training lessons.

In another study, Russell and Gándara observed that teachers felt they had insufficient guidance for implementing regulations in the law, experienced confusion over what the law requires and allows, and perceived a lack of a clear operational definition for the various instructional approaches for English Language Learners students (Rumberger & Gándara, 2004).

Additionally, a survey of nearly 5,300 educators conducted by Gándara, Maxwell-Jolly and Driscoll found that despite teachers’ differing circumstances, background, and preparation, many identified the most challenging part of their work as being their interaction with English Language Learners. The majority of teachers in K-6 grades cited the following difficulties in their work:

- Challenges with teacher-parent communication
- Inability to speak the parents’ language
- Lack of sufficient time to do everything educators need to do
- Lack of time for students to learn everything they need to learn
- A wide range of variability in students’ academic skills and English language proficiency

These challenges contrasted with those cited by teachers of ELL students in grades 7-12, whose difficulties were compounded by social issues, such as:

- Helping students feel comfortable enough to try their beginning English speaking skills
- Helping them to feel part of the school/class
- Convincing them that school can help them
- Keeping them absorbed and challenged with academic content appropriate to their English language skills
Furthermore, teachers expressed a major concern about their students’ ability to meet advancement and graduation requirements within the four years allotted for high school (Gándara, Maxwell-Jolly, & Driscoll, 2005).

In a previous study, Huerta-Macias and Gonzales (1997) found that English Language Development (ELD), students’ success was based on their teachers’ implementation of active learning and instruction that included motivating, hands-on activities. They wrote, “Before all teachers can become good teachers, they must be trained and retrained to have the teaching skills necessary to promote learning in all students” (p. 18). However, newly certified teachers report that they do not have sufficient training to work with English Language Learners and their families. For instance, 23 percent of teachers of English Language Learners who held a Cross-cultural, Language, and Academic Development (CLAD) credential reported that they had a hard time communicating with parents of English Language Learners about their children’s educational progress and needs (Rumberger & Gándara, 2004, p. 2038).

Additional research on English Language Learners shows that the social environment of their schools impacts the rate at which students learn their second language. Researchers Miller and Endo found “teachers and administrators [who] never overtly stated that they believed their students were inferior, [but] they treated them as if they were” (2004, p. 788). Additional studies show that the number of Hispanic students in public schools is increasing quickly. As a consequence, these students bring with them a mosaic of backgrounds, languages, learning styles, values, and needs. Educators need to recognize these needs because teachers and schools have the power to intervene in the lives of at-risk minority students. Educational researcher Lisa Grafton points out that the future progress of minority students will be enhanced if teachers and native North American students are more aware of the changing multicultural concerns and encourage newcomers as they adapt to a new society. Grafton suggests that schools foster an environment where academic and emotional growth is encouraged, but most importantly, where all teachers are sensitive to the diverse background of minority students by being trained in multicultural concerns (Grafton, 1992).

A correlation between ELL children’s language development and the cultural community their families reside in is stronger than other comparisons made by ethnicity, language or income. Pransky explored the conflict between home culture and school culture in a study that showed the cultural mismatch between English Language Learners and their environment causes inequitable school programs. He wrote, “…it was I and my school who were unequipped for my students, not vice versa” (Pransky, 2002). Pransky’s study also found that teachers must question their own assumptions about ELL to truly create a culturally sensitive learning environment. His and other studies show that children perform better in school when their home setting is similar to their
school setting. Similarly, another study examining the differences in student aspirations among rural and non-rural students, found that half of the difference in aspirations was attributed to the lower socioeconomic status of some families and the other half to the location/setting in which students reside (Gándara, Gutiérrez, & O’Hara, 2001).

Not only is the social environment challenging for many English Language Learners, but these learners often do not have educational programs that are fully funded. The Education Trust, an organization that lobbies for equal treatment of all students, found that in the nation as a whole, about $900 less per year is spent on students in school districts with the poorest students compared with districts with the wealthiest students. The poorer school districts, and even poorer schools within a district, were found to have less qualified teachers and less money to spend on programs (Education Trust, 2005). In addition, close to half of the teachers in schools with higher percentages of English Language Learners reported poor physical conditions of facilities in their schools. In addition to substandard facilities, schools with higher percentages of English Language Learners had poorer working conditions for teachers, including more overcrowded classrooms and little parental involvement (Rumberger & Gándara, 2004). Such conditions play an important role for teachers when they were applying for jobs and deciding where they want to teach. Schools that serve the highest proportion of poor and minority students and English Language Learners struggle more with attracting and retaining fully prepared teachers. Therefore, low-performing schools tend to have higher proportions of unprepared novice teachers than high-performing schools.

A 2004 study showed that one out of every five teachers (21 percent) in the lowest achieving schools were unprepared novice, compared to only 1 in 10 teachers (11 percent) in the higher achieving schools. Additionally, the study found that teachers tend to be most attracted to familiar environments in many cases suburban areas similar to ones in which they grew up. Urban and rural schools face greater recruitment challenges and often must “import” teachers from outside their communities. More experienced and qualified teachers may choose not to work in such conditions because, in some cases, high salaries may mitigate the effects of poor working conditions (The Center for the Future of Teaching and Learning, The Status of the Teaching Profession, 2005). Clearly, these studies show that the future of California depends on the state’s willingness and ability to successfully educate its growing linguistic, racial, and ethnic populations (UC Linguistic Minority Research Institute, 2005).

**RATIONALE**

Because language is one means to discover the ways in which an individual conceptualizes his or her behavior, the author of this report chose the topic of English Language Learners because she had language barriers as a learner
of English at the age of 16. When this author first came to California, she
did not know a single word of English. She found it very difficult the first
year to assimilate, change, and become familiar with the new environment.
It was only because of two kind and helpful teachers that this author was
able to accomplish high school graduation, as well as take the path to a state
university. If it had not been for those two high school teachers, this author
would not have graduated from high school because of her lack of language
proficiency, and education prior to arrival in the United States. As a result,
this author chose this topic because she wants to help make sure that future
English Language Learners are getting the best educational aid available.
During the period she was learning English, she did not feel she was getting
the best classes or programs. She was lucky enough to attend an ESL class at
a community college and another class at an adult school to supplement her
high school education. Her own experiences have compelled her to study the
research surrounding the challenges faced by English Language Learners.

**METHODOLOGY**

This study employed a case study divided into phases. The participants’
names, as well as the name of the high school, were changed to preserve
anonymity and protect privacy rights. This researcher interviewed eight
high school students from an ELD class over the course of four weeks at
their high school. In addition, one teacher from this same school who has
dealing with ELL students was also interviewed. This teacher, who called
herself Miss R for the purpose of this study, is one of three ELL teachers
in the school. The school currently has four levels of ELD classes. Each
participant, including the teacher selected his or her own pseudonym. In
order to participate in this study, written consent forms were attained from
each participant.

**Phase I**
The first phase of this study was conducted during the week of March
27, 2006. With the help of Miss R eight ELL students were identified as
participants and introduced to the project’s overview and objectives. Students
were selected based on their backgrounds and length of residence in the
United States.

**Phase II**
After the selection was complete, the second phase, interviewing students,
continued over four weeks in the month of April, 2006. The case study
was developed using interviews with students, the teacher, and a detailed
description of the school’s ELD program.

The students’ interview questions were developed to examine:

1. The students’ family background and family size
2. Their economic status/parents’ occupation
3. Purpose of migration as well as the method used to migrate
4. Time in the new country
5. Goals, dreams, hobbies and possibilities to pursue a higher education
6. Language acquisition and development
7. Usual routine at school
8. Inequalities faced by ELL students
9. Students’ awareness of the ELD program and perception about the program
10. Relationship between students and school counselors
11. Student connectedness with their teachers
12. Various other factors about their classes schedule and classes received
13. Preparedness for graduation as well as for future life path

Interviews were conducted on Tuesdays and Thursdays and lasted about forty minutes for each person. Data from the students’ interviews were combined with teacher’s data, who was interviewed with general questions about the ESL program and its perceived effectiveness at her school. In addition, qualitative evidence was gathered as the students and teacher gave their responses during the interviews.

**Phase III**

During the third and last phase of the study, the gathered data was analyzed with the mentorship and guidance of this researcher’s mentor, through examining the participants’ responses, patterns in responses, common themes, opinions and personal experiences. This data was collapsed to present a case study and matrix was used to develop a comprehensive look at the data. A composite was created for male and female students separately.

**Data Analysis**

This section presents a descriptive case study based on the interviews conducted with this study’s participants. This case study has been divided into segments, beginning with demographics and following with common themes in the participants’ responses, grouped in the following manner: goals/dreams, inequalities, class schedule, program structure, organization, encouragement, counselor relationship, and assignment into appropriate classes.

**Demographics**

The participants consisted of eight high school students (four girls and four boys), from the ages of 16-18, (two girls and one boy being 16 years old, two girls and two boys being 17 years old, and one boy being 18 years old). Participants’ time in the U.S. ranged between one to three years (two have
just one year here, four have spent two years in this country, and the other
two having almost three years in this country). All of the students are from
Mexico, the majority from the state of Michoacan (four are from Michoacan,
one from Zacatecas, one from Aguascalientes, one from Morelia, and one
from the Distrito Federal). Seven of the students live in the same city as the
high school they attend, (renamed Cedar Hills for this study) and one lives
in a town nearby. Most of the students’ families work as manual labor in
construction, fieldwork, nurseries, and packing corn and asparagus canneries.
All students except two said they immigrated because of a parent or relative.
One student relates, “I came because my parents brought me.” Another
student says, “I came here because my parents wanted to have the family
together. I didn’t really want to come here but I am here now, anyways, I just
have to accept it.” Many of students’ answers shows that family reunion was
the main reason for these students being brought from their places of origin.
In most cases, the father was working here and the family came to reunite, or
older brothers were here and brought the rest of the family to be together.
Only two students affirmed that they wanted to come here. One said, “I
came to this country because I want a better life and I want to be able to
achieve my goal of become a police officer.” These two students have almost
all of their families here, or at least the parents, brothers and sisters. In all of
the participants’ homes, with the exception of one home, Spanish is spoken.
All students said their home language does not help them practice their new
English language skills.

Common Themes
In this study, the following eight common themes emerged.

Goals/Dreams
The majority of the students in this study’s sample aspired to go to college,
but seemed unaware of how to accomplish such a goal. For instance, Martin
was very specific when he said, “My goal is to graduate from high school,
attend a university, and graduate majoring in criminal justice. I want to do
something out of my life. My motivation comes from my family and from
what I have experienced in my life.” Along the same path, Jose Juan said,
“My goal is to graduate from high school, attend a college and graduate with
a career of electronic engineering, then work and later on, have my own
business.” In addition, Ruben dreams of “becoming a police officer to help
as well as serve other people.” Similarly, Lana points out that her dream is
to “finish high school, go to college, study economy, get married, and form
my own family, but first get educated and become independent.” Another
student, Monica, stated that she would like to become a doctor and that her
motivation comes from her family. Another girl, Minerva emphasized that
she wants to get educated, for now her main goal/dream is to “help people
get closer to God’s path.” On the other hand, only two students, (one boy
and one girl) said they were undecided about higher education. For instance,
Miguel’s vague answers show he is unclear about the specific path he will
follow when he says, “My goal is to have a better life, get married, have children and become old.” No further answer/explanation was obtained, and the researcher allowed subjects to skip questions they felt uncomfortable answering. Last but not least, Karla’s dream was very simple: “My goal is to come back to Mexico. I don’t want to be here.”

_Inequalities_
When participants were asked if they have noticed any inequality in their academics, education, or any aspect affecting the ELL students needs, Jose J quickly answered, “I don’t really see inequalities in my life.” Whereas, Martin pointed out that an inequality he faces is having a smaller English vocabulary than he would like. Martin says, “I get desperate and discouraged because I don’t know that many English words.” In addition, Miguel feels “at a disadvantage because I don’t know enough English, and we don’t have classes as normal students. This affects our graduation date because we spend a longer time in lower classes?” Ruben said his challenge is that, “My English is not very good, and sometimes I don’t understand everything that is being said in my class.” The girls, Lana, Minerva and Monica said that not having regular classes and not attending high school as a regular student felt like inequalities. Minerva agreed with Monica’s comments when Monica said her challenge was being, “unable to speak English perfectly, and feeling very terrible because sometimes, I can’t or don’t do some things that I want to do, because I don’t speak perfectly.”

_Class Schedule_
From the students’ response gathered during the semester this researcher interviewed them, their class schedules consisted of two ELD classes (their levels varied), a Geometry or Algebra math class, and a P.E. class for ELD levels 1-2. ELD levels 3-4 had a history or health class rather than a P.E. class. One student did not have the health class and was a teacher’s aid in an ELD 1 classroom.

_Program Structure Awareness_
All of the students answered that the ELD program was helpful in learning English, yet all of them said that they do not really know much about the ELD program, “No, I don’t know a lot about the ELD program, last year I was in ELD 3 and I think that students missed something it was fine but not as I expected. However without the program it would be harder, and maybe I would have to go outside this institution and pay for English classes, and that is money that I don’t have.”

_Schedule Organization and Time Spent in ELD Program_
Students in levels 1 and 2, state that having two ELD periods every day is acceptable because they say that they would not be able to perform in regular classes as well and learn as much as possible. However, students in levels 3 and 4 said that it would be better for them if they only have one ELD class, because they also want to take other classes in order to graduate. This
school’s exit policy is to send students who reach the age of 18 and do not graduate in the same year to an adult education school. Therefore, many ELL students worry constantly about completing their classes. These students are familiar with the prospect of being exited before obtaining a diploma and do not want that to happen to them.

**Encouragement for Higher Education**
Participants were asked if anyone has encouraged them to attend college. All of the students responded that they have received encouragement from their family, including parents, brothers, sisters and other relatives. However within the high school environment, only Miss R encourages these students to make something different of their lives, and to take advantage of opportunities found. Two out of eight students said that they do not know if they want to pursue higher education or any sort of job training. However, the other six participants said they will try to get into a university once they graduate. They would love to attend college and will apply for scholarships in order to afford college by “hopefully searching and applying to scholarships.”

**Counselor Closeness/Relationship**
When participants were asked if they knew who their academic counselors are, and what type of relationship they had with their counselors, the participants answered that all of them knew who their counselor was, but they agreed that they almost never, or very rarely visit their counselor. Only one student showed a strong relationship with his counselor, but according to the student, his counselor originated from Mexico, and Spanish is mainly spoken when they meet. “My counselor is Mexican and he has motivated me to keep in this path, and I do believe that he does go out of his way to help us.” This study also showed that similar background, as well as similar spoken language plays an important factor when determining if students will seek advice or guidance from their counselor.

**Appropriate Classes Assignment**
Participants were asked their opinion about whether they were receiving the appropriate classes or not, based simply on their academic experiences. All of the students concluded that, from what they know, they are receiving the appropriate classes. However, this might not be accurate, due to the fact that ELL students might not be very familiar with the school system, and they cannot differentiate if one class is better than another one, they limit themselves to take the classes they are given to without protesting or changing it because they trust the staff and their counselors, thinking that since they are performing such job they are the experts and they should know what could be best for the students. Although Karla articulates that she receives the appropriate classes, she also points out that “this semester I have the same math class from last year.” Lana’s response when asked about whether she was scheduled in appropriate classes was, “Yes and at the same time no, because I think that they shouldn’t have placed me in the CAHSEE
class because that class is to pass the CAHSEE but I don’t even understand all I need to prepare. I would rather have another class and not that one.”

This study shows there are still “accidents” when placing Ell students into classes. The sad part of this situation is that ELL students do not understand or do not realized how the school system works, therefore they have to accept any class offered to them. All of the students agreed that the ELL program is effective. However it is essential to get input from students who will be placed in such a program. In addition, it is very important that the presence and guidance of one who knows the students, such as a well-trained teacher, is included in class scheduling decisions.

In an interview with Miss R she stated that a better way to create a school environment where ELD students achieve would be to utilize bilingual classes for all students, also known as dual immersion programs, in which students can learn English as a second language. Miss R believes that this change would help ELD students, who should still be placed in special, basic English classes the first year they arrive from a foreign country, before putting them in to bilingual classes that all students could take.

In the current ELD classes, the students are the only Spanish speakers at school. Most of the time ELL do not try to talk in English because of shyness or simply because they think that they do not need to because all of their classmates also speak Spanish. They reason, why bother to try to speak a language that the student in front and next to them might not even understand? The lack of mixing students in the current ELD program actually creates an environment where ELL students avoid practicing English and do not increase their learning ability.

One problem that Miss R feels she faces is that there cannot be a perfect program for this group of students because ELL students come from different places and have different levels of education. In addition, they have unique background/experiences and their learning abilities are also very different. This educator has observed that students most likely come from cities have more chances to succeed than those students coming from rural town or ranches because of the type of education they received in their places of origin. She says it is very difficult to treat every student the same way, and using the same method for all might not benefit all the students equally.

Currently, the ELD program at Loma High School uses a program called High Point, which requires a total of three hours per day, every semester, which are divided into two 1½ hour classes with a 15 minute break between classes. There are four levels of classes: ELD 1, ELD 2, ELD 3, and ELD 4. Miss R opposes having two periods of ELD classes back to back, because “…it’s useless. These students need to take other classes, and be able to graduate.” She believes that ELD 1 students need the two periods of ELD blocking to get their basic skills, but that the more advanced students would do better in bilingual, dual immersion classes. Such classes would benefit
the Spanish speakers and native English speakers by exposing both to new cultures. For instance, according to Miss R, other teachers who teach regular classes where ELL students are placed have the tendency to not understand their cultures, and are not sensitive to them, their challenges or their backgrounds. Miss R highlights that some teachers find it very difficult to teach ELL students because teachers do not understand what are the ELL students going through, or what is happening to these ELL students. Miss R has spoke with some teachers and explained a little bit about these students so that teachers understand more about the needs of who they are teaching.

One problem students are facing right now is that either they are not graduating because they do not have all the needed credits to graduate at the end of their fourth year of high school, or because they are not able to pass the California High School Exit Exam (CAHSEE), especially the English section. During 2005-2006 school year, approximately eight ELD students at Loma High School were unable to pass the CAHSEE. These students finished all their class requirements and passed all their classes, but they did not receive their high school diploma as a result of not passing the CAHSEE. However, they did participate in their graduation event as if they were graduating. These students are unable to pursue higher education because all educational institutions they would apply to would ask for proof of high school graduation, which they do not have. One student in particular affected by not passing the CAHSEE is “Pepe.”

“Pepe” is very bright and intelligent, according to Miss R. He wanted to pursue higher education and attend a university, however he could not pass the essay section of the CAHSEE. As a consequence, he did not receive his high school diploma. However, he has received a $20,000 scholarship to attend college, but cannot have access to this money because he cannot get his diploma without passing the English essay section of the CAHSEE. It is tremendously hard to decide whether to provide classes to ELL students to pass the CAHSEE or to graduate.

Miss R argues that the requirement to pass a high school exit exam places ELL students behind their peers, and she believes that the test requirement should be changed for ELL students. If the test is used, Miss R believes ELL students should have accommodations, such as allowing more time to take the exam, breaking up the exam into smaller sections, or allowing the use of dictionaries during the exam. The students in this study are well aware of the CAHSEE and many are terrified by it because they know that they will probably not pass the exam. ELL students feel very frustrated and sometimes they get discouraged as a result of being unable to pursue their dreams into furthering their higher education.

Because Loma High School’s ELL students are using the High Point program, they spend a total of three hours daily learning basic English. Because of this schedule, they are not taking the same classes that other students are taking. Many ELL students are caught in the dilemma of being
scheduled for remedial classes while getting older and closer to the cut off for exiting high school, which is at the age of 18. Often, students who reach the age of 18 before graduating are placed in the district’s adult education program, where there is not as much English language support, and they may not finish their education. At Loma High school, there is a possibility of petitioning for a fifth year in high school, but currently ELL students have to submit to a series of requirements to get the fifth year approved. One of the subjects interviewed has been allowed to obtain a fifth year of high school, however, based on Miss R’s responses, there are approximately 12 to 15 students who have been allowed to stay at Loma High School. Miss R ends her interview by saying, “There is not a perfect program for ELL students, but definitely there can be a better one than this one we are currently using, one than not only focuses on teaching a second language but also one that focuses in preparing students for higher education, but also prepares students to succeed in life.”

After the last interview with Miss R ended, this author felt motivated by Miss R’s commitment and optimistic attitude toward doing anything to help her ELL students. Also, this author left with the awareness that changes must and should be made in order to successfully serve the 1.6 million English Language Learners whose population continues to grow in our country. Miss R does not allow herself to fall back but continues to work arduously and go even further in helping the ELL students reach academic achievements every year. Most of all, she looks caringly at each of her students as an individual full of potential and energy who can achieve high levels of success in all aspects of his/her life.

LIMITATIONS

This study was limited due to the qualitative nature of the interviews, and its limited sample size, due, in part, to the study’s short time frame. Also, this study was conducted in a small but growing community, and the results may not be generalized to other larger suburban/urban schools. Further research could involve extending this study to a broader population of English Language Learners (ELL) students and programs statewide or even nationwide.

The completion of this study has opened this author’s mind to a world of possibilities for future studies, for instance: What are the students’ home lives like, and how does it influence their academic success in school? What prevents some students from achieving such academic success or why are some students not motivated? Why do some students have goals they actively pursue and why do not others dream? Perhaps most importantly, what defines these students’ meaning of success and how they are going to achieve it?
CONCLUSION

As this author started previously in this research paper, she was searching for a program to blame for the lack of achievement in ELD students. However, it is now clear that there is no perfect program, nor a perfect solution. The changes needed to fix the situation of poor instruction for ELD students are so complex that it is difficult to identify a starting point. Every student is so different from another and the same program cannot be used for all students. Conversely, having many programs does not solve the problem such as those students face at Loma High. The biggest challenge students in this study face is being unable to pass the CAHSEE after successfully completing their high school class. Researchers will spend years answering the following questions: What is going to happen with these students? What other alternatives are available for ELL students when it comes to passing the CAHSEE? What is needed to give these students greater academic support and alternatives to succeed in life?

The educator interviewed in this study felt that the CAHSEE should not be a barrier for students who work very hard, and want a better life, and get educated in a second language. In addition, this educator felt that ELL students were not being properly placed in regular classes when they were ready, nor being paired with well-trained teachers once they were placed in regular classes.

For Loma High School, this author recommends that the ideal ELD learning time should be organized as with ELD 1 students allotted having two periods (a total of three hours) for basic instruction and ELD 2-4 students having one period of 1 ½ hours for instruction. This allows English Language Learners to finish their high school requirements on time. Another method of mentorship and support this author recommends would include developing a tutoring program available for ELL students before, during and after school.

This study found that even a comprehensive public high school that has a somewhat strong ESL program needs change. One major factor, having well-trained teachers addressing the needs of ELD students, is also something that is very scarce at Loma High School. All of the ELL students interviewed for this study concluded that Miss R is the only teacher who has gone out of her way to help the ELL students.

At Loma High School and many other California schools, there is a need to:

- Recruit more motivated and qualified teachers who have appropriate skills to teach
- Train and certify teachers who can effectively work with English Language Learners
- Provide valid assessments of the academic skills of ELL students and appropriate material for teacher to teach EL students
• Address the poor and inequitable schooling conditions for English Language Learners

• Monitor the nature of the instruction and educational experiences of English Language Learners in California Schools (Gándara, Gutiérrez, and O’Hara, 2001)

Moreover, it is critical to provide materials to the students’ parents in their primary language, to the extent possible, to strengthen the opportunities for English Language Learners’ parents to become involved in their children’s education.

Although it is often very difficult to determine the effectiveness of a particular ELL program, it is nonetheless possible to conclude with the hypothesis that certain strategies are more successful than others in increasing the academic achievements of ELL students. This study and its supporting literature review shows that it is essential for ELL students to have trained teachers who not only teach them what is needed in school, but prepares them for their lives after graduation.
REFERENCES


Pransky, K. (2002). To meet your students where they are, first you have to find them: Working with culturally and linguistically diverse at-risk students. 56


Assessment of Eating Habits, Attitudes and Knowledge of African American Females in Relation to Coronary Heart Disease (CHD)

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Faculty Advisor: Dianne Hyson, Ph.D.

Abstract

Despite the publicity and research findings on the positive effects of a healthful diet, a significant number of African American women continue to die of cardiovascular disease, in particular, coronary heart disease (CHD). For the purpose of this research, the researcher looked at the eating habits of African American females, ages 18-24, to determine: 1) if completion of a nutrition course positively affects eating habits and food choices; 2) if the knowledge of one’s family health conditions affects eating habits and food choices; 3) if there is a common barrier that keeps African American females from eating healthily; 4) if current eating habits are associated with increased risk for CHD, and 5) how much knowledge this population has about the risk factors for coronary heart disease.

Coronary heart disease (CHD) is a chronic disease and a serious problem for African American women. The leading causes of death in both Caucasians and African Americans are due to CHD and other related cardiovascular diseases (American Heart Association, 2005). Although both African Americans and Caucasians are affected by CHD, research shows that African American women have suffered an increase in morbidity and mortality from CHD over the years in comparison to Caucasians (Appel, Davidhizar, & Giger, 2005). CHD is the leading cause of death in African American women between the ages of 30 and 39 (Robinson, 1995).

The literature reveals that age, race/ethnic background, heredity and gender are non-modifiable risk factors for CHD. Modifiable risk factors for CHD, which are risk factors that can be modified or prevented with lifestyle changes, include hypertension, diabetes, being overweight, obesity, smoking, hyperlipidemia, and lack of physical activity (American Heart Association, 2005). CHD continues to gain attention in research because of the increasing number of deaths it causes every year.

Researchers have found that CHD and many of its risk factors can be modified with diet. By increasing the consumption of fruits, vegetables and dietary fiber, and decreasing the intake of saturated fats, cholesterol and sodium, a person improves his/her chance of lowering the risk of CHD. The deaths of African American women from CHD account for 250,000 deaths annually (American Heart Association, 2005). Therefore, it is important to study this population in their early adult life to determine
whether their current eating habits may increase their risk of developing CHD in the future, and to help develop effective intervention.

Among the college and university population, approximately 57% (7.1 million) are between the ages of 18-24 years (Centers of Disease Control, 1997). These transitional years are the years that students are experiencing and finding what fits best for them and are extremely important because there is a great opportunity for the establishment of healthful lifestyle behaviors, especially nutritional habits that these students can apply during their lifetime. However, data from the 1995 College Health Risk Behavior Survey indicated that many college students engage in poor lifestyle behaviors, such as excess alcohol consumption, poor diets, and low physical activity that place them at risk for developing serious health problems (Center for Disease Control, 1997). These studies on college students show that a significant percentage of college students are not consuming adequate nutrients, have imbalanced diets, and are not leading healthful lifestyles.

Due to the high prevalence of CHD in African America women, it is important to start educating college-aged African American women on the health benefits of consuming foods that could help prevent the occurrence of CHD later in their lives. Over the years, fruits, vegetables, and dietary fiber have been noted to reduce the risk of CHD, and it is suggested that they become part of the daily diet (American Heart Association, 2006). This study examines the eating habits, attitudes, and knowledge of African American women, ages 18-24, attending California State University, Sacramento. The intention of this study was to assess whether this population’s dietary intake reflects one that increases their risk for CHD in the future, and to assess their knowledge of risk factors for this disease.

The connection between poor dietary habits, unhealthy lifestyles, and the relationship to CHD and its risk factors has been established. Despite these findings on the importance of maintaining a healthful diet, there are a significant number of college students who do not practice heart healthy lifestyles (Center of Disease Control, 1997). Born, Harris, Huang, Kaur, Lee, and Nazir (2003), discovered through a cross-sectional survey of college students at the University of Kansas, that a high percentage of students were overweight and engaged in less than healthy dietary habits, including low fruit, vegetable and fiber intake, and low physical activity. Born et al. (2003) concluded that there is a great need for attention to diet and exercise intervention in the college population. Their study suggested that if college students were leading poor dietary lifestyles at that particular age, then there was a strong possibility that these students were more prone to diseases, such as CHD, that are caused by the inadequate intake of nutritious foods. This finding suggests that inadequate intake of healthy foods, even at a young age can affect the prevalence of food-related diseases in the future.

In another report, Douglas, Matvienko, and Schafer (2001), tested their hypothesis that a nutrition course that emphasized the essential principals
of human physiology, energy metabolism, and genetics would help prevent weight gain during the first 16 months of college life. In this study, 40 female college freshmen participated in the intervention. The study included a college nutrition course group and a control group that did not take a nutrition course. A major finding in the Douglas et al. (2001) was that the intervention had a significant effect on a subgroup of students with higher baseline Body Mass Index (BMI), higher parental BMI, and higher fat intakes. Students with higher BMI significantly reduced total energy and, more importantly, daily fat intake after taking the nutrition course in comparison with the higher BMI control students (Matvienko et al., 2001). In addition, Matvienko et al. (2001) stated that decreased fat consumption in the nutrition course group could possibly be one of the major contributors to the ability of these at-risk students to maintain their baseline weight in contrast to the control students who gained weight. These researchers’ findings confirmed their hypothesis that nutrition education is an effective strategy to prevent weight gain in at-risk college students (Matvienko et al., 2001).

A study conducted by Debate, Sargent, and Topping (2001), focused on the racial and gender differences in weight status and dietary practices among college students. Debate et al. (2001) found that the weight status of African American females showed that they were heavier and had gained more weight since starting college in comparison to their Caucasian counterparts. Additionally, African American females and males were well below the percentage of those who met the recommended servings of food groups, with the exception of the meat group, in comparison to Caucasians. African Americans were found to consume breakfast less frequently and reported higher rates of fast food consumption than their Caucasian counterparts. Moreover, Debate et al. also found a lower percentage of African Americans, as opposed to Caucasians, who consumed the recommended servings of fruits, vegetables, bread, and dairy products. These findings confirm past research that college students have unhealthy dietary practices, and also show that dietary intake is linked to race and gender. African American college women, in comparison to Caucasians women in the study by Debate et al. were found to have unhealthy diets, making them more at risk for CHD later in their lives. DeBate et al. (2001) summarized that the failure of college students to eat healthful diets was possibly due to:

- Frequent meal skipping (Sax, 1997; Hertzler & Farry, 1989; Cusatis & Shannon, 1996)
- Inadequate variety of foods (Schuette et al., 1996; Huang & Song, 1994)
- Frequent consumption of fast foods (Task Force on National Health Objectives in Higher Education, 1991)
- Decreased self efficacy in making healthy food choices (Cusatis & Shannon, 1996)
Major Risk Factors for CHD

It is extremely important to understand that the development of CHD is exacerbated by a combination of other conditions. Following is a discussion of the five major risk factors for CHD known to be associated with CHD risk.

High Cholesterol

According to the American Heart Association (AHA), cholesterol plays a major role in heart health. Cholesterol levels are affected by age, sex, heredity and diet. As blood cholesterol rises, so does the risk for CHD. There are two ways cholesterol gets into the body. First, the body makes cholesterol via the liver. Second, cholesterol is consumed when animal products such as meats, poultry, fish, eggs, butter, cheese and milk are eaten.

Because cholesterol is not water-soluble, it is carried in the blood in particles called “lipoproteins”. Low density lipoproteins (LDL) are known as “bad cholesterol” carriers because they deliver cholesterol to tissues. High density lipoproteins (HDL) are known as “good cholesterol” carriers because they pick up and dispose of cholesterol (American Heart Association, 2006). If high levels of LDL circulate in the blood, cholesterol can slowly build up in the inner walls of the arteries that feed the heart and brain. Over time this build up, together with other substances, can form a plaque that narrows the arterial supply of blood causing stroke, heart attacks, and other vascular diseases (American Heart Association, 2006). Therefore, high levels of LDL cholesterol increase the risk of CHD.

In contrast to LDL, high levels of HDL cholesterol have been shown to protect against heart attacks (American Heart Association, 2006). The American Heart Association (2006) states that experts believe that HDL tends to carry cholesterol away from arteries and back to the liver, where it is recycled and distributed back to the body. Other experts believe that HDL also removes excess cholesterol from plaque in arteries, and as a result, slows cholesterol build up in the arteries (American Heart Association, 2006).

The saturated fats and trans fatty acids (TFA) found in small amounts in various animal products, such as beef, pork, lamb, and the butter fat in butter and milk, have been found to exacerbate total blood cholesterol (American Heart Association, 2006). TFA are also found in hydrogenated foods. Hydrogenation is a process used for commercial food products to make fatty acids more solid and increase their shelf-life. The American Heart Association states that TFA are a major source of fat in the foods of the American diet. In addition, partially hydrogenated vegetable oils provide about three-fourths of the TFA in the U.S. diet. Clinical studies have found that TFA raises total blood cholesterol (American Heart Association, 2006). Some scientists believe that TFA raise blood cholesterol more than saturated
fats. Foods that are high in TFA include French fries, doughnuts, cookies, crackers and fast food products (American Heart Association, 2006).

The American Heart Association recommends that Americans as a whole should reduce the amount of saturated fat, TFA, cholesterol and total fat intake in their diet to prevent high blood cholesterol. The specific guidelines of the American Heart Association (2006) are: a maximum of 30% of calories from fat with the consumption of no more than 10% of calories from saturated fats, and no more than 300 mg of cholesterol per day.

Hunter and M.E. Robinson (2001), found the diet of the African American urban populations to contain 42.7% of total calories from fat with 14.6% from saturated fat. The fat intake of this group indicates a possible reason for the increased risk that they have for CHD.

Hypertension
Uncontrolled hypertension is a predominant risk factor for a broad group of cardiovascular diseases, including CHD (Bolton & Wilson, 2003). By age 40, forty percent of African Americans have been found to have hypertension (Davidhizar, 2004). Clinical researchers have observed consistent differences between African Americans and Caucasians in the evolution of hypertension (Bolton & Wilson, 2005). Hypertension has been found to occur at an earlier age in African Americans and responds differently to pharmacologic treatments than in Caucasians (Joint National Committee on Prevention, Detection, Evaluation, & Treatment of High Blood Pressure, 2003).

Hypertension is exacerbated by obesity, smoking, and hypercholesterolemia, which often occur together (Ferdinand et al., 2002).

Although it is known that the onset of hypertension occurs earlier in African American males compared to Caucasians (Erikson, Lappas, Rosengren, & Wilhelmsen, 2001), few studies have looked at the time of onset of hypertension in African American women (Bolton & Wilson, 2005). However, the National Health and Nutrition Examination Survey, used data from 2,700 Caucasian and 422 African American female subjects to evaluate the rates of hypertension in women of childbearing age (Anderson, Bound, & Geronimus, 1991). This study revealed that there was no difference in the incidence of hypertension between races in women aged 15-19. However, a wide gap appeared by the age of 25 when African American women were twice as likely to develop hypertension by the mid-childbearing years in comparison to Caucasian women. This finding shows that there may be an early onset of hypertension in African American women, which puts them more at risk for the development of CHD and other related cardiovascular diseases.

Smoking
According to the American Heart Association (2006), smoking is a woman’s single highest risk factor for CHD, especially heart attacks. Women who smoke are at a higher risk for CHD than nonsmoking women. In addition,
inhaling cigarette smoke puts added strain on the heart because it causes vessels to clamp down or constrict. If some of the blood vessels have already been narrowed or damaged by heart disease, smoking makes the problem worse. Smoking also increases the level of carbon monoxide in the blood, which decreases the oxygen that is vitally needed by the heart and other tissues. In the United States, an estimated 21.5 million women (19.2 percent of the population) are smokers and are at higher risk of CHD (American Heart Association, 2006). For persons aged 18 and older, statistics show that among non-Hispanic blacks, 18.3 percent of women are smokers (National Heart, Lung and Blood Institute, 2004). Moreover, inhaling passive or secondhand smoke is just as dangerous as firsthand smoking. Being exposed to secondhand smoke has a clear link to CHD and premature death as an estimated 37,000 to 40,000 people die from heart and blood vessel diseases caused by other people’s smoke each year. Of these, about 35,000 nonsmokers die from CHD, which includes heart attacks (American Heart Association, 2006). Cigarette smoking is such a serious problem and an important risk factor for CHD and other related cardiovascular diseases that the American Heart Association stated that it is “the leading preventable cause of disease and deaths in the United States” (American Heart Association, 2006). Furthermore, smoking decreases HDL (good) cholesterol levels and exercise tolerance, and increases blood pressure and the chance of blood clot occurrences.

**Obesity**

It is estimated that 48% of African American girls are obese as they approach adolescence, and they are more likely to have an “apple-shaped” fat distribution, a body shape associated with CHD (Barbeau, Dekkers, Gutin, Podolsky, Sneider, & Treiber, 2004). An apple-shaped body fat distribution is defined as having most of one’s excess body fat distribution located in the abdominal section of the body (American Heart Association, 2006). According to Bolton and Wilson (2005), cultural differences in dietary practices and perception of body image may contribute to the high rate of obesity in African Americans. Bolton and Wilson (2005) found that unlike Caucasian women, African American women do not associate obesity with a negative body image. They also found in past research that African-American men consider overweight women more sexy and attractive than women who are of a thin to normal body weight (Melnyk & Weinstein, 1994).

Bolton and Wilson also stated that past research showed that more African Americans have diets higher in calories and saturated fat than Caucasians (Ferdinand & Serrano, 2002). Interestingly, Bolton and Wilson found that in low-income African American women, the motivation to improve health with exercise increased greatly when the women were provided with child care assistance, a safe environment and programs based on activities that parallel cultural attitudes (Ferdinand et al., 2002).
Collectively, these findings suggest that due to cultural practices, African American women do not relate being overweight with a negative body image. Most importantly, Bolton and Wilson (2005) also show that with proper intervention, African American women are willing to change their lifestyle to improve health status.

The correlation between mother and daughter obesity and CHD risk in African American households and Caucasian households was examined and published in the American Journal of Public Health (1994). The study evaluated obesity as a possible explanation for the increased risk for CHD in African American women compared to Caucasian women. The study found that African American women, mothers and daughters specifically, were significantly heavier and had higher body mass indexes than their Caucasian counterparts. Moreover, obesity measures correlated positively with systolic blood pressure and triglycerides, and inversely with HDL cholesterol in mothers and daughters of both races. This study strongly shows the association of obesity with CHD risk factors and the higher risk among African American women. The higher frequency of obesity in African American women in comparison to Caucasians is another strong explanation of why African American women are more affected by CHD.

**Diabetes**

Type 2 diabetes is the fourth leading cause of death among African American women. Diabetes also increases the risk of developing related cardiovascular diseases, such as CHD and heart failure (National Heart, Lung & Blood Institute, 2004). According to the American Diabetes Association (2004), African Americans are disproportionately affected by diabetes. The ADA Web site showed that:

- 3.2 million of African Americans ages 20 years or older have diabetes.
- African Americans are 1.8 times more likely to have diabetes than non-Hispanic whites.
- Twenty-five percent of African Americans between the ages of 65 to 74 have diabetes.
- One in four African American women over 55 years old is affected by this disease.

According to Tilghman (June 2003), the Diabetes Prevention Program Research Group conducted a large, randomized clinical study that included adults in the United States who were at risk for the development of type 2 diabetes. The objective of the study was to determine whether a lifestyle intervention or treatment with an anti-hyperglycemic agent prevented or delayed the onset of diabetes. The study included 3,234 subjects who were non-diabetic and overweight; most were obese and had a family history of type 2 diabetes (Knowler, 2002). Tilghman noted that 60 percent of the samples were women and 45 percent were members of minority groups.
(Knowler, 2002). The results showed that subjects who made lifestyle changes through diet and exercise reduced their risk of getting type 2 diabetes by 58 percent (Knowler, 2002). There was no difference in the effects of lifestyle changes on diabetes in regards to gender. Tilghman’s findings coincide with their hypothesis that type 2 diabetes can be prevented or delayed in persons at high risk for the disease with lifestyle changes (2003).

**Rationale**

A large number of African American women die from CHD, despite the knowledge that healthy dietary habits are a significant way of preventing the disease. It is pivotal to know about the lifestyle and eating habits of this group to determine what keeps them from eating healthy foods. This researcher chose to examine the lifestyles and attitudes of African American college women ages 18-24 because it is this ethnicity and gender that statistics have shown to be affected at a disproportionate rate by CHD. It is also during these transitional ages and years that healthy lifestyle behaviors, including nutritional habits, develop (Huang et al., 2003). These developing behaviors are likely to affect the health of African American women throughout their lifetime, as well as help determine their levels of risk for CHD. This researcher views this study as an opportunity to encourage and educate African American females about the risk factors for CHD, for which they are shown to be at higher risk for developing than other groups.

**Problem Statement**

The data obtained from surveys, enabled this researcher to address several research questions, including:

1. Does a nutrition course help positively influence the attitude towards eating habits and food choices?
2. Does the knowledge of family health history conditions related to CHD affect eating habits and food choices?
3. Are current eating habits and food choices shown to be associated with increased risk of CHD?
4. Is there a common barrier that keeps these students from eating healthily?
5. How much knowledge does this group have on CHD and its risk factors?

**Methodology**

In order to gather data for this study, this researcher divided the research into the following three phases.
Phase I - Recruitment
Subjects were randomly selected from the California State University, Sacramento campus. Subjects in this study were required to be African American, female, attending California State University, Sacramento, and between the ages of 18-24. Upon agreeing to participate in the study, potential subjects were asked to provide their phone numbers or e-mail addresses so that they could be contacted when the study was to begin. With the approval of the California State University, Sacramento Human Subjects Review Committee to conduct research, subjects were contacted and questionnaires were distributed for completion.

Phase II - Survey Completion
Subjects were informed verbally about the purpose of the research and were given a ‘Consent to Participate’ form that detailed the purpose of the research, information about the questionnaires, and how to contact the researcher. Self-administered questionnaires were given to 20 subjects. The 26-item questionnaire consisted of three sections, including: demographic characteristics, family health conditions, and current eating habits and attitudes. The questions were designed to find out whether each subject’s current eating habits, attitudes and family health conditions might contribute to an increased risk of CHD.

Phase III – Data Analysis
In phase three, data were collected and analyzed. Data analysis was cross-sectional and descriptive. Each subject’s answers were included in the data set and then averaged to determine trends, patterns, and percentages of responses for each sub-section of the questionnaire. In addition, the subjects’ weights and heights were input into the Adult BMI (Body Mass Index) calculator used by the Center for Disease Control and Prevention (CDC) to determine each subject’s BMI classification.

RESULTS
The following narrative summarizes the results of this study according to categories used in the 26-item questionnaire.

Questions 1-6: Demographics
A total of 20 subjects completed the questionnaire. All subjects were females and were of African American ethnicity. None of the subjects were married or had children in their care. Subjects ranged from a wide variety of academic disciplines, including: Child Development (15%), Nursing (15%), Social Work (10%), Biology (10%), Kinesiology (5%), Health Science (5%), Criminal Justice (10%), Theatre (5%), Social Science (5%), Business (5%), and Undeclared (10%). In addition, 35% of the subjects were freshmen, 20% were sophomores, 25% were juniors and 20% were seniors. Students’ ages ranged from 18-24, with the median age being 20.30.
Table 1.1 shows the weight and heights of subjects and Table 1.2 shows the Body Mass Index (BMI) classification. The BMI was used to determine which subjects were overweight/obesity in this study:

- One subject (5%) fell into the underweight category, which is a BMI of less than 18.5
- 35% of subjects were normal weight, which is a BMI of 18.5-24.9
- 30% were overweight, which is a BMI of 25.0-29.9
- 30% were obese, which is a BMI of 30 or more

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Table 1.1 Demographic data, including weight and height

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<tr>
<td>Normal weight</td>
<td>18.5-24.9</td>
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<td>25.0-29.9</td>
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Table 1.2 BMI classifications- Adapted from the Center for Disease Control and Prevention (2006).
Questions 7-8: The completion of a nutrition course and how this may have affected eating habits

All respondents answered the question regarding whether they had completed a nutrition course and if so, how the course may have affected their eating habits. Seventy percent reported that they had not taken a nutrition course since they had attended California State University, Sacramento. The remaining 30% reported that they had taken a nutrition course. Of the 30% who had taken a nutrition course, only 10% reported that the nutrition course positively affected their eating habits by making them more aware of healthy foods and watching their calorie intake.

When asked if they restricted or modified their diets in any way (regardless of a nutritional education background), 55% of the subjects reported that they did restrict or modify by either:

- Eating whole grain breads instead of white bread
- Eating more fruits and vegetables
- Staying away from soda and choosing to drink more water
- Avoiding eating after a certain time (e.g. after 7-8 p.m.)
- Trying to keep calories between 1800-2000 kcal a day

Questions 9-13: Family history of health conditions and personal conditions related to CHD and how it may have affected eating habits and food choices

**Diabetes:** Fifteen percent of subjects reported that their fathers had/has diabetes and 20% reported their mothers had/have diabetes. Siblings were not reported to have diabetes and 100% of subjects reported that they did not have diabetes themselves. However, a significant number of subjects (55%) reported having at least one grandparent with diabetes and 45% knew of aunts and uncles with diabetes also.

**Obesity:** Five percent of subjects reported both parents as being obese or overweight, while 10% reported their mothers as being obese. Another 10% reported that either a sister or brother as being overweight or obese. In addition; 10% of the subjects reported themselves as being overweight or obese. Twenty percent reported a grandparent as being obese or overweight and another 20% reported an aunt or uncle as being overweight or obese. The remaining 60% reported that their extended family members to be of normal weight. It is notable that 90% of the respondents also perceived themselves to be of normal weight.

**Hypertension (HTN):** Out of the 20 subjects, 17 responded to this question; 35% reported that their fathers had HTN, 15% knew their mothers to be affected and 5% reported that both parents were affected. In regards to their extended family, all subjects responded to this question and 50% of respondents reported at least one grandparent as having HTN. Fifty-five percent reported having either an aunt or uncle affected by HTN. Ten
percent reported that they had a sister with HTN and none of the subjects reported having HTN themselves.

High Cholesterol: Out of the 20 subjects, 5 responded to this question. Twenty percent said that their fathers had high cholesterol and 15% knew of their mothers being affected. None of the respondents reported siblings as being affected by high cholesterol. Twenty-five percent reported one of their grandparents to have high cholesterol, and 35% reported an aunt or uncle as having high cholesterol.

Heart Disease: Only one subject (5%) reported her father as having heart disease. This subject (5%) also reported knowing her grandparents, aunts and uncles as having heart disease. All subjects reported that neither they nor any of their siblings had heart disease.

Smoking: Thirty-five percent responded to this question; 10% reported their mothers as smokers. Five percent reported both parents as smokers and 20% reported their father as smokers. Fifteen percent reported siblings as smokers. In addition, 10% reported grandparents as smokers, while 45% noted an aunt or uncle to smoke also. All subjects stated that they were non-smokers.

Family History: When subjects were asked if their family history of health conditions affected their eating habits and food choices, 70% stated that their family history did not have any affect on their eating habits or food choices. The remaining 30% said that their family history of hypertension, high cholesterol, or diabetes caused them to be more aware of what they eat by staying away from sweets and salty food, not smoking, and exercising whenever they can.

Questions 14-24: Current eating habits, knowledge and attitudes in relation to CHD
Fifty-five percent of subjects reported that they eat breakfast every morning. Those who reported not eating breakfast every morning said that they were “always on the go”, or “running late”, or “don’t wake up till afternoon”. Forty-five percent of subjects reported never cooking breakfast at home, and 40% reported that they never cook lunch or dinner at home. Thirty percent reported that they did not cook because they either did not know how to cook, roommates cooked for them, or that they lived in the dorms; 5% said that their parents cooked for them and another 10% said that they just did not like to cook.

The majority of the subjects reported that they did the grocery shopping themselves (70%); the remaining 30% reported roommates or their parents did the grocery shopping for them. All subjects reported eating away from home several times a week. When choosing to eat out; 75% said that they are more likely to eat at a fast food place; 35% reported that they would choose a deli and 10% said that they would go to a buffet place. Ninety-five percent
of subjects said that expense and location (60%) were the major reasons why they choose the particular restaurants where they eat at.

All subjects reported eating fruits at some time during the week. Fruit consumption twice a week was frequently reported (40%); 35% reported eating fruits once a week; 20% said they eat fruits three times a week, and 5% reported eating fruits on a daily basis. All subjects reported to drink some type of fruit juice on daily basis. Fifty percent of the subjects reported cranberry as the most frequently consumed daily (juice).

Vegetable consumption among this population was low. In comparison to fruit consumption in which all subjects reported eating fruits some days of the week, only 50% of subjects reported eating vegetables on any day of the week. Of those 10 subjects, 50% reported eating some type of vegetable once a week, 30% reported eating vegetables three times a week, and 20% reported eating some type of vegetable twice a week.

The majority of subjects (55%) were dissatisfied with their eating habits, and reported that finding time between school and work, as well as, money were the reasons they were not satisfied with their eating habits. Thirty percent reported being satisfied with their eating habits while the remaining 15% stated that living in the dorms and a lack of motivation to stick to a healthy diet were the reasons they were not eating healthily.

Questions 25-26: Knowledge of Risk factors for Coronary Heart Disease (CHD)
Students were asked to list as many risk factors related to CHD as they knew. Thirty-five percent reported that they did not know any risk factors for CHD. Sixty-five percent reported at least two risk factors for CHD. Of these, 60% reported hypertension and smoking, 20% reported high cholesterol, 50% reported obesity and exercise, and 10% reported family history as risk factors for CHD.

The final question in the survey asked students to rate their risk for CHD. All subjects answered this question, with 55% reported to be at low risk for CHD, 30% reported to be at risk, 10% said that they were not at risk, and 5% reporting that they were extremely at risk for CHD.

Discussion
This research focused on African-American women ages 18-24, who were attending California State University, Sacramento, to find out whether eating habits, knowledge, and attitudes would put them at increased risk for CHD.

It was found that 70% did not take a nutrition course, which may explain why their eating habits were shown to be poor. Thirty percent of subjects reported having taken a nutrition course while attending California State University, Sacramento, and, of those subjects, 10% reported that the nutrition course changed their eating habits in a positive way. Although the
reported results were not of a high percentage, at least one of three subjects had changed their eating habits due to completing a nutrition course.

Regardless of whether they had taken a nutrition course, 55% of students reported that they modified their diets by choosing whole grains, drinking water instead of soda, trying to decrease calorie intake, or eating more fruits and vegetables. However, the data from this study revealed that a low percentage of students actually consumed fruits and vegetables every day of the week. The most frequent consumption of fruits was two times a week (40%), which is inadequate fruit consumption according to national guidelines. Vegetable consumption was extremely low in this population. The results in this study show that the eating habits of these African American females put them at increased risk for chronic diseases, such as CHD.

Subjects responding to questions about their knowledge of their family’s history of health conditions reported a significant number of intermediate as well as extended family members who were affected by risk factors related to CHD. Still, a large percentage (70%) reported that, regardless of their family history of health conditions, they continued to eat whatever they wanted despite the possible consequence of developing the same health conditions later on in their lives. In addition, subjects reported a significant number of family members who were affected by risk factors such as diabetes, hypertension, high cholesterol, and smoking, yet, only one subject reported their family members as having heart disease.

There are several reasons as to why this pattern of reports may have occurred. First, students may not be aware of their family’s health history due to the fact that a person’s health condition is private and, possibly, this topic or issue is not communicated within the family. Secondly, this study did not go in depth about the subjects’ living situation with family members. Perhaps some of these subjects do not have much contact with their parents or other family members as a result, leaving them with insufficient knowledge on family history of health conditions.

Similarly to Bolton and Wilson (2005) who found that African Americans did not perceive being overweight with a negative body image, subjects in this study (90%) did not report themselves as being overweight or obese, despite the fact that BMI data showed that 60% fell into the overweight or obese category (Table 1.1).

The majority of subjects (55%) reported that they were unhappy with their eating habits and that time and money were the main factors contributing to their unhealthy eating patterns. The data from this study is consistent with other studies as to reasons why students are not eating healthily Debate et al. (2001) including:

- Fast food consumption (75% of current study’s participants)
• Living in the dorms and lacking the motivation to stick to a healthy diet (15% of current study’s participants)

• High percentage of students with no nutrition education background (70% of current study’s participants)

• Time and money (55% of current study’s participants)

On the positive side, a significant percentage of the subjects (55%), reported eating breakfast every morning. For those who did not eat breakfast every morning (45%), 35% of them stated that time issues were the main reason. Lack of time was also the reason why the same percentage of students never cooked meals at home.

Of additional importance is the knowledge and awareness of this group on the risk factors for CHD. Thirty-five percent of subjects did not know a single risk factor for CHD, which suggests that there is still a great need for health promotion and health education within this population. The fact that a small percentage of subjects reported their family history to be a risk factor for CHD may be a possible explanation as to why a high percentage of subjects (70%) stated that their family history of health conditions did not affect their eating habits and food choices.

This research also addressed how this group perceives their risk for CHD. The researcher found that a large number of students (55%) identified themselves as at low risk for CHD in spite of their unhealthy eating patterns, family history of health conditions related to CHD, and being overweight or obese. Perhaps a targeted nutrition course as demonstrated in Matvienko et al. (2001), would help educate African American females on their risk for CHD, which, in turn, may give them a more accurate risk perception. In addition, a nutrition course may possibly encourage this ethnic group to practice a more healthful diet and lifestyle.

Limitations

Due to time constraints, this researcher was able to focus only on African American women attending California State University Sacramento. Future research should include African American women and men, attending University of California and community colleges. A comparison of the eating behaviors and attitudes of students living on-campus in dormitories and those living off-campus should also be considered in future research. In addition, the sample size was a limitation in this study. Because there were only 20 subjects, the results may not reflect the general African-American population.

The inclusion of other ethnic groups in future studies for comparison would help better understand the level of risk and particular issues for African American women. For example, it would be useful to determine whether African Americans are more at risk for CHD than Latinos, Asians or any other ethnic group.
The fact that this research relied on self-reported data is also a limitation. Students may not be knowledgeable of their family history and conditions related to CHD, as health history is a personal issue and may not be discussed in the family. In addition, students also self-reported their weight per height; there is a possibility that students may not be sure of their weight and height, and, in order to get accurate reports, it would be ideal to weigh and measure subjects in the future.

**CONCLUSION**

The findings in this research on African American females at California State University, Sacramento supports the larger body of research that college students indeed engage in less than healthy dietary habits, such as low fruit and vegetable consumption and frequent fast food consumption. In addition, students’ indications that their family history conditions related to CHD are not factors important to their lifestyle habits and changes, demonstrates the need for intervention via health education.

The need for continuing outreach to communicate the importance of maintaining a healthy diet, as well as education on CHD and its risk factors, is pivotal in assisting this population in gaining a more realistic outlook on risk for CHD. This action may help promote and encourage African-American females to start and maintain a healthier lifestyle at an early age that could possibly continue throughout their lifetime and reduce the disproportionately high risk of CHD in this group.

This study serves as a reminder of how critical this issue is to the well being of African American women today and in the future. Moreover, this study also raises the question of how institutions of higher learning can further address this problem, especially at a time where many institutions are engaged in efforts to recruit, maintain, and support African American students.
REFERENCES


The Quest for Glory: Pericles and The History of the Peloponnesian War

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Abstract
The study of democratic leadership has been a popular topic in the fields of history and politics since the birth of democracy in Athens in the early fourth century B.C.E. Thucydides, ancient historian and author of The History of the Peloponnesian War, argued that the Athenian statesman Pericles provided a superlative example of an effective democratic leader. This article analyzes the depiction of Pericles in The History of the Peloponnesian War to define what Thucydides viewed as the best kind of democratic leadership and applies this analysis to reveal the author's contradictions in his attempt to validate the claim that Pericles was the model leader of a democracy. Ultimately, it will be shown that Pericles' actions did not reflect the exemplary attributes of leadership as defined by Thucydides.

Democracy slowly developed in Athens through the political restructuring by ancient Greek reformers Solon and Kleithenes during the earliest decades of the sixth century B.C.E. Athenian democracy flourished through a civic administration that was unique to the city amidst the oligarchies and monarchies that ruled other neighboring city-states. Athens’ political structure included a council of 500 called the boule where citizens — adult males born in the city of Athens — were chosen annually by lot from their tribes, and an assembly of all the citizens called the ekklesia that deliberated on current political agendas. Ten elected generals who held annual terms directed the state’s military affairs and addressed other political issues as well, especially if the elected officials were popular among the people.

The Persians’ defeat by the Greeks in the fourth century B.C.E. demonstrated Athenian naval power and courage in war. This incited the rest of Greece to select Athens unanimously as their protector from future barbarian invasions. Along with the Greek city-states scattered around the Aegean Sea and throughout Asia Minor, Athens created and led the Delian League, which freed all city-states from potential Persian hostilities and threats. As the major dominating power in the Aegean and the Mediterranean, Athens posed a threat to other dominant city-states, such as Sparta. The Spartans’ failure to reconcile their grievances with Athenian power became one of the main reasons for the Peloponnesian War (hereafter referred to as “the War”) — the conflict between states in the Peloponnesian led by Sparta against the Aegean and Attican states led by Athens. This war, which lasted more than thirty years, not only caused the complete devastation of Athens, but also the
dissolution of its democracy and the overall destruction of the Greek city-states.

Thucydides, a fifth century B.C.E. historian wrote one of the seminal accounts of the Peloponnesian War. He fought in the War and chronicled its events in his book *The History of the Peloponnesian War* (hereafter referred to as *The History*). The cause of the Athenian defeat has been studied since ancient times and Thucydides, one of the most credible and earliest sources of the subject, offered his theories on the cause of Athens’ fall. In *The History*, Thucydides presented his explanation for the state’s decline, emphasizing the importance of the appropriate kind of leadership needed to ensure Athens’ success. Pericles, a politician and general who lived at the height of Classical Greece, dominated Athenian politics and thus served as the state’s leader during the War. It was through him that Thucydides found the most fitting statesman to lead Athens to victory. According to Thucydides, Pericles’ ability to rule over the masses allowed the Athenians to implement his policies, which was done successfully until his death. After Pericles died, the Athenians did not continue his implemented policies, which led to their defeat in the War.

**Thucydides and The History of the Peloponnesian War**

Thucydides’ work, *The History*, is the most complete account of the war between Sparta and its allies against Athens and the members of the Delian League. This is perhaps an understatement of what Thucydides had provided, for *The History* proved to be much more than a mere account of the events and players of the War. To understand *The History*’s real value and the overall importance, one must realize its significance to the author. Thucydides justified his work in the first paragraph of his introduction in book 1:

*Indeed, this was the greatest movement yet known in history, not only of the Hellenes, but of the large part of the barbarian world—I had almost said of mankind. For though the events of remote antiquity, and even those that more immediately precede the war, could not from lapse of time be clearly ascertained, yet the evidences which an inquiry carried as far back as was practicable lead me to trust, all point to the conclusion that there was nothing on a greater scale, either in war or in other matters (1.1).*

*The History* captured the entire Hellenic world in motion at the height of the Classical Period and exposed how Athenian democracy functioned under the stress of war. Thucydides’ perception of human nature is the basis of his understanding and depiction of the War, which includes his narrative of the events, and of particular interest to this research, his account of Pericles’ speeches.

*The History* can be viewed as Thucydides’ analysis for the cause for Athens’ defeat at the end of the War. The events that led to the Athenians’ fall were not the reason for their demise, but instead were examples of the flaws
in democracy. Athens survived these flaws only under the leadership of Pericles, and that was made possible by his ability to have supreme control over the citizens, forcing democracy to exist only in theory (Grene, 1950). Thucydides used Pericles’ speeches to provide evidence for his argument that this politician effectively led the Athenians without being swayed by their personal desires. While tackling Thucydides’ philosophical arguments, the reader must decide how to interpret the author’s account of the speeches. Though it is difficult to rid oneself of doubtful feelings towards a seemingly biased historian, the Periclean speeches could be viewed as literary rewritings of original speeches; words and sentences belonging to Thucydides, but the arguments of each speech reflecting the ideas of the speaker (Grene, 1950). Thucydides attempted to reduce reader skepticism by pointing out the nature of his work in book 1.22, noting that he did not record the speeches using the exact words of the speaker. Thucydides allowed himself to rely on memory and to a certain extent, on the reports of other witnesses for facts. But since it was challenging to precisely recall all the words within the speeches, he wrote them in a way that most closely adhered to the original speech and delineated, in his opinion, the context in which the speech was delivered. An awareness of this characteristic of the speeches in The History allows the reader to focus less on the accuracy of the facts and place emphasis on the more substantial purpose of the his work: understanding the nature of democracy.

Pericles and the City of Athens
Pericles dominated Athenian politics from the mid-fifth century B.C.E. He was the leader of Athens’ democratic party through the first phase of the War, where he served as Athens’ chief commander and general of the military. Born into nobility, Pericles was no stranger to politics and military service. After years of commanding the fleets of the Delian League, he turned to politics and became the strongest opponent of the conservative party led by Cimon and Thucydides, the son of Melesias. Much political strife caused the Athenians to ostracize and exile both Cimon and Thucydides, which gave Pericles the chance to solidify his power with very little opposition (Plutarch, trans. 1992). The three important features of Pericles’ leadership were: the transformation of the city of Athens, the transition of the Delian League from an alliance between the Attican and Aegean states to the Athenian empire, and the War. Pericles was the first to give payments to the citizens from the state treasury for their civic duties, and he highly encouraged everyone to participate in public events, including festivals, musical presentation, and theatre (Halsall, 1999). Pericles urged the Athenians to spend public funds to create enormous structures, such as the temple of Athena, the Parthenon, and the overall reconstruction of the Acropolis. When the citizens began to complain about his lavish expenditures, he simply replied by saying that he would gladly pay for the structures if they would bear his name. The people did not allow Pericles to take credit for these projects and passed the proposition to pay for and
build the structures. Pericles knew that the masses craved the most supreme symbols of glory and these magnificent structures served as evidence of the Athenian democracy’s greatness (Kagan, 1969).

The transition of the Delian League into the Athenian Empire began when Pericles moved the League’s treasury from Delos to the Acropolis of Athens. One-sixteenth of tribute money was paid to Athens by her allies for the protection it provided against possible Persian aggression, while access to the actual treasury gave the Athenians freedom to spend on their public structures and their military. Another important factor to this transformation is the shift from a voluntary membership in the league to an involuntary empire ruled by Athens (Kagan, 1991). Athens crushed any attempts by its allies to leave the league as harsh examples to others of what could possibly happen to them. As the opposition against Athens intensified, the War broke out, requiring Pericles to defend the city of Athens and its empire. Though he survived the first three years of the War, Pericles died after being infected by the plague. This marked the end of the Age of Pericles or the Classical Age of Athens.

Ancient and modern sources have debated the subject of leadership in a democratic government while scrutinizing the effectiveness of Pericles’ rule. Supporters of Pericles, such as Thucydides, have all agreed that a successful leader should be virtuous, knowledgeable of the right policies to enforce, and have the ability to control the actions of the masses. Through Pericles’ three major speeches, Thucydides revealed the statesman’s mastery in strategic planning, courage and patriotism, and superior oratory skills—characteristics that contributed to Pericles’ successful rule over the people. However, critics of Pericles have contested this view arguing that he was not the ideal leader that Thucydides portrayed him as, and that this false picture resulted from Thucydides’ personal bias towards Pericles.

This research will show that Pericles was, in fact, a slave to the Athenians’ desire for the power and possessions that a glorious city could provide. He encouraged their thirst for glory by expanding the possessions of Athens through increasing the empire, by adorning the city with extravagant structures, and finally, by using glory as the ultimate justification for engaging the city in a war against Sparta. Pericles also maintained the people’s love for glory through reassurance that personal sacrifices during the War were not only for the benefit of the city but also for the continuance of personal advantages provided by the empire, such as economic prosperity and publicly funded games and festivities. His constant encouragement of the people’s desire to attain more power led them to make excessive demands and take imprudent actions that eventually caused their destruction.

**Literature Review**

Thucydides’ values in democratic leadership are evident in the direct assertions he made while praising Pericles. In his eulogy for Pericles, in book
2.65 of *The History*, Thucydides emphasized what qualities he held true about the politician: Pericles’ incorruptibility, knowledge of advantageous policies, devotion to the city, and most important, his unchallenged control over the masses. According to the author, Pericles’ ability to restore order when there was chaos, his recognition of which policies enact, and his fearless unwillingness to flatter the public’s desires were all characteristics, not of a democracy, but of a rule of the first or best citizen. Therefore, according to Thucydides, an ideal leader for a democracy has monarchical qualities and is somehow able to restrict the decision making body to himself only.

An analysis of Pericles’ oratory skill is seen as justifying Thucydides’ claims about the politician. Predominant in all of Pericles’ major speeches was the idea of ultimate sacrifice of the private good to benefit the state’s public good. In book 1.143, during his speech to convince the Athenians to go to war against Sparta, Pericles ordered all the Athenians who lived outside the city of Athens to move within its walls, thus leaving their houses, farmland, and livestock undefended against the ravaging army of the Peloponnesians. In his funeral oration in book Two of *The History*, he asked the Athenians to make yet another sacrifice, one that surpasses the value of property: the sacrifice of one’s life. Throughout the speech, he stressed the importance of the Athenians’ willingness to face death to ensure the state’s survival. Once the people learned to devalue their property and lives, they could effectively secure their city against any enemy. Sacrificing property and life for the sake of the city’s future would seem to be unrealistic if the citizens did not survive the War. How did Pericles so effectively convince the citizens of his policies that made such excessive demands?

Michael Palmer (1982) suggests that by means of the love of glory, Pericles reconciled the private good of the citizens: their personal needs and desires, and the public good of the city: Athens’ power and success. To justify the war, Pericles emphasized that a conflict against Sparta was inevitable, and that yielding to their enemy was not an option if the Athenians wished to secure the empire their ancestors worked so hard to build. Throughout all his speeches, Pericles constantly reminded the Athenians of how honorable their lives were compared to other Greeks. For example, due to the characteristics of the Athenians, they were able to create a city as magnificent and glorious as Athens. In the funeral oration in book 2.40, he argued that in comparison to other city-states, Athens boasted a unique way of life: innovative but wise, refined but humble, and graceful but strong. He suggested that all these qualities were made possible by the people’s hard work and fearlessness towards defending the city. In his last speech, Pericles demanded once more that Athens’ power never be compromised and that slavery would be the only result of the people’s inability to preserve it. It seems then that glory was the reason people were able to rise above the love of property and fear of death (Palmer, 1982). Therefore, there is no differentiation between public and private good if glory was ultimately the highest good. If defending the most glorious city was a private affair, then there was no such thing as
a sacrifice because only absolute devotion to the highest good was required (Palmer, 1982). Palmer’s view on Periclean civic education affirms Pericles’ competency in leading the people, as argued by Thucydides.

Harvey Yunis (1991) discusses the same instructional ability of the politician in Thucydides’ portrayal of Pericles’ rhetorical skills as being crucial to the instruction of the decision-making body. In book 2.65, and as shown in Pericles’ first speech, Thucydides credits the leader not only for his ability to discern the proper policies to follow, but also for his skill in educating the people about the rationale behind these policies. Pericles treated the people as a legitimate decision-making body; rational and apt to make judgments based on his wise advise and not as an unintelligible mob that had to be persuaded to follow Pericles’ policies (Yunis, 1991). For example, while warranting the necessity of the War in book 1.140, Pericles not only outlined his policy, but also explained the reasons behind it. By doing so, Yunis argues that Pericles fully engaged the community in the affair, making them as responsible as he was for their decision and its consequences. Thucydides’ emphasis on Pericles’ knowledge of controlling the masses through rhetorical instruction validates his claim that Pericles had control over the people and was never swayed by them.

Scholars agree that the speeches of Pericles showed that he was an effective orator and instructor of the public. However, this factor was not sufficient to ensure that the Athenians continued his policies once he no longer led them. In his eulogy in book 2.65, Thucydides blamed the citizens’ inability to follow Periclean policy after Pericles’ death as the reason for Athens’ defeat in battle. According to Monoson (1998), if Pericles was such a great teacher, why then did his students fail? A significant characteristic of Pericles’ rhetorical instruction was his devotion to the possession of the Athenian empire for the sake of glory and property, which catered to the desires of the people (Monoson, 1998). Under Pericles’ leadership, the city of Athens was adorned by luxury and was made wealthier through control of the Delian League treasury. The Delian League was originally an alliance between most of the city-states in the Aegean and Mediterranean Seas against further threats of Persian invasion. As the barbarian threat decreased and Athenian power increased, Athens gradually took control of the resources of the League, thus making it more of an Athenian empire than an alliance between states. This empire grew over a short period of time through forced alliances with weaker Greek states, and it was only during wartime that Pericles asked for restraint on the expanding empire. The Athenians became accustomed to the hegemony they had over most of Greece and this supremacy was further confirmed and encouraged by Pericles, who constantly assured them that they not only deserved power, but that they also had the right to demand more.

The need for glory and honor that Pericles advocated ultimately caused the Athenians to engage in imprudent actions that eventually led to their defeat. They followed proper conduct in war strategies under Pericles’ watch, but
they fell short of continuing his policies once he left power. According to Thucydides, a leader should not only make people better citizens in terms of developing virtue and knowledge of correct policies to follow during his rule; a leader should make people continue becoming better citizens and improving their lives even after he is gone. Instead, Pericles’ encouragement and constant pursuit to satisfy the people’s desire for glory only led the citizens to turn away from moderation and reason.

**Methodology**

*The History of the Peloponnesian War* was analyzed through a close microtextual study of the theories presented by its author, Thucydides. Through this method of textual analysis, *The History’s* philosophical argument concerning leadership was examined to reveal the disparities within its content and how these disparities were disguised by the text. This discursive analysis sheds light on the concept of leadership, with Thucydides as a historical agent and Pericles as the existing variable. However, it is critical to keep in mind that Thucydides, in some cases, was not an accurate source of facts as he acknowledged in his book that his account of the speeches, dialogues, and events were loosely based on his memory and that of other witnesses whom he interviewed. Thucydides stressed that the narrative reflected what, in his opinion, fit the context or the situation. Therefore, any reference to Pericles in regard to his speeches taken from *The History* was considered to be Thucydides’ own thoughts and arguments, as it cannot be proven how precisely he recollected each speech.

As a part of the research process, the eulogy for Pericles in book 6.65 was examined through microtextual analysis to reveal Thucydides’ views on ideal democratic leadership. This analysis was used to show the implied characteristics attributed to Pericles by the author. For Thucydides, the following three characteristics must exist for a leader to be successful:

1. Effective rhetorical skills
2. Knowledge of appropriate policies
3. Ability to lead the masses and not be led by them

After identifying the characteristics of an ideal leader, microtextual analysis was applied to Pericles’ speeches in order to expose the contradictions Thucydides made, more specifically in his claim that Pericles was able to control the masses. The comparison of all three of Pericles’ speeches revealed the reason for each speech and its purpose. The methodological motive of this comparison is to contrast the author’s explicit arguments about a statesman’s ability to rule and control the masses to his actual representation of Pericles, as revealed by his portrayal of the speeches.

**Eulogy for Pericles**

What kind of statesman should lead a democracy? Book 6.65 of *The History* outlined the characteristics of Pericles’ leadership during the War; Thucydides
showed no reservations when identifying Pericles as the model leader of a democracy in this eulogy of the politician. Though Thucydides acknowledged that the Athenians often deviated from their loyalty to Pericles and his policies, he offered no explanation for the citizens’ defiance against Pericles. Thucydides simply blamed the citizens for not recognizing that Pericles was the most fitting man to handle their affairs and also for their tendency to care only about their private needs. During the War, Pericles sought moderation in decisions and conduct as he temporarily stopped any attempts for new conquests. According to Thucydides, Pericles discerned the right policies and strategies to implement for the better good, such as ordering the Athenians to abandon their land, transferring themselves inside the city walls, and restricting all confrontations with the enemy to naval battles. His strategic knowledge of what to do during battle would not be enough, since he needed the vote of the people to proceed with such actions. But as Thucydides pointed out, Pericles had a great skill in conveying those actions to the people, and by painting them a picture of the necessity of his policies he garnered their support. Putting a halt to national imperialism, containing all the citizens within the city walls, and taking great advantage of the Athenian fleet demonstrated Pericles’ strategic skill, which was the reason for Athens’ success during the earlier phase of the War.

The most important feature of Pericles’ character that Thucydides considered necessary for effective leadership was his ability to control the masses. In chapter 65 of book six, Thucydides wrote:

> Pericles indeed, by his rank, ability, and known integrity, was able to exercise an independent control over the multitude in short, to lead them instead of being led by them; for as he never sought power by improper means, he was never compelled to flatter them, but on the contrary, enjoyed so high an estimation that he could afford to anger them by contradiction.

According to Thucydides, Pericles was the only man knowledgeable enough of the proper actions to take during the War and the only politician who remained honest and loyal to the state and its people. Even though the Athenians failed to recognize this, he was still able to restore his power repeatedly because of his ability to revive their confidence in him and control them without the need for flattery. Therefore, democracy ceased and was replaced by a monarchy. This, Thucydides claimed, was how Pericles freely ruled the Athenians and controlled the state’s affairs.

**Periclean Speeches**

In his first speech in book 1 of *The History*, Pericles justified the basis of his empire’s power and the need for a war against Sparta. He began by persuading the masses to refuse any attempts for negotiation with Sparta, despite Spartan claims that future violence could be circumvented. The Spartans assured the people that conflict could be avoided if the Athenians
stopped their aggression against the Spartan allies, such as the trade embargo on the city of Megara, also known as the Megarian decree, and the siege of the city of Potidaea. Pericles dismissed this proposition and insisted that the war’s inevitability was due to much larger reasons, while the conditions to which Sparta expected the Athenians to submit demanded an absolute subordination by Athens (1.141). Strategically, Pericles directed the citizens to desert their properties and move inside the city walls to avoid direct confrontation with the Spartans. He also halted the expansion of the empire to ensure adequate supply and the naval force’s availability for battles against the Spartans and their allies.

However, it was not the matter of resources and military might that concerned Pericles when he appealed to the Athenians. Athens was by no means inferior financially or militarily; a continuous flow of money and supply poured into Athens from the unmatched naval strength of the Delian League. It should have not taken much encouragement for the Athenians to realize this, for they knew their capabilities were proven by their victories in the Persian Wars. Pericles instead appealed to something much more important than money and military forces: glory. He spent the entire speech insisting that property and life do not matter if they were to compromise their power and required them to live as slaves. War, therefore, was necessary as the growth of the Athenian power had surpassed the expectations of most city-states and posed a threat to their existence. Much emphasis was placed on the responsibility of the Athenians to continue this growth of power that they inherited from their ancestors during the Persian Wars, and to embody the greatness of their state.

In book 2.35, Pericles was chosen to deliver his second speech, the funeral oration to the Athenians, remembering and honoring the soldiers who perished during the War. Athens had been at war with their enemies for several months, and the citizens were looking for a much-needed inspiration to continue fighting and to endure making sacrifices of life and property to ensure victory. Instead of healing the citizens’ broken spirit caused by the loss of loved ones, Pericles dedicated the whole funeral oration to praising the city of Athens, highlighting its unique attributes that set it apart from the rest of the Hellas. This diversion from the original purpose of the oration, according to Pericles, was due to the difficulty that he faced by not knowing which fallen soldiers deserved greater or less recognition.

After a brief introduction, Pericles reminded the citizens of the reasons for their city’s greatness. He began by describing the government they inherited as the most just, equal, and advanced when compared to other city-states (2.37). Democracy enabled the citizens to participate directly in state affairs, without the interference of social status or wealth. The citizens obeyed the laws and were in turn granted justice and protection by the government. Their military education system did not require excruciating discipline but instead gave the people freedom to choose what they wanted to learn outside
of the military, and they in turn proved to be adequate fighters when they were needed to defend their land. This argument was perhaps in direct reference to the strict training that all Spartan men had to endure in order to become the brave, well-disciplined soldiers they were known to be (Plutarch, 62). Pericles argued that even without similar training, Athenian soldiers did not lack the competence and bravery of their Spartan counterparts, for their character depended on their spirit of courage and honor. He also pointed out that the Athenians’ personal life “cultivated refinement without extravagance and knowledge without effeminacy” (2.40). The citizens had the ability to incorporate leisure in their everyday lives while attending to their public duties. This balance of prudence, leisure, innovation, and strength allowed the Athenians to elevate their city to its most glorious state.

Pericles’ failure to give appropriate recognition to the fallen soldiers, as a funeral oration customarily required, gave way once more to glorify Athens and to affirm the citizens’ right to embrace the greatness that came with being a part of the city. He used the funeral oration to emphasize Athens’ characteristics that set her apart from other city-states. Her former leaders and the early Athenians built the foundations of a city bound to be the most powerful among all other cities in Classical Greece. The citizens were not asked to defend their government, loved ones, or property; rather, they were asked to defend their city’s glory and honor, which were the results of their way of life.

Pericles made his last speech in book 2.60, after a devastating plague hit Athens in the second year of the War. As people died of hunger, disease, and combat, the remaining inhabitants challenged Pericles’ judgment and blamed him for the chaos that they were suffering. As a response, Pericles once again spoke to the Athenians, urging them to defend themselves and, in the process, restored their confidence in and loyalty to his policy. Distressed by the people’s lack of commitment to their cause, he called attention to the fact that the decision to go to war was as much the responsibility of citizens who voted for it as it was his (2.64). After reasserting their responsibility in the War, Pericles reiterated the need to defend Athens’ glory. In book 2.63, he said:

Again your country has a right to your services in sustaining the glories of her position. There are a common source of pride to you all, and you cannot decline the burdens of empire and still expect to share its honors. You should remember also that what you are fighting against is not merely slavery as an exchange for independence, but also loss of empire and danger from the animosities incurred in its exercise… For what you hold is, to speak somewhat plainly, a tyranny; to take it perhaps was wrong, but to let it go is unsafe.

Pericles stressed that private sacrifices were needed to ensure Athens’ survival and that the citizens could not choose only to share the city’s good fortune but also had to remain steadfast to their cause when the city was in need.
of their service (2.60). Therefore, they would perish with the city if they failed to set aside their private affairs and realize that their survival ultimately depended on Athens.

In Pericles’ last speech, he reminded the Athenians of the reason and justification for their power just as he had stressed during his funeral oration. He urged the citizens to accept their worthiness of such an empire and to embrace the tyranny that they held, for it was nothing less than what they deserved. Athens’ superior naval power had allowed the Athenians to become masters of the Aegean and Mediterranean Seas. It was important for the citizens to acknowledge this kind of power, as they were enjoying the freedom that came with their influence over Greece. Pericles further encouraged the Athenians to not only recognize their power but to do whatever it took to preserve it, just as their ancestors had (2.63). The Athenians needed to safeguard their freedom to control their fortune against any challenger, which guaranteed perpetual possession of glory.

LIMITATIONS

What might be a limitation to this study is the researcher’s inability to read ancient Greek. However, like most scholars who study this subject and use the same method of research, this examination relied on widely used and reputable translations of *The History of the Peloponnesian War*, such as the translations of Thomas Hobbes and Richard Crawley. In addition, the emphasis of this study is the philosophical arguments in the content of Thucydides’ book and not the linguistic value of the Greek text itself.

CONCLUSION

Thucydides argues in *The History* that Pericles was the model democratic leader who could control the masses. Pericles used his strong rhetorical skill to convey to the citizens what he envisioned as the appropriate policies to enact during the War and to convince them to follow his strategies, which proved to be somewhat successful in the short run. However, this research’s analysis of Pericles’ speeches, as depicted—not recorded—by Thucydides, reveals that this leader gained the favor of the citizens by appealing to their desire for glory. First, Pericles justified the War by asserting that any form of compromise with the enemy could only mean enslavement for the Athenian people. Next, he alleviated the citizens’ feelings of pain due to disease and their loss of both property and loved ones by offering them the ultimate prize of glory—an assertion that Athens will remain great as long as they held true to their cause. Last, Pericles repeatedly reminded the Athenians of their courageousness in war and innovation in democracy, upholding the inherited glory from their ancestors, to push the citizens to fully embrace Athens’ strength and power. With a complete realization that the city’s greatness exceeded all city-states in Greece, the people also realized that any act of tyranny or injustice was justified as long as Athens remained in power.
The inconsistencies in Thucydides’ assessment of Pericles might be due to his own admiration for the politician. However, the reason for the author’s bias towards Pericles is not the main concern of this study. Rather, one idea remains in question: What makes a good leader? Plato in the Gorgias argued that Pericles’ leadership turned Athenians into “idle, cowardly, chatterers and money-grubbers” (Plato, trans. 1997). The ability to control the masses did not matter to Plato, for he insisted that a leader should be able to improve the lives of the citizens. Perhaps if Pericles led by teaching the people the value of moderation and the consequence of rashness, the Athenians would have made wiser decisions even after Pericles’ death. Thucydides’ assessment offers a solution for the flaws of democracy that arise from what he believed were the inconsistencies the masses had with their views, and how easily swayed they could be in their decisions and actions. His examination of human nature as one that lacks wisdom and order led him to conclude that what a democracy really needs is one strong leader to control the masses and the affairs of his city. For this reason, The History of the Peloponnesian War serves as more than just an account of the greatest war in Classical Greece, but it fundamentally serves as the ultimate challenge to the ideals of democracy.
REFERENCES


THE EFFECTS OF NATIVE CALIFORNIAN PLANTS ON ESTROGEN RECEPTOR POSITIVE BREAST CANCER CELLS

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ABSTRACT

Many Native Americans in California have used teas (aqueous extracts) of Apocynum cannabinum, Datisca glomerata, Iva hayesiana, and Nuphar luteum medicinally for treating various medical conditions. Aqueous extracts of these four native California plants were investigated for cytotoxicity towards an estrogen receptor positive (ER+) breast cancer cell line grown in culture. The ER+ breast cancer cells and media were inoculated with the extracts and the results were analyzed after 48 hours. Extracts of A. cannabinum, D. glomerata, and N. luteum proved effective against the cancer cells. However, in the case of I. hayesiana, the extract helped to increase the growth of the breast cancer cells.

Breast cancer is the second leading cause of death for women in the United States, and about 200,000 patients will be diagnosed this year. In females, breast cancer occurs when cells in the breast start to divide uncontrollably. This activity sometimes causes a lump that is noticeable by women when doing breast self-examination.

Usually there is one type of cell that lines the milk ducts in the female breast, and these cells are estrogen receptor positive (ER+). ER+ cells have receptors for the hormone estrogen in their nucleus (Figure 1). The cells grow when estrogen binds to the receptors. However, when a breast cell becomes cancerous, it may lose the ability to make the estrogen receptor. These estrogen receptor negative cells (ER-) do not have estrogen receptors in their nucleus, so they divide with or without the signal of estrogen. This type of mutation usually occurs in later stages of breast cancer and is harder to treat. Currently, there is a treatment called hormone therapy for ER+ but not ER- breast cancer. Because ER+ cells have a receptor, the synthetic drug tamoxifen is able to bind to the receptor and inhibit the binding of estrogen to the cells (Figure 2). Tamoxifen looks like estrogen to the cell, but it does not activate the receptor. However, because it blocks estrogen from binding to the receptor, tamoxifen works to stop the growth of ER+ cells. The term antiproliferative means able to stop cell growth.

Because ER- cells are unresponsive to tamoxifen, another way of combating them is needed. A cytotoxic compound is defined as a chemical that kills cells. It can be of one of two types. It could kill all fast-growing cells, which is what the current chemotherapeutic agents do. Unfortunately, because these drugs have the potential to kill every cell in the body, the current chemotherapy
is very hard on a patient. One example of this type of drug is taxol, which is used in chemotherapy treatment for patients with breast cancer (Figure 3). This drug kills only fast-growing cells in the body, which includes cancer cells, and the fast-growing and wanted cells of the gut lining, hair, bone marrow and fetuses. Ideally, we want a cytotoxic compound to specifically kill cancer cells, but there is no such compound that targets only ER- breast cancer cells.

Although both chemotherapy and hormone therapy work for cancer patients, there are side effects from each of these treatments. For instance, patients who have chemotherapy experience nausea, fatigue, lowered blood counts, and hair loss (due to the killing of the cells in these areas). Side effects from hormone therapy include vaginal dryness and hot flashes, due to the treatment blocking the estrogen receptors in the vaginal tract and in the ovaries (Dragalin, Flynn, Hynes, Kirshner, Morrow, & Pandya, 2000). Because of these negative side effects, finding alternative treatments, such as herbal remedies, is important for cancer patients because it will offer them different options for treating cancer.

There are many Native American plants known for their medicinal use, but have not been tested scientifically in the laboratory for their effect on cancers.
In Dr. Mary McCarthy’s laboratory, Christopher Hobbs, an expert herbalist and medical practitioner, tested over 60 Native Californian medicinal herbs against an ER- breast cancer cell line. Four extracts were shown to be cytotoxic. They are *Apocynum cannabinum*, *Datisca glomerata*, *Iva hayesiana*, and *Nuphar luteum* (McCarthy & Hobbs, personal communication, March 20, 2006).

*Apocynum cannabinum* is a perennial plant that can grow up to five feet tall with smooth leaves that grow opposite each other on the stem and greenish white flowers. It is a very common plant found all over California. The plant is also known as Indian hemp or dogbane, which means “poisonous to dogs”. *A. cannabinum* has been known and used widely by Native Americans such as the Cahuilla, a southern California tribe, as an abortifacient, antirheumatic, contraceptive, and kidney and respiratory aid (Moerman, 1998). Practitioners of western medicines also used this plant. For example, Dr. P.S. Wyne (1951) gave tinctures of *A. cannabinum* to patients who had cardiac complications, and their conditions improved or were controlled. Use of this plant as an abortifacient and a contraceptive indicates that it may affect female hormones such as estrogen. It was surprising, then that previous work in Dr. McCarthy’s laboratory showed that an extract of *A. cannabinum* affected ER- breast cancer cells (McCarthy & Hobbs, personal communication, March 20, 2006).

*Datisca glomerata*, also known as Durango root, is a perennial that can grow up to six feet tall with flowers growing on the axial parts of the leaves. *D. glomerata* grows along creek banks in the coastal and Sierra region of California. It has been used by California Indians to treat sore throats and as a dermatological aid to wash sores (Moerman, 1998). Ingesting excessive amounts of the plant have been known to cause death in cattle. The plant is most toxic during the flowering and fruiting stages (Bruce, Galey, & McCaskill, 1990).

*Iva hayesiana* (or poverty weed) is a perennial plant that grows up to two feet tall. This plant has been used by California Indians as an abortifacient, dermatological aid in washing irritated skins, and gastrointestinal aid (Moerman, 1998). As with *A. cannabinum*, the use of *Iva hayesiana* as an abortifacient makes it an interesting candidate for treating breast cancer.

*Nuphar luteum*, or Yellow Pond Lily, is an aquatic perennial plant with heart-shaped leaves. The species is found worldwide and is known by different names in different regions. The Rocky Mountain Pond Lily is found in swampy land in coastal California and in the Sierra region, and is often sold in nurseries as an ornamental pond plant. This plant has been used to treat back and chest pain, tuberculosis, heart disease, gonorrhea, and rheumatism. In addition, its shaved roots were used to help treat bleeding from the lungs (Muencher, 1951). *N. luteum* is also a very toxic plant if large amount are used (Muencher, 1951). The toxicity of the European variety was reported during the famines in Finland, when people used the plant as a source of
food. Even with pre-treatment of the plant, such as drying, toxicity was still present and many people were killed after ingesting the plant (Airaksinen, Ala-Fossi-Salokangas, Antere, Lukkarinen, Peura, Stenback et al., 1986).

**LITERATURE REVIEW**

As discussed previously, all four plants, *A. cannabinum*, *D. glomerata*, *I. hayesiana*, and *N. luteum* are known by Native Americans for their medicinal uses in treating various conditions, from sore throats to unwanted pregnancies. Although all four plants were used by Native Americans, there is only a small body of research has tested *A. cannabinum* and *D. glomerata*, *I. hayesiana*, and *N. luteum* scientifically on breast cancer cells. There have been several investigations of *A. cannabinum*, *D. glomerata*, and anti-tumor activity was found, but they were not tested on breast cancer cells. While there is no research available on *I. hayesiana* or *N. luteum*, their known medicinal uses by many Native Americans suggest that they should be tested to see whether or not they have any cytotoxicity toward breast cancer cells.

It has been shown that *D. glomerata* has significant inhibitory activity against human nasopharyngeal carcinoma (Bryan, Guttman, Kupchan, Sigel, & Restivo, 1973). The cytotoxic chemical principle in the plant was isolated and identified as datiscacin (Figure 4). Although Bryan’s et al. study did not focus on breast cancer cells, their findings paved the way for new research to examine the plant as a tumor inhibitor on cancers other than nasopharyngeal.

*A. cannabinum* was shown to be very effective in inhibiting the growth of human nasopharyngeal cancer cells. Two cytotoxic compounds were isolated from the plant; apocannoside and cymarin (Figure 5). Notably, Doskotch, Hemmingway, and Kupchan (1964) stated that they could find no reference to *A. cannabinum* ever being used for the treatment of cancer by Native Americans.

A study by Graham (1909) showed that *A. cannabinum* is a strong and powerful vasoconstrictor that slows the heart and increases blood pressure, and acts as an irritant that causes haematuria, or blood in the urine. Ingesting *A. cannabinum* has been shown to be responsible for the death of horses, cattle and sheep that ate the plant (Foster, 2002).
Although few studies have been performed on the four plants used in the current study, similar studies have been conducted on other traditional medicinal plants for their cytotoxicity towards cancer cells. Findings reveal that three out of the eleven plants commonly used by Thai people and doctors showed high cytotoxic activity against two cancer cell lines (a human breast cancer and a human colon cancer), and normal human keratinocytes (Burke, Eno-Amooquaye, Houghton, Itharat, Sampson, & Raman, 2004). Seven methanolic extracts from different Plantago species were shown to have considerable cytotoxic activities against three human cancer cell lines: renal cancer, breast cancer, and melanoma (Ayuso, Cortes, Galvez, Lopez-Lazaro, & Martin-Cordero, 2003). Another study found that four out of the eight methanolic extracts of Argentine medicinal plants that were tested were cytotoxic towards a liver cancer cell line (Calcagno, Campos, Cavallaro, Ferraro, Ruffa, & Wagner, 2002).

Another investigation of Argentine medicinal plants found that three of six plants tested showed cytotoxic activity against human oral epidermoid cancer cells, and all six plants showed antiproliferative effects against crown gall tumors (Ciccia, Coussio, Mongelli, Pampuro, & Salomon, 2000). Researchers screened 24 plant extracts from Tanzania on three human cancer cell lines: cervical cancer, bladder cancer, and breast cancer. Some of the plants are used medicinally and are still used by many Africans today. For example, Combretum collinum is used traditionally for treating blood illness. Their study concluded that out of the 24 screened, only eight showed significant cytotoxicity toward the cell lines (Adlercreutz, Fyhrquist, Hiltunen, Murphy, Mwasumbi, Vuorela et al., 2006).

All of the studies discussed here tested medicinal herbs used by Indigenous people from many countries for their effectiveness against cancer. These studies encourage new study on other traditional medicine like A. cannabinum, D. glomerata, I. hayesiana, and N. luteum for their cytotoxicity.

A. cannabinum, D. glomerata, I. hayesiana, and N. luteum have all been used by Native Americans for medicinal purpose. The aim of this current investigation is to support their usage scientifically, so that practitioners...
of western medicine will understand the value of these Native medicines. Educating western practitioners about the value of traditional Native medicines will, hopefully, make them more accepting of “alternative” treatments prescribed by Native Healers for their Native American patients. To date, little research has been done in this area. Thus, this investigation attempts to support the idea that Apocynum cannabinum, Datisca glomerata, Iva hayesiana, and Nuphar luteum are effective means of curing breast cancer. The hypothesis of this investigation is that Apocynum cannabinum, Datisca glomerata, Iva hayesiana, and Nuphar luteum are cytotoxic towards (ER+) breast cancer cell line, as they were to ER- cells. Thus, this study’s aim is to test the effect of aqueous extracts of each of these four plants on estrogen receptor positive cells in laboratory cultures.

Methodology
The following protocols were used to assess the effect of A. cannabinum, D. glomerata, I. hayesiana, and N. luteum on estrogen receptor positive breast cancer cells in laboratory culture.

General Considerations
Before starting any cell culture work, the bio-safety hood was irradiated with ultraviolet light for at least 30 minutes to sterilize everything in the hood. All solutions were warmed in a 37° C water bath. The growth media was made by adding one tube of 50 mL of Fetal Bovine Serum (Invitorgen), 5 mL of penicillin/streptomycin, and 5 mL of sterile 0.1% phenolphthalein (Aldrich Fine Chemicals) to one 500 mL bottle of Improved Minimal Essential Media (Richter’s Option; Invitrogen).

Aqueous Extracts and Test Inoculants
The parts of the plants used in this study were: the rhizomes of N. luteum, the root and leaves of A. cannabinum, the root of D. glomerata and the root of I. hayesiana. Each part was cut, diced, and weighed. They were then mixed with enough boiling water to cover the diced plant part in 250 mL Erlenmeyer flasks. These aqueous extracts were frozen for future use. To prepare test inoculants, aqueous extracts (100 μL) were mixed with 9.00 mL of growth media. A control inoculant was made by adding 9.90 mL fresh media and 100 μL of water to 9.90 mL media.

Cell Maintenance
Cell cultures were maintained in T-75 tissue culture flasks at 37° C in a 5% CO₂ atmosphere in a humidified incubator. To split cells into two T-75 flasks, media was aspirated from flask and 1.0 mL of trypsin was added to break the proteins that attach the cells to the bottom of the plate and to each other. After incubating for 5 minutes at 37° C, cells were suspended in 5 mL of media, then pipetted into a 15 mL falcon tube and centrifuged. The media was aspirated from the tube, leaving the pellet behind. Ten mL of media was
added and mixed well. From this ten mL of cell suspension, 5 mL was put into each of the two T-75 flasks, along with 10 mL growth media.

**Cell Assay**

The following procedures were used to plate the cells into a 96 well plate: Media was aspirated from the T-75 flask, and the cells were released by incubating with 2.0 mL of trypsin for 5 to 10 minutes to break the proteins. An additional 5.0 mL of media was used to wash down sides of flask. The contents of flask were pipetted into a 15 mL falcon tube and centrifuged for five minutes. The supernatant media was aspirated from the cell pellet and 5.0 mL of fresh media was added, vortexing the tube to break up the entire pellet. The cell suspension was mixed with 10 μL of trypan blue dye. With the same pipette tip, 10 μL of mixture was pipetted from the parafilm to one side of the hemacytometer with the cover slip on. This procedure was repeated for the other side of the hemacytometer. The number of cells per mL was calculated by averaging the number of cells in all eight quadrants, then multiplying by 2 to account for the 1:2 dilutions with trypan blue, and then multiplying by 1 x 10⁴ to account for the volume in the hemacytometer (1 x 10⁻⁴ mL). The cell suspension was diluted with growth media to yield a concentration of 50,000 cells/mL.

The resulting volume of cell suspension was added to enough medium to make a total of 10 mL per plate. Using a multi-channel pipettor, 100 μL of cell suspension was pipetted into each of the center core (all but perimeter) wells of a 96-well plate, mixing the cell suspension before taking each aliquot. The plate was labeled and placed in a 5% CO₂ atmosphere in a humidified incubator for 48 hours. After 48 hours, media was aspirated from each well. Ten wells containing no cells received control media only and served as blanks. Ten wells containing breast cancer cells were inoculated with test inoculant or control inoculant (100 μL per well). The plate was then incubated for 48 hours at 37°C under a 5% CO₂ atmosphere.

To assess how many cells had

**Figure Caption**

*Figure 1. Comparison of Cell Growth to Control.*

![Graph](image)
survived the treatment, 20 μL of Cell Titer 96 Aqueous One Solution (Roche Biochemicals) were pipetted into each well. The plate was incubated at 37° C under a 5% CO₂ atmosphere for 1 to 2 hours. Then the absorbencies of the resultant solutions were read at 490 nm in a micro-titer plate reader. Actively growing cells produce an enzyme that converts the yellow Cell Titer reagent to a purple compound, which absorbs light at 490 nm. Thus the absorbance at 490 nm (A₄₉₀) is proportional to the number of live cells in the well.

Data Analysis
The absorbance of each set of test wells was compared to that of the negative control set. If the average absorbance of one set of test wells is statistically significantly lower than that of the negative control set, it can be concluded that the extract being tested had either a cytotoxic effect or an anti-proliferative effect on the cells. To make the comparison, the raw data was manipulated in the software program of Microsoft Excel. The equations used are listed below. The average absorbance and the standard deviation in the absorbance were calculated for each set of wells (Equations 1 and 2, respectively). These values were compared to those of the control set by calculating the absorbance as percent of the control absorbance (Equation 3), the standard deviation of the percent of control (Equation 4). A t-test was performed to generate p values. In addition, a bar graph was generated to compare the growth of each extract to the control.

\[
\text{Equation 1: } \text{Average} = A = \frac{1}{10} \sum_{i=1}^{10} A_i/10, \text{ where } A = \text{absorbance}
\]

\[
\text{Equation 2: } \left(\frac{1}{9} \sum_{i=1}^{10} (A_i - A)^2\right)^{1/2} = V, \text{ where } V = \text{variance}
\]

\[
\text{Equation 3: } \left(\frac{\bar{A}_{\text{sample}}}{\bar{A}_{\text{control}}}\right) \times 100\% = \% \text{ of Control}
\]

\[
\text{Equation 4: } (V_{\text{control}}^2 + V_{\text{test}}^2)^{1/2} = V_{\text{control}}
\]

RESULTS
Aqueous extracts of four native California plants, *Apocynum cannabinum*, *Datisca glomerata*, *Iva hayesiana*, and *Nuphar luteum* were tested for their cytotoxic and/or anti-proliferative effects on cultured ER+ breast cancer cells. As shown in Table 1, the extract of *A. cannabinum* was the most cytotoxic, with 9.62% as many cell as the control. *N. luteum* also showed significant cytotoxic effect, with 15.6% as many cells as the control. The effects of *D. glomerata* are unclear. There are only 45.8% as many cells as the control. This result is statistically significant, but it is not known whether the effect is cytotoxic or anti-proliferative. Surprisingly, the extract of *I. hayesiana* did not show any effects against ER+ breast cancer cells. Instead, it increased the growth of the cells by over 71%.
Both *A. cannabinum* and *N. luteum* showed significant cytotoxic effect against ER+ breast cancer cells with less than 20% as many cells as the control. Although there is a wide range in the standard deviation, the results are statistically significant. The results correlate with the previous information showing that *A. cannabinum* and *N. luteum* are toxic. *A. cannabinum* was used as an abortifacient and contraceptive and so may play a role in changing levels of the female hormone estrogen. It may be that a change in the hormone may somehow affect the growth of ER+ breast cancer cells and may be responsible for the results obtained in the current study. Although Native Americans did not use *N. luteum* as an abortifacient and contraceptive, its known toxicity implied that it might have an effect on ER+ breast cancer cells, or any cell. However, extensive testing is needed to determine the mechanisms of action of these two plants on ER+ breast cancer cells.

Extracts of *D. glomerata* were somewhat effective in either killing or inhibiting the growth of ER+ breast cancer cells. The results of the current study do not discriminate between cytotoxicity and growth suppression. Further testing will show whether the extract works to kill the cells or inhibit the growth of the cells.

Although *A. cannabinum*, *N. luteum*, and *D. glomerata* showed cytotoxic and/or inhibitory results against ER+ breast cancer cells, *I. hayesiana* increased the growth of the cells by more than 70%. This result is surprising because, as with *A. cannabinum*, *I. hayesiana* was also used as an abortifacient. Even though the preliminary screening of this extract was effective in inhibiting ER- breast cancer cells, it did not work for the ER+. This does not mean that *I. hayesiana* is not anti-cancer because the preliminary screening done by a student in Dr. McCarthy’s lab uses the leaves instead of the roots of the plant. This suggests that there may be different compounds present in different parts of the plant, which may yield different results.
LIMITATIONS

It is important to keep in mind that, although A. cannabinium, *N. luteum*, and *D. glomerata* were shown to be effective, it was only done in laboratory cell culture. There are other factors that need to be considered, such as the effects these plants have on normal breast cells and safety of the plant. To test these factors, animal models and clinical trials would be necessary. These possibilities would need to be studied in order to determine if these plants are safe and effective breast cancer treatments. The current study, however did not attempt to address these variables. Though testing of *I. hayesiana* yielded negative results, it does not necessarily mean that the plant is ineffective. The extract may not work directly on the ER+ breast cancer cells. The plant could work in other ways. It could be activated by the body, or activate the immune system, and/or decrease angiogenesis (new blood supply to the cancer). Therefore, additional testing is needed to determine whether the plant is effective as suggested by the preliminary screening.

CONCLUSION

The current study tested four herbal plants that were used by many Native Americans for treating a variety of conditions, in order to scientifically support the use of these plants as alternative treatments for breast cancer. Our results of this study support the traditional use of three of these plants, in that extracts of A. cannabinium, *N. luteum*, and *D. glomerata* were effective against breast cancer cells in laboratory culture. However, our results do not support the traditional use of *I. hayesiana* against cancer, in that an extract of this plant was not effective against cultured breast cancer cells. In conclusion, the results of this investigation suggest that western medical practitioners should increase their awareness and knowledge of traditional herbs used to treat breast cancer patients.
REFERENCES


VALIDATION OF FOOD FREQUENCY QUESTIONNAIRE FOR ASIAN INDIAN GUJARATI WOMEN IN THE GREATER CENTRAL VALLEY OF CALIFORNIA

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ABSTRACT

There is a great need for more research about the Asian Indian Gujarati population and their diet. Among the Asian Indian population, Gujarati have one of the highest rates of cardiovascular morbidity and mortality. Paradoxically, Gujarati follow predominately a vegetarian diet; such a dietary pattern is typically associated with reducing the risk of cardiovascular disease. This study attempts to better understand the diet-disease relationship in Gujarati people, a thorough assessment of dietary habits relative to diseases is required. As a first step in this process, the present study aims to develop and validate a Food Frequency Questionnaire, (FFQ) specific to the Gujarati population. This study looks at the diet of 15 Gujarati women ranging from the age of 20 to 50 in age to create a validated food frequency questionnaire.

Research studies indicate that Asian Indians are at a greater risk for cardiovascular diseases (CVD). The risk factors of CVD include a combination of genetics and lifestyle factors such as, smoking, lack of exercise, acute coronary artery syndrome, and diet. A large body of research exists on the genetic aspect of CVD among Asian Indian however, research regarding their dietary habits is somewhat lacking. Understanding the dietary habits of Asian Indians from different regions of India can greatly contribute to the management of chronic diseases, including CVD within this population. For this reason the, research analyzes the nutritional intake of Gujarati women in the Central Valley of California, and creates a validated food frequency questionnaire (FFQ) for this population. Therefore, the results of this study can assist in future research that addresses dietary intake of Gujarati women in America.

Gujarati people are a group of Asian Indians who share culture, language, tradition, and dietary customs. Gujarati inhabitants originate from the western state of Gujarat in India. According to the 1999 U.S. Census, “Gujarati, the language spoken by individuals from the state of Gujarat, is the second most common Indian language spoken at home by foreign-born individuals in the U.S. (spoken by 18% of the Asian Indian immigrants)” (Jonnalagadda, p. 3). The Gujarati community is highly educated and in good economic standing. They are comprised of “academicians, physicians and engineers; business owners, motel and ethnic grocery store owners; blue-collar workers, e.g., grocery store and gas station clerks” (Jonnalagadda, p. 3).
Despite these diverse professional and economical backgrounds, the Gujarati community has similar dietary traditions. Many Gujarati’s are vegetarians or have dietary habits that are consistent with vegetarian practices.

Among Gujaratis, vegetarian and non-vegetarian, many are obese or overweight. According to Jonnalagadda (2002) “20% of these individuals were overweight and/or obese, and 57.7% of these individuals reported changes in their diet since immigration” (p. 3). Since many individuals do change their diet due to adaptation to a new culture, it’s important to have or develop a tool that will reflect the dietary changes of the immigrant. This research focuses on validating a FFQ which will reflect the diet of Asian Indian Gujarati women in the greater Central Valley of California.

**Literature Review**

Food frequency questionnaires are used broadly to examine the food intake of ethnic and cultural food, and are commonly used in epidemiological studies. “In epidemiological surveys, a dietary assessment tool, which is simple to administer, less demanding on the subject and is less tedious to analyze, is often required. The FFQ appears to provide the advantages of fulfilling this criterion in assessing nutrient intakes” (Chee et al., p. 142). The FFQ are convenient and can be used for a variety of purposes, but specifically for assessing the relationship between diet and disease. Modification and validation of existing FFQs is common among epidemiological studies because the strength of the study relies on the specificity of the FFQ. It is “given that many epidemiological studies depend upon the FFQ to assess usual dietary intake . . .” (Woods et al., p. 56). The FFQ is a major tool used for assessing dietary intakes of different people, as well as providing dietary detail about the groups or individuals nutrient intake. For example, Jeongseon Kim PhD, and others developed a FFQ to assess intake of fat, fatty acids, and cholesterol in a Korean population to see the specific intake of fat, fatty acids, and cholesterol. Three day food records were also analyzed to compare the newly developed FFQ (Kim et al., p. 265). The significance of the FFQ is that it can estimate usual dietary food patterns and nutrient intake in any ethnicity, age, sex, and class for epidemiological studies. Each FFQ varies in length and content and also varies by the purpose of study. For example, if the purpose of a particular study is to look at the association of diabetes and diet, then the questions within that study will target foods potentially associated with diabetes. FFQ are continuing to develop internationally as it is a sufficient tool to measure dietary intake.

As FFQ are being developed more broadly and internationally, it is important to understand subjects, traditions, culture, and social/societal norms as a means of accurately representing the population to test the proposed hypothesis. The cultural values and traditions are pivotal when understanding and choosing the most qualified subjects to study. Gujaratis are very family focused, as well as tradition oriented individuals. Therefore, traditionally,
Gujarati women are the primary caregiver of the house, including cooking, leads this study to focus only on Gujarati women as subjects. However, gender roles within the Gujarati community are steadily changing between men and women, yet still not equal. A study by G. N. Ramu suggested that the Gujarati husbands in United States are beginning to increase their amount of domestic work, (household work) however, the employed women still hold the primary responsibility for family work (p. 911). As a result of unequal gender roles, Gujarati women are more knowledgeable when it comes to the Gujarati diet and frequency and amount of food their family consumes in the kitchen.

Traditional norms and beliefs are among the many factors that play a role when it comes to frequency and consumption of specific foods. Foods like non-reduced fat milk, (pure milk from a cow), butter, cream, and many other foods which contain a higher percent of saturated fats are considered to be “golden foods”. Golden foods are traditionally those foods that people of high economic standing are/were able to afford. As a result these foods have become the foods (by impression) that they are healthier. In Gujarati culture body size is closely associated with socioeconomic status. The norm considers obesity a higher economic standing, whereas thinness is associated with lower economic standing. Such beliefs, norms, and customs influence an individual’s selection and frequent intake of specific food items.

When studying Gujarati women residing in the U.S., it is important to look at the availability of food products to the public. Many people carry on the same habits and traditions from their native land however, due to migration and changes in food, products availability, the diet as well changes. Foods such as ethnic vegetables, snacks, fruits, drinks, and spices are not available in countries outside of India; or if they are available, they are sold at higher prices due to supplies being scarce. Scarce food supplies and higher prices cause individuals to look for similar products to substitute. These affects, such as food availability must be considered in developing a FFQ. Many products like cheese, sour cream, and butter are used as substitutes, because of their similar taste to ethnic Gujarati products, which are largely available in Gujarat but not in the U.S. Because diet is associated with chronic disease risks, it is important to produce a FFQ that reflects the dietary habits of individuals who have migrated and experienced changes in their diet.

**Methodology**

This study analyzes 15 vegetarian Gujarati women from the central valley area of Sacramento, California. Their ages range from 20-50 years old. All fifteen women were selected on a volunteer bases and all signed an Institutional Review Board-approved (IRB) informed consent form. As part of the study, subjects were asked to complete two surveys while at the test site along with having their height, weight and waist measured. After completing the on-sight
questionnaires and measurements, subjects were given a food record diary to take home and record their dietary intake for three days.

Of the two surveys completed at the study site, one was a Diet Habit Survey developed by the Lipid-Atherosclerosis Nutrition Department at Oregon Health Science University. With the permission from Oregon Health Science University, we modified the diet habit survey to fit our selected population. The Diet Habit Survey contained both vegetarian and non-vegetarian dishes. The diet habit survey was used to double validate the study FFQ. The diet habit survey contained only food items: lunch, snacks, drinks, and dishes. The diet habit survey focused more on the quantity of the food versus the proposed food frequency questionnaire which focused on the frequency of the listed food items on the survey.

The second survey they completed was the proposed FFQ that also contained personal questions related to demographics, lifestyles, family medical history and frequency of intake of various Gujarati foods. The proposed FFQ contained about 220 food items, varying from lunch and breakfast items, fruits, vegetables, snacks, drinks, condiments and other traditional Gujarati dishes. All food items listed in this survey were vegetarian. The food frequency questionnaire also contained six boxes from which the subjects had to place a check mark on the frequency of how often they ate each food. Participants were asked to check the box which closely reflected how often they would eat the specific food items from the list. The FFQ checkmark boxes varied from food items eaten 7 days a week, 5-6 times per week, 4-5 times per week, to rarely or never.

After completing the on-sight study surveys, participants were given a 3-day food diary to take home. All participants were clearly instructed on how to keep the 3-day food diary. Before they took home the food diary they were shown food quantity models, such as one deck of cards equals 3 ounces. Food models were created from regular household materials such as a tennis ball, and golf ball, one plate to represent the size of a tortilla, a teaspoon, a tablespoon as well as different cups to represent several quantities. Food models were used to give the participants a realistic idea of typical serving sizes. After showing the participants food models, they were sent home with the 3-day food diary and asked to record everything they ate and drink for 3 days. It is critical that the participants write everything that they eat, even a piece of gum, or a sip of juice to even when they sprinkled salt on their foods with approximation of the quantity size. Such as ¼ tea-spoon of salt sprinkled on my sandwich. During the record keeping period (approximately one week) the investigator made contact with study participants to see how they were doing and if they had any questions regarding the 3-day food diary. It was important to emphasize the instructions on the 3-day food diary completion because in contrast to the other two surveys, the researcher was not present with the participant to guide the subjects when they needed help or if anything needed to be clarified. After they had finished the 3-day
food diary it was then evaluated using the nutrition research software, Diet Analysis plus 7.1 and compared statistically with data derived from the FFQ. Prior to entering the data in Diet Analysis Plus 7.1 the researcher had to enter all the snack items, lunch items, drinks, and the traditional dishes through “Recipes and Ingredients” in the program. Since the Diet Analysis Program does not reflect and contain many of the Indian food items, they had to be created by individually entering each food or recipe item.

RESULTS

Subjects’ age, height, weight, waist, and length of residence in the U.S. was collected at the beginning of the study. Height and weight was used to also calculate body mass index (BMI, kg/m2). BMI is closely associated with the risk of cardiovascular health and is used to assess people’s risk for disease. The study group’s mean, minimum and maximum values for demographic information are shown in Table 1.

<table>
<thead>
<tr>
<th>Table: 1 Demographic Results</th>
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<tbody>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Minimum</td>
</tr>
<tr>
<td>Maximum</td>
</tr>
</tbody>
</table>

BMI: Body Mass Index (BMI, kg/m²)

Women’s weight ranged from 101 lb to 166 lbs. The mean weight of the subjects was 134 lbs. Body mass index was calculated from the available data for a mean BMI of 24.9. Table 2 shows the relative risk for disease based on BMI and waist circumference. The women in this study were borderline overweight and carry their weight predominantly in the central region of their body. Central adiposity increases individual risk of cardiovascular disease. Table 2 was obtained from the Partnership for Healthy Weight Management, an online weight loss program (accessed 2006). Interestingly, the women in this study are vegetarian and yet they are at increased risk for heart attack and stroke; a result contrary to research on vegetarianism and disease risk.

<table>
<thead>
<tr>
<th>Table: 2 Risk of Associated Disease According to BMI and Waist Size</th>
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<tbody>
<tr>
<td>BMI</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>18.5 or less</td>
</tr>
<tr>
<td>18.5 - 24.9</td>
</tr>
<tr>
<td>25 - 29.9</td>
</tr>
<tr>
<td>30.0 - 34.9</td>
</tr>
<tr>
<td>35.0 - 39.9</td>
</tr>
<tr>
<td>40 or greater</td>
</tr>
</tbody>
</table>

Partnership for healthy weight management (2006)
The comparison of the 3-day food diary and FFQ for kilo-calories (Kcal) is shown in below Table 3, along with the comparison of carbohydrate (CHO), Protein (pro) and fat. The Table 3 also indicates the standard error of mean and the p-value for determining the significant difference between the tools. The statistical values were analyzed using the GLM procedure for estimating least square means and standard errors. The significant difference between the tools was determined at a p-value of 0.05 or less.

The comparison of the 3-day food diary and FFQ for kilo-calories (Kcal) is shown in Table 3. The mean kcal difference between the FFQ and 3-day food diary tools was 102.9 kcal. The 3-day food diary estimated a mean daily intake of 1804.6 kcal vs. 1701.6 kcal for the FFQ (standard error of mean was 21.1 with p-value of 0.0038). The FFQ questionnaire on average estimated fewer calories consumed than the 3-day food diary, probably because some foods consumed throughout the day may have not been represented in the FFQ. Overall the FFQ shows in-equeable results compared to the 3-day food diary.

<table>
<thead>
<tr>
<th>Dist Tool</th>
<th>Kcal</th>
<th>CHO (g)</th>
<th>Pro (g)</th>
<th>Fat (g)</th>
<th>% en CHO</th>
<th>% en Pro</th>
<th>% en Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIARY</td>
<td>1804.5</td>
<td>209.6</td>
<td>90.9</td>
<td>60.2</td>
<td>46.1</td>
<td>20.2</td>
<td>30.2</td>
</tr>
<tr>
<td>FFQ</td>
<td>1701.6</td>
<td>197.6</td>
<td>78.9</td>
<td>66.5</td>
<td>46.4</td>
<td>32.2</td>
<td>33.5</td>
</tr>
<tr>
<td>Pooled</td>
<td>21.0</td>
<td>1.8</td>
<td>2.7</td>
<td>2.2</td>
<td>0.9</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>SEM</td>
<td>0.0038</td>
<td>0.0003</td>
<td>0.0076</td>
<td>0.0593</td>
<td>0.8104</td>
<td>0.0025</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

* mean, n=15 women for all diet variables

CHO: Carbohydrate  
FFQ: Food Frequency Questionnaire  
Pro: Protein  
Kcal: Kilo Calorie  
g: Grams

There are three major macronutrients in our foods that yield energy needed for growth and maintenance; they include carbohydrate (CHO), fat, and protein (PRO). These three macronutrients were also tested along with energy intake (Kcal) to compare significant difference in the 3-day food diary vs. the proposed FFQ. The comparisons between the three macronutrients are shown in above Table 3. The carbohydrate grams (CHO) and % energy from carbohydrate (per CHO) were estimated and only the % energy from CHO was considered not different between tools (pp= 0.8104). The other macronutrients were significantly different whether analyzed by nutrient weight (g) or energy contribution to daily intake.

LIMITATIONS

With respect to the participants, there was always some level of subjectivity in answering the food diary and the survey questions. Another important limitation of this study was the interaction of vegetarian practice and religion. We intended to investigate only Gujarati’s who were vegetarian. However,
not all Gujarati women are completely vegetarian. Due to religious reasons however, they are unable to admit to this incomplete vegetarian behavior and therefore, participant’s level of truth with the FFQ and 3-day food diary is compromised. Other limitations include the differences in food intake of women who stayed and/or worked from home vs. those that do not. Women who stayed home and worked from home may have a different diet than those who work outside the home. Therefore the results of this study can not be generalized for all the Gujarati women living in Central California Valley.

CONCLUSION

Although the newly proposed FFQ for Gujarati people estimates dietary carbohydrate well, compared to a 3-day food diary, it needs significant improvement for more accurately estimating energy intake, protein and fat intake. Future studies will focus on refining the contents of the FFQ to meet the noted limitations.
REFERENCES


UNKNOWN HISTORY: THE AFFECTS OF THE BRACERO GUESTWORKER PROGRAM, 1942-1964
Jessica Ramirez
Faculty Mentor: Julie Figueroa, Ph.D.

ABSTRACT
This study examines the Bracero Guestworker Program, from 1942 to 1964, from a socio-historical perspective. The term bracero comes from the Spanish word for arm, and can be loosely translated as ‘farmand’ (Calavita, 1999, p.1). While much of the existing literature recognizes how the economic interests of growers in the United States was a driving force for institutionalizing deplorable working conditions, little discussion focuses on exploring the response of Braceros to a guestworker program that proved to be at best dehumanizing. With the assistance of the Association of Braceros of Northern California, five case studies were conducted using open-ended questions over a period of 15 weeks. The narratives gathered and analyzed reveal conditions and structures that shaped the experiences of the Bracero. Understanding the means by which braceros retained their livelihood while working amidst an economic industry that qualified their contributions as cheap labor is the focus of this study.

In the United States, President Bush is proposing a guestworker program that would recruit foreign workers to growers who have difficulty in recruiting domestic workers to fulfill American jobs. While it is not the purpose of this study to provide a detailed analysis of President Bush’s new guestworker proposal, a brief description of the proposal is provided in order to focus on the correlation between bracero history and contemporary debates around guestworker programs. Comparatively speaking, while the agreements between these two programs are very similar in nature there seems to be little questioning around previous guestworker program, which was terminated because of mounting opposition from the labor unions, disgruntled citizens which racially discriminated against braceros, and social justice movements that deemed braceros as an enslaved workforce.

Because agriculture is a multi-billion dollar a year industry, offsetting the threat of economic instability and meeting consumer demands led growers to demand that President Roosevelt contract foreign seasonal labor. These foreign workers were granted legal status during their stay in the United States. This previous guestworker program recruited foreign workers as a solution to wages being considered too low, and to resolve the domestic labor shortage during World War II. While other industries became exceedingly automated, the agricultural industry in California preferred to meet high consumer demands by keeping their investments in technology to a minimum, and applying a cost-saving strategy to securing low wage labor. Given that similar conditions face growers today, Bush’s proposed
guestworker program also intends to provide temporary legal status to prospective foreign workers. Similar to Roosevelt's plan, when work duties are completed legal status will expire and foreign workers will be expected to return to their respective home countries (www.whitehouse.gov).

**Literature Review**

To more fully appreciate the social consequences that may be experienced by Bush’s guestworker program, this study first offers a historical discussion on the push and pull factors that not only defined the Bracero Guestworker Program but also manifested unanticipated tensions (the term bracero comes from the Spanish word for arm, and can be loosely translated as ‘farmhand’ (Calavita, 1999, p.1)). Secondly, included in this discussion is the theoretical perspective offered by Rodriguez (2004), known as the Dual Labor Market Theory. This theory offers one perspective on the driving relationship between the grower and the worker in a primary and secondary labor market (Rodriquez, 2004, p. 463). While this theory explains the motivation for growers to keep payment records off the books, Belluck (2001) further points out that recuperating wage deductions is a complicated endeavor, since most growers pay in cash leaving no paper trail for braceros to currently claim lost wages. Consequently, Bickerton (2001) introduces motives for hiring braceros rather than domestic workers through the opinions of those who opposed the bracero program and influenced the termination of the program. Along with the idea that the bracero program had flaws, Basok (2000) adds a supportive explanation of issues of non-return through the comparison of the Canadian Guestworker program and the Bracero Guestworker program. Thirdly, in the methodology section of this paper five case studies are introduced. The five case studies were purposefully sampled and selected under specific criteria. Subsequently, in the findings, Radelat (1999), along with the five case studies help give an insight of braceros experiences and opinions. The literature and the analysis of the case studies help respond to the question: During the years 1942 to 1964, in what ways did the Bracero Guestworker Program highlight the forms of which immigrant labor valued and depreciated? It is not the intent to malign growers and the participating governments, but rather the goal is to not shy way from reconciling missed opportunities for improving communications between growers, government, and laborers, as well as better conditions on the behalf of laborers. Finally, the discussion helps bring this study to its closing stages.

**Early Beginnings and Incentives**

During World War II, with the involvement of the U.S., mass labor shortage occurred as American men and women were sent abroad to Asia, Africa, and Europe to join the fight between the Allied and Axis powers (Schwartz, 2002, p. 74). The absence of these young farmers caused a shortage of agricultural labor, which led to a deficiency of food production in the
United States. Since, recovering from a lack of farmers and supportive labor being considerably delayed; food shortages were a temporary yet inevitable reality. Since the agricultural sector has always been a strong market in the U.S. economy, this food shortage did not only threaten the economy, but the aspects of basic conveniences that defined stability during troubled times. Furthermore, “not only was labor short, but farmers were asked to produce more and more to sustain the war effort” (Bickerton, 2001, p. 4). Additionally, the demand of food was not only from Americans, but also for the purpose of exporting food products to other countries. The domestic and global economic well-being of the United States demanded swift and immediate solutions to address consumer needs.

**Challenges and Solutions to Securing Labor Demands and Consumer Needs**

Given the political and economic circumstances, the farmers decided to put more pressure on the government to assist them in recruiting people to work in the fields. Since women were being heavily recruited to work in male-oriented industries, their absence greatly reduced the prospective labor pool. The absence of women added to the hardship placed on growers when recruiting farm workers. Therefore, several tentative plans for further recruitment were considered. The county commissions proposed the following seven actions for solving recruiting problems:

1. Obtain a declaration of state of emergency in all counties and towns of the affected agricultural areas
2. Institute an identification system for farm workers to enable the police to determine who [was] working and who [was] not
3. Ascertain probable needs for additional supplies over regular harvest hands to be available during the balance of the year, include housing, transportation, and boarding facilities
4. Prepare to enlist voluntary local labor and outline the best plans for utilization, including recruitment plans in schools, etc.
5. Call meetings of law enforcement agencies in the county to determine the kinds of regulations needed in cities and county areas to enable to arrest of all non-workers who [refused] to assist in producing food for victory
6. Demand all gambling halls be closed in the county during daytime periods, these demands to be served to city councils and the county boards of supervisors
7. Work out plans with the Board of Equalization to see that excessive use of alcohol [did] not sap man-days from the workers available (“Seven Point System,” 1942)

Growers were desperate to find farm workers. As another alternative solution to the problem, prisoners were selected to work the fields. The prisoners who were sent to aid the harvest were those who had been
convicted of minor charges. These prisoners were put in labor camps where they were to remain at night, unguarded, and on the honor system. Prisoners were paid for their labor, but would not get their money until their sentence was over (“Prisoners from road camp will do the work”, 1942). After this plan was put into effect, six prisoners had escaped in a matter of one week. As a result, this was another plan that had become ineffective. This raised awareness about the importance of not only finding and securing reliable labor, but also instituting conditions that allowed for the work to be carefully controlled.

In the mean time, crops were getting spoiled. Growers continued to put pressure on the government to assemble an effective plan that would solve the farm labor shortage. The government’s idea was to bring in laborers from another country to do the work. The United States government turned to Mexico for a helping hand that would serve as wartime relief. The Mexican government had a number of concerns about the bracero program including doubts that there was a real labor shortage in the U.S. and that the growers simply sought cheap labor (Bickerton, 2001, p. 12). The U.S. government assured the Mexican government that together they would administer the program.

**Terms and Conditions of the Bracero Guestworker Program**

On June 15, 1942, Ambassador George Messersmith met with the Mexican Foreign Minister, Ezequiel Padilla, to discuss the bracero program with the determination to get approval by Mexico (Bickerton, 2001, p. 4). This proposed Bracero Guest Worker program was formulated to help resolve the shortage of the agricultural sector in the U.S. during World War II. In 1942, the Mexican government was willing to consider an international labor agreement with the U.S. based on the following conditions:

1. Recruitment would be based on a written labor contract
2. Both governments would carry out the administration of the program and the same would guarantee contract compliance.
3. Recruitment would be based on need. For example, Mexican laborers would not displace domestic labor nor lower their wages.
4. Employers would pay transportation and subsistence costs to and from the recruitment center and the work site.
5. Migrants would not be encouraged to remain permanently in the U.S.
6. Racial discrimination, of the type where Mexicans were turned away from “white” restaurants and public facilities or sorted by color on buses would be prohibited (Garcia, 1981, p. 18).

After these terms and conditions were discussed, on August 4, 1942, President Roosevelt signed Agricultural Labor Law No. 45 establishing the Bracero Guestworker Program. This program was intended to deal with the farm labor shortage resulting from the war (Mechaca, 1995, p. 90;
Driscoll, 1999, p. 54). Shortly after, in September of 1942, 500 braceros from Mexico arrived in Stockton, California. “Transported by the U.S. government and delivered to state growers, the farm workers were the first installment of a wartime emergency program designed to fill [the] declared labor shortage in agriculture” (Calavita, 1999, p. 1). However, the reality of implementing a labor program of this scale required further negotiations in relation to the Bracero Program between the U.S. and Mexico. Although accepting the original terms of agreement regarding transportation, housing, and repatriation, on August 11, 1951 Mexico continued to broker an accountability plan. This plan prohibited using braceros for any U.S. military service purposes, and paid wages were required to be similar to U.S. workers’ wages, which meant farmers could never pay below thirty cents an hour.

To further ensure fair treatment, the Mexican government also requested that braceros be given three dollars per day for substitution of their wages if they were without work for more than 25 percent of the contract period (Bickerton, 2001, p. 4). With the terms and conditions modified, the Mexican government soon thereafter “decided that overall the positive effects of the program outweighed the negative” (Bickerton, 2001, p. 4).

Even with the renegotiations of 1951, the braceros were not protected from being discriminated against and exploited. It was expected that the original terms of agreement and efforts to renegotiate would prevent unfair labor practice, secure adequate living wages comparable to U.S. workers, and diffuse the possibility of illegal immigration. Unfortunately, the program was forced to shut down in 1964 because of increased opposition by unions and U.S. citizens as well as rampant discriminatory practices directed at braceros. The five case studies that the researcher analyzes specifically name and highlight the bracero perspective, what they characterized unintended discriminatory practices, and what were deemed to be necessary strategies to survive and respond.

**Perspectives and Process: Justified Approach to Bracero Labor**

Previous to the commencement of the Bracero program, the alternative plans to address the labor shortage consisted of allowing prisoners, women, and the unemployed to do farm work. Since these alternative plans were ineffective, the bracero program was instituted as the last viable solution yet braceros significant labor contribution to date lacks genuine appreciation and proper monetary compensation. During the years 1942 to 1964, in what ways did the Bracero Guestworker Program highlight immigrant labor in terms of being valued and depreciated? For this particular study, value and depreciation are terms that lend themselves to evaluating the treatment of bracero labor. Careful analysis of the literature strongly suggests that bracero labor was not valued. The Dual Labor Market Theory offers a perspective to explain the infrastructure that created discriminatory labor conditions for braceros.
Dual Labor Market Theory: Situating Bracero Labor, Understanding Growers Interest

Rodriguez (2004) offers the concept of dual labor market theory to understand the relationship between the growers and the braceros. Dual Labor Market Theory consists of the primary labor market and the secondary labor market. The primary labor market consists of large industries, or firms. The secondary labor market consists of smaller businesses where the owner is the supervisor. According to Gordon (1972), employers who fall under the primary labor market must follow the company’s policies and procedures, as opposed to employers who fall under the secondary labor market since greater room is available to ignore the labor market’s policies and follow the individuals own regulations. “Indeed, employers in the secondary labor market often organize their workforce informally outside the realm of government regulation and keep employment records off the books by paying workers in cash, thereby, gaining an extra economic advantage by not paying into governmental social programs for workers” (Rodriguez, 2004, p. 463).

One of the first signs that growers were assuming a secondary labor market perspective and practice can be located in their decision of knowingly hiring undocumented immigrants as braceros despite the clearly defined protocol required by the U.S. bracero program (Basok, 2000). Growers were supposed to ask for documentation before hiring any workers; however, “Public Law 78 did not specify any fines or criminal penalties against employers of undocumented migrants” (Basok, 2000, p. 224). This loophole enabled the growers to break the law and agreements designed to benefit them while at the same time unwittingly providing a means for braceros to stay in the U.S. illegally.

Growers did not make life easy for braceros upon arriving to the United States. A language barrier, low educational attainment, and local control worked in the favor of growers. These conditions encouraged growers to proceed with secondary labor market practices. Mexico and the U.S. had an agreement that ten percent of bracero wages were going to be deducted and put in savings accounts (Belluck, 2001). This money served as an incentive for the braceros to return to Mexico and not to stay in the U.S. as undocumented workers. The deducted monies would be given back to the braceros once their contracts were over and they returned to Mexico. According to some braceros, they were never told that this money was going to get deducted from their checks and then returned; others say that they were informed about the deductions, but never saw any money once they returned to Mexico (Belluck, 2001). Given that the information on deductions were written and explained in English limited the extent to which braceros could thoroughly understand their labor contracts. Worse yet, the secondary labor market practice used by growers to pay braceros in cash made it difficult to track their earnings. So, if a bracero did not get paid the correct wages and wanted to complain about their earnings, there was no documentation available
to support the complaint. Secondary labor market practices also enabled growers to diminish by about fifty percent the expenditures of machinery. In beet farming, the braceros helped reduce the costs of harvesting beets. According to Galarza (1977), the cost diminished from $32 per acre to $13 after braceros labor was taken into effect.

The decision of growers to pay braceros in cash represents a form of participation in the secondary labor market because it subverted the original and negotiated terms of agreement. What may have appeared as a seemingly convenient method became one small act in a series of practices that compromised the integrity of agreements set into motion thus, the depreciation of bracero labor. Lastly, the same Mexican government that was supposed to be protecting its own people did not follow through with making sure that every bracero received their money. Bracero Felipe Nava, 78 years old said he was not aware that money was deducted from his paycheck or that he was entitled to get it back when he returned to Mexico in 1946 (Belluck, 2001, p. 4). Mr. Nava continued, “We came to help this country during the Second World War, without us, they would be in critical condition. This is wrong. Somewhere, somehow they should tell us we were supposed to have money” (Belluck, 2001, p. 4). If there were enough documents, then Mr. Nava, who earned 90 cents an hour, would be entitled to thousands of dollars (Belluck, 2001, p. 4). The historical memory of this aging population, combined with insufficient documentation, is challenging, but has not dissipated the spirit of current efforts to seek restitution for lost wages on behalf and in collaboration with braceros.

**Domestic Concerns Oppose Views on Labor Shortage**

In addition to breaking international labor agreements, growers also violated the human rights of braceros. Among the scholars who focus on human rights issues with regards to braceros, Bickerton (2002) asserts that many organizations opposed the bracero program, including the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO). Such organizations argued that the bracero program was not necessary and that labor [could] be found already in the U.S. “There were…many unemployed individuals who would gladly accept agricultural work if only decent wages and working conditions were offered” (Bickerton, 2001, p. 11). One of the reasons for the concerns was that those domestic workers who were willing to do the agricultural work would have competition once the bracero program was established. On the other hand, growers worked hard to convince the government that agricultural labor was hard to find. In reality, growers sought a cheap and vulnerable labor force from Mexico.

Domestic workers were concerned that by allowing braceros to work in the U.S., the standards of housing, wages, and opportunities for work would be lowered. Growers set up a self-serving and alienating labor experience in which braceros were vulnerable due to their financial needs and language barriers. The organization, AFL-CIO, was unsuccessful in convincing the
government that growers were only in search of cheap labor and that the shortage of domestic workers did not exist. Braceros, at this point, were being seen as a source to manipulate the “American workers to either accept whatever they were offered or be replaced by Mexican workers,” (Bickerton, 2001, p. 11). Growers played domestic workers and braceros against one another using statements like “Do your job or you will be replaced by a bracero,” or “you’ll be sent back to Mexico if you don’t do your work.” Either way, growers positioned themselves to secure their labor. The policies and practices regarding the implementation of the Bracero program were at best inconsistent. At its worst, the bracero program is a historical reminder that guestworker programs without a shared vision and shared language of implementation fail the guestworkers.

Canadian Guestworker Program
Basok (2000) suggests that if the bracero program had the opportunity to glean the lessons of the Canadian guestworker program prior to implementation, then perhaps more effective supervisory structures would have secured its success. Basok (2000) identified the U.S. bracero program’s lack of success at the administrative level, in terms of implementation and operation. For example, the Canadian Guestworker program demonstrated greater advantages to working initially with a small number of workers as opposed to the U.S. bracero program whose first load of workers to the U.S. consisted of 500 workers. Additionally, without proper U.S. government support and secondary labor market practices by growers, monitoring the sheer number of work allowed braceros to leave the program unnoticed and begin a life in the U.S. illegally. Not returning to Mexico appealed to braceros, since they could travel in search for work somewhere else within the U.S. without worry of being deported since they were not being accounted for by the growers or the U.S. government.

Methodology
This qualitative study explores how the Bracero Guestworker Program highlights the ways in which farm labor was valued and depreciated. These terms are used to evaluate the treatment of bracero labor. Careful analysis of the literature strongly suggests that bracero labor was not valued. By using in depth interviews and providing open-ended questions, this qualitative method attempts to capture the experiences of braceros during the Bracero Guestworker Program from 1942 to 1964.

Selecting a Research Site
For assistance with locating braceros, the researcher contacted the Association of Braceros of Northern California in Stockton. All interviews were conducted at this office, with the exception of one. Due to transportation, this particular interview took place in the individual’s home. This site had a variety of posters written in Spanish that featured Cesar Chavez, the logo for the United Farm Workers of America, pictures of the
first braceros working in the United States, recognition awards honoring the first ever National Bracero Day, and showcased tools such as short handle hoe on display that braceros used when they were participants in the bracero program. Since this site is where the Association of Braceros of Northern California currently holds their meetings, it seemed like a more comfortable and familiar setting for the participants. Interviewing participants on-site put the responses into context as participants pointed to display cases, posters, and pictures to further support their narratives.

Participants
Luis Magana, Director of the Association of Braceros of Northern California, nominated five study participants willing to share their experiences as braceros. From the researcher’s perspective, informants were purposefully sampled and selected on the following criteria:

- Participated in the bracero program for more than two years
- First time migrant to the United States from rural areas in Mexico
- Came to the United States to seek a job opportunity to support family
- Worked in labor camps away from family/friends
- Was single, unwed
- Was oldest son

Participants were all ex-braceros who were involved in the Bracero Guestworker Program between the years 1942 to 1964. All five participants are male, currently married and between the ages of 66-82. They come from rural areas in Mexico, where a lack of jobs is not unusual. All participants currently reside in Stockton. Furthermore, they also all worked in the Stockton area during their participation in the bracero program. As for their educational backgrounds, the highest average grade completed was second grade.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Current Age</th>
<th>Age When Entered Program</th>
<th>Year When Entered Program</th>
<th>Hometown</th>
<th>Occupation in Mexico before entering program</th>
<th>Education: Highest Grade Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>73</td>
<td>26</td>
<td>1959</td>
<td>La Piedad, Michoacan</td>
<td>Bricklayer</td>
<td>2nd grade</td>
</tr>
<tr>
<td>Participant 2</td>
<td>66</td>
<td>18</td>
<td>1958</td>
<td>Edo, de Mexico</td>
<td>Farmworker</td>
<td>2nd grade</td>
</tr>
<tr>
<td>Participant 3</td>
<td>82</td>
<td>18</td>
<td>1942</td>
<td>Lago de Morelos, Jalisco</td>
<td>Road worker</td>
<td>None</td>
</tr>
<tr>
<td>Participant 4</td>
<td>82</td>
<td>20</td>
<td>1944</td>
<td>Lago de Morelos, Jalisco</td>
<td>Farmworker</td>
<td>2nd grade</td>
</tr>
<tr>
<td>Participant 5</td>
<td>65</td>
<td>19</td>
<td>1960</td>
<td>Michoacan</td>
<td>Bricklayer</td>
<td>1st grade</td>
</tr>
</tbody>
</table>

Figure 1. Ex-Bracero Demographics
Research Case
In order to capture the depreciating experiences of braceros, a case study approach was used to equip the researcher with preeminent information. The researcher analyzed the participants’ responses to find out more about the actual experiences of braceros to compare and evaluate the usefulness and accuracy of existing literature. By incorporating the experiences of actual braceros in this research, the idea that labor was depreciated during the bracero program becomes more effectively enforced.

Data Collection Procedures
After getting a better sense of braceros history through secondary sources, namely literature and newspapers, Director Luis Magana, of the Association of Braceros of Northern California, organized the interview appointments. All participant names were kept anonymous for the sake of confidentiality. Five braceros were interviewed using samples of questions that were adapted from a previous study on immigration conducted by visiting Sacramento State scholar Guillermo Gonzalez. All interview questions were conducted in Spanish and digitally recorded. The interviews took approximately one to two hours whereas transcription averaged six hours. The braceros, which were finally selected were those most inclined to share their experiences in public in past occasions. Asking someone to reflect on their past experiences may be uncomfortable and emotional; therefore, interviewing individuals who have the desire to share lived experiences is rather important. Every interview was translated into English from Spanish, and then transcribed. This was an exploratory study that sought to take preliminary view of the bracero experience.

Research Memos
After the interview, research memos were recorded as a means to compliment the digital recordings. In other words, these memos capture a complete image of the interview since relying on voice can be constraining. These memos are written accounts of shifts in facial expression, clothing, body language, facial expressions, and other expressions that enrich voice and provide a depth of understanding of the narrative being told. Memos were individually kept for each bracero. The memos were helpful summary tools that highlight significant portions of the narratives that speak to issues strongly emphasized by each bracero. As transcripts were analyzed, memos were also viewed side by side with transcripts according to each respective participant.

Data Analysis
Prior to writing up the data, the data was analyzed in several phases. Upon transcribing the data, a first round of open coding was conducted. Open coding was conducted as a way to “identify salient themes, recurring ideas or language, and patterns of belief” (Rossman & Rallis, 1998) that might emerge from the interviews. Open coding such themes as non-return, wages,
legalization, and humiliation. Activity and process codes were specifically used to analyze the data. Codes that are directed at regularly occurring kinds of behavior [are] “activity codes” (Bogden & Biklen, 160), whereas process codes “are words and phrases that facilitates categorizing sequences of events, changes over time, or passages from one type or kind of status to another” (Bogdan & Biklen, 1998, p.174). Activity codes were used in this study to analyze the responses of the participants. With the assistance of scholars like Radelat (1999), the notion of depreciation can be understood when considering what constituted humiliation for some braceros given their pressing working conditions.

For example, Leocadio de La Rosa, from Aguascalientes, Mexico, at age 87 remembers his experiences as a bracero as being frustrating and humiliating (Radelat, 1999, p. 47). He had to stand naked in a contracting center in Guanajuato, Mexico, to be physically examined by an agent of his future employers for any diseases (Radelat, 1999, p. 47). While standing naked, De La Rosa was powdered to kill any lice that he might carry on him before he entered the U.S. De La Rosa, like many other braceros, underwent humiliation. From a codes standpoint, humiliation is a process code whereas the activity is the chain of events strung together (standing naked, powdered to kill lice publicly, and being checked out for diseases) formulating the experience. Process and activity codes allow for an experience to be deconstructed acknowledging the different layers experienced within a single moment from the perspective of the bracero.

With the assistance of the Association of Braceros of Northern California, 5 case studies were conducted using 35 open-ended questions over 15 weeks. These bracero narratives reveal how working and living conditions pushed several responsive strategies into existence. Understanding the means by which braceros retained their livelihood working amidst an economic industry that qualified their contributions as cheap labor is the focus of this study.

**Findings**

Participants were eager to share their perspectives on being a bracero. Immediately, the narratives reveal that being a bracero is not only about embracing a hard work ethic, but it also means having the strength of character to work through moments of being treated as a child by an employer, confronting moments of alienation and isolation, and realizing that sure will represents financial stability for loved ones who remained in Mexico. These narratives help diffuse the simplistic notion that braceros endured pressing working conditions for the money alone. Also, the narratives tell a story of accountability, and highlight the conditions that make it possible for bracero stories to be known capturing the bracero experiences that leaves little room for the story to be debated.

The bracero program had in place activities that unintentionally alienated braceros to the margins. The process that positioned braceros outside the
boundaries of legitimately disseminating their story can be put into question given the manner in which they were recruited. The way participants were introduced into the bracero program flags interests in terms of understanding how today’s immigrants who come to the United States on work visas to meet labor needs in the technology industry from India, China, Japan would react to a similar treatment. Or is the treatment braceros received in the past reflecting a preference for certain kinds of workers? Interviewee Ramiro offers us insight as to the kind of treatment he received upon arriving at the labor center where braceros were contracted.

_We got in a line and they told us take everything off…shoes, clothes, everything. Then they would spray us [and] would check our lungs and well just make sure that we were coming in healthy. After that we would get our paper that said that we were healthy. And that’s how we got contracted. Many people that came unhealthy, they wouldn’t let them get contracted, so they had to go home. I felt bad to see them leave because I knew that they needed the money._

Interviewee Raul offers more specifics about the processing of braceros detailed by interviewee Ramiro:

_I remember when we would get naked. And when they would spray [a] powder that you use to kill things like roaches and lice on animals. They would spray us to kill any diseases that we might have had. It was a joke. They would check our ears. Some would rub their hands so that they could get blisters on their hands. That way they would look like they were hard workers. Some would make blisters on their hands and they would not even accept them to work._

In this instance, interviewee Raul not only describes the processing of braceros as being toxic but also recognizes how those from the cities seeking to work would rub their hands together to offer some proof of being hardworking. Perhaps this process accommodated the number of prospective workers that showed up to work, but it is interviewee Juan who highlights that not having the proper lines of communication in place can give someone with an entirely different experience. Because Spanish was not readily used to communicate with prospective workers, then their experiences are left to be interpreted based on one’s lived experience. Interviewee Juan states: “We were sprayed like animals; they told us to take our clothes off. They sprayed our clothes. Those were there rules. It actually was intended to be for the good of the people, but we didn’t understand.”

Although braceros were desperately needed, this recruitment process represents the beginning of a trend that left bracero laborers abused and under appreciated. This is most importantly expressed in terms of wages. Wages mediated the quality of livelihood for braceros on one level, and on the other became a way for growers to control braceros. Paying workers in
cash made it possible for growers to hide whether or not braceros received proper payment. Interviewee Raul stated:

One time when I worked picking tomato, I would get paid 20 cents a box. That day I made 80 cents total, but I had to pay for food. The food cost 75 cents a day. So my profit for that day was 5 cents. For someone who has a family, it wasn’t enough to send money over to Mexico.

This practice of underpaying braceros for their labor also happened when it came to their contracts. The wage deductions taken from braceros was never communicated, according to interviewee Tomás:

Unfortunately, we didn’t know about the wage deductions. We were never told that this money was going to be deducted. If this were in the American government’s hands, we would have already gotten our money back. 95% of braceros have not received what they deserve.

Not getting paid what they deserved is something that interviewee Ramiro also confirmed:

Some of the guys would complain that their checks weren’t right. They didn’t get paid for all the hours. We would go to the supervisor, some would get their money back others wouldn’t, I’m not sure how that worked. And then like I was saying, we lacked communication. We only spoke Spanish.

This sentiment is also reflected in interviewee Miguel’s perspective in which he believed that, “the [U.S. government] were taking this money out of our checks, but they just stole the money.” This kind of perspective does not grow on its own but it is rather groomed through a series of miscommunications and assumptions. Although the combined education level of participants did not exceed the second grade, participants were keen on understanding injustice. Interviewee Juan explains how the wage deduction was intended to work and how it actually worked:

[B]oth governments got into the agreement that they were going to take a 10 percent, but it wasn’t a 10 percent it was 20 percent. The law in this state was to get paid a minimum of a dollar an hour but in our contract it said that we would get paid 90 cents an hour. So they were paying us 10 cents less an hour, then they were taking 10 percent of our paychecks.

Interviewee Juan’s perception of being paid unfair wages is strongly affirmed as he shares one experience of working in the field:
Before they would keep the domestic workers and braceros separated. They would never leave us together. So then one day we worked in fields that were right next to each other. One of the domestic workers told us ‘What’s up partner, how you doin’ partner, you guys are almost done and we have only gone back and forth. How much do they pay you?’ One of us from Mexicali spoke English so we responded ‘90 cents.’ They were surprised to hear that we only got paid those 90 cents when we worked faster than they did. They told us that they got paid 1 dollar an hour because that was the law. We should have gotten paid as much as they did because we did more work than the domestic worker did.

Next to recruitment and wages, basic nutritional sustenance for braceros was limited. Interviewee Raul described the food, saying:

All we had to eat was sausages, peas, green beans, and garbanzo beans. They also gave us oatmeal, but that was very limited, those that got there first got oatmeal. In the morning, coffee and oatmeal and two eggs. The food was very bad.

Along with the rest of the participants, interviewee Miguel speaks for them when he agreed that, “the tortillas they [were fed] and the rest of the food was bad.” The result of not feeding the right nutrients to braceros resulted in weaknesses of the body, which could have affected work performance, but for braceros not working would put their families back home in jeopardy. The lack of access to nutritional foods further enforces the depreciation of braceros, since they were unable to perform well in their job duties. In spite of being ill fed, braceros still did not miss a day off work; braceros proved to be efficient and reliable workers. It is also interesting that even though they were working in an industry that provided fruits and vegetables for the nation, they had no access to these nutrients.

Legalization Process: Incentives for Becoming a Bracero
Growers found ways to secure reliable workers through the Bracero Guestworker Program. Under a bracero contract, on average workers were needed for 45 days. In order to obtain cheaper labor year round, growers would offer legalization to those braceros compared to domestic workers. All braceros were hard workers, but some stood out more than others. Interviewee Miguel further illustrates how he became a legal resident: “When my boss saw that I was a hard worker and I knew how to drive, he then gave me the job to drive the caterpillars. Then I became a supervisor. I worked there until 1968. I got my papers in 1953. My boss had asked me if I wanted to stay to work and that he would get papers for me.” Not all braceros had the opportunity to become legal residents. Interviewee Tomas describes the qualifications that growers looked for to legalize a bracero: “Growers only did that for those braceros that had experience and could do three times the work of one person. In some cases the grower was able to send a letter to the
government and legalize the bracero. That is how many got legalized back then.” Once braceros were legalized, growers still had the power to control braceros and pay cheap wages. Braceros continued to work under those circumstances being that they had the responsibility of financially supporting their loved ones back home.

Because not all braceros were given legal status, in order to survive, they had to leave the program illegally in search for jobs. Interviewee Ramiro explains that:

Many who got along with their bosses would stay illegally to work for the same bosses. It was bad for that person because they would not be able to come back as a bracero, but it was good because that person got a higher wage and has security with that job. Many didn’t want to do that because we had the hope to become legalized and we thought that staying here illegally would affect us. They also would let them work as much as they wanted, but the grower would not pay them overtime.

Consequently, interviewee Ramiro’s explanation further supports that braceros did what was in their power to survive and be successful in providing for their families who waited back home.

**DISCUSSION**

The intent of this study was not to offer an opinion on the guestworker program, currently being proposed by President Bush, but rather to provide knowledge on the unknown history that the U.S. and Mexico share in connection with the Bracero Guestworker Program. More specifically, this study sought to identify a process of depreciation. A review of literature did not fully provide the experiences of braceros, but rather the interests of the U.S. and Mexican government and its policies. In the course of this qualitative research, five case studies were used to expose the experiences of braceros in order to understand how they survived in an economic industry that was interested in the cheap labor contributions. Together the review of literature and the case studies were used to answer the question: During the years 1942 to 1964, in what ways did the Bracero Guest Worker Program highlight the forms of which immigrant labor depreciated?

With the use of process and activity codes, the braceros responses were analyzed and found that depreciation was enabled through humiliation, deduction of wages, and a legalization process of braceros. The term depreciation is used to indicate how braceros tolerated humiliation considering the critical working conditions. For example, the ways in which braceros were asked to get naked to kill any diseases that they might have contained. Under the labor market theory, it is also demonstrated that the relationship between growers and braceros have room for improvement so that wages can be consistent. In addition to improving the relationship between the bracero and the grower, this study revealed that growers alone
without government accountability are left to recreate and alter U.S. policies. Future research could consist of interviewing growers, who hired workers under the bracero program, in order to grasp their perspective on growers’ roles, responsibilities toward and expectations of the braceros.

Although the male Bracero experiences were primarily discussed in this study, it is important to mention that the wives of braceros were also recruited to work in the U.S. as domestics. The history told about the bracero experience has done little to shed light on the experiences of women at this time. In addition, just like male experiences in the bracero program form part of the unknown history, female experiences continue to be unknown. Therefore, a comparative study of females and males in the bracero program also represent future research. By unfolding the experiences of both male and female, one can gain a more comprehensive sense of their roles in the Bracero Guestworker program.

Limitations

Taking into consideration that thousands of braceros participated in the program between the years of 1942 to 1964, five participants is not representative of the total braceros, but again this was an introductory study meant to explore the bracero experience. While all participants were assigned to work as braceros in the area of Stockton, California during the program, braceros were not solely assigned to Stockton, but worked in various states like Texas, Idaho and Washington. By taking geography into consideration, interviews might reveal how participants differently perceived and enacted their role as braceros and growers depending on their social location. Taking a look at the experiences of braceros that were sent to other cities in California and other states would have given a broader understanding of bracero experiences.

Although beyond the scope of this study, newspaper archives were secondary resources that proved helpful to understand the range of sentiments being directed towards braceros. Initially, the U.S. government used this public medium to create positive buzz for braceros coming to assist with the labor shortage, but with time public sentiment of citizens clearly indicated a steady growth of anti-immigrant sentiments. In addition to analyzing newspaper discourse, incorporating perspectives to examine gender, class and race as well as theories like gender, and masculinity would also further elaborate on the introductory work of this study. Further implications for a new guestworker program could involve securing better supervisory for the growers and the braceros, add a grievances procedure, and have a more effective recruitment process.

Conclusion

During the existence of the Bracero Guestworker Program (1942-1964), bracero labor depreciation was highly represented through supportive
literature and an analysis of five interviewee’s experiences. With the use of Dual Labor Market Theory provided by Rodriguez, this theoretical perspective offered an explanation of the motivation for growers to keep payment records of the books. Moreover, Belluck further elaborated on the wage recuperations that have been difficult to attain since no payment records exist. Consequently, Bickerton introduced the reason for grower’s preference of bracero labor over domestic labor. Lastly in the literature Basok added supportive discussion on issues of non-return. In correlation with the review of literature, analysis of interviewee’s responses revealed a similarity of ideas that support the notion of depreciation. For example, interviewee Juan and interviewee Raul, gave their insights of the maltreatment undergone during the recruitment process, which accounted for humiliation. Likewise, interviewees Tomas and Miguel, gave their experience of unaware wage deductions which have not been recuperated since no payment records exist. Interviewee Ramiro, explained why growers preferred bracero labor to the extent that they even legalized certain obedient braceros to rely on their labor year round. The analyzed responses of these five interviewees are living proof of labor depreciation. While existing debates surrounding a new guestworker program exists, taking a look at previous programs like the Bracero Guestworker Program should serve as a tool to facilitate the future decision-making and improvements of the guestworker program attempting to be implemented by the Bush administration.
REFERENCES


Prisoners from road camp will do the work. (1942, Sept. 10). *The Sacramento Bee*, p. 4, Vol. 172-No. 27, 753.


TRANSFORMATION OF GENDER ROLES  
AMONG FIRST AND SECOND STAGE  
IMMIGRANT MEXICAN COUPLES  

Adrián Rocha-Alvarez  
Faculty Mentor: Manuel Barajas, Ph.D.  

ABSTRACT  

This study addresses changes in gender roles among first and second stage immigrant Mexican couples as a result of migration, while considering various factors related to these transformations. This study examines six Mexican couples (three from first stage migration and three from second stage migration) from Gómez Farias, Michoacán, México, residing at the San Andreas Community Labor Camp in Watsonville, California. The focus of this study is gender empowerment as measured by questions on gender ideology, authority (mando), division of labor, and spatial mobility. Among the mediating factors considered are transnationality, employment status, religiosity, and educational attainment. The data was collected through in-depth interviews (both open-ended and semi-structured), participant observation and informal interviews with members of the community.  

For several years, the San Andreas Community Labor Camp has been beneficial for many first time immigrant families, particularly those who come to the area to work in the agricultural sector. The San Andreas Community Labor Camp in Watsonville, California, provides low-income housing rentals for eligible families who fall below the minimum wage and are newcomers to the area. It was during the 1980s that a majority of Mexican immigrants began populating the city of Watsonville. These immigrants were mostly from the state of Michoacán in Mexico. Their settlement in the San Andreas Community Labor Camp was influenced by the kin networks (mostly from family members and relatives) of other immigrants from the same Mexican town who had established themselves in the area and provided newcomers with sources of work and housing.  

Because of the importance of this community, this research investigates how gender roles among first and second stage immigrant Mexican couples are affected due to migration, while considering various factors related to these changes. This study focuses on Mexican couples who are first and second stage migrates from the town of Gómez Farias in Michoacán, Mexico, who have their homes based in the San Andreas Community Labor Camp in Watsonville, California. Coming from a traditional, rural Mexican town, these immigrants have often been challenged with the new country’s ideologies and values, particularly regarding gender relations. Men and women may clash over traditions that may no longer reflect their lived lives. According
to Mexican ideology, “men have authority over women, the husband has authority over the wife as does the brother over his sister; and while the older have authority over the younger, the father remains the ultimate authority over the household and family matters” (Barajas & Ramirez, 2005, p. 20).

This study is contextualized in the feminist theory of empowerment dealing with gender roles among Mexican immigrant couples. Patriarchy brings transitional social changes among atypical traditional immigrant families, where men are privileged with power and resources which they use to their advantage to oppress women in various ways (Hondagneu-Sotelo, 1992, p. 393). In a patriarchy family, the men become the main providers for their family, while the women are expected to agree in the decisions and take the responsibility of childcare and the domestic sphere (Hondagneu-Sotelo, 1992, p. 394). As a result of the process of migration, women in similar patriarchal cultures may elicit different perspectives upon their level of entry (Hondagneu-Sotelo, 1992, p. 394). Nevertheless, the migration process may produce or create negative or positive outcomes in patriarchy, where women are awarded with opportunities in certain sectors, but may be prevented from participating in others (Flippen, McQuiston & Parrado, 2005, p. 348). Studies in migration have shown that immigrant women have gained economic opportunities and a greater egalitarian cultural environment, leading them to gain equal power with that of men (Flippen et al., 2005, p. 347). Moreover, women’s participation in the labor force has provided them with a large array of economic resources, and has helped challenged patriarchy (Flippen et al., 2005, p. 349).

For many immigrants, the gender ideology they bring with them from their country of origin has resulted in gender role differences in the male and female relationship. The traditional gender ideology construction is based on gender roles where the expectations of men focus on honor and respect, while women carry the burden of everyday responsibilities in the household and private spheres (Baker, 2004, p. 397). Within the gender ideology, fathers maintain stronger traditional values than do the mothers regarding the family (Crosby, Franco & Sabattini, 2004, p. 757). A study conducted by Crosby, Franco and Sabattini (2004) examining traditional gender ideology revealed that the participants reported that their fathers held stronger ideologies than those of their mothers. Moreover, the study concluded that Latinas considered their parents to have greater beliefs in the traditional gender ideology than their white counterparts did (Crosby et al., 2004, p. 759). A family planning survey (CONAPO) in 1998 discovered that over one third of men and women regarded the household and family as primary responsibilities of women, while only a small sample mentioned household tasks and childrearing as being occupations maintained only by women (Guendelman, Herr-Harthorn, Malin & Vargas, 2001, p. 1806). However, increases in men’s wages along with patriarchal ideologies can sometimes push working women to become full-time, at-home mothers (Guendelman et al., 2001, p. 1806). Guendelman et al. found that in rural California couples’
earnings became insufficient to support a family, resulting in the employment of women for survival. Thus, for these women their involvement in the employment sector was dependent on their husbands' decisions, an outcome that resulted in their power as head of the house (Guendelman et al., 2001, p. 1809). In another study, Mexican women reuniting with their migrant husbands in Iowa retained the traditional gender ideology (Baker, 2004, p. 398). Nevertheless, recently, the perception of women as “the housewife” has been considered less important, whereas employment has been accepted with more support (Kernan, Taylor, & Tucker, 1999, p. 742). Helping out their husbands, allows both the female and male maintain their gender-specific roles, resulting in the reaffirmation of both members’ roles (Kernan et al., 1999, p. 757).

Migration is another critical factor in shaping power and authority in gender relations. As part of the context of reception, employment opportunities and maintained social networks, gender inequalities may lessen or increase (Parrado & Flippen, 2005, p. 608). In this sense, the context of reception for Mexican immigrants has enabled them to integrate new concepts, while at the same time, maintain norms and attitudes brought with them from their country (Parrado & Flippen, 2005, p. 626). Research has shown that women's greater involvement in the economic and family sector, along with men's decline in resources, has reduced men's power within the family (Hondagneu-Sotelo, 1992, p. 397). However, as Hirsch (1999) mentions, the opportunities and independence provided to women have also been limited in their use of power. With this finding in mind, she states “rather than being able to walk next door to her mothers’ house, a Mexican women seeking social support may have to struggle with language difficulties and public transportation” (Hirsch, 1999, p. 9).

Spatial mobility is another dimension of gender empowerment related to the migration experience. Studies done by Flippen, Mcquiston and Parrado have found that employment opportunities and the independence of women allow them to gain control over finances and other forms of decision-making, while engaging men with more household responsibilities (Flippen et al., 2005, p. 351). Moreover, the U.S. legal system offers women some protection against domestic violence and challenges men's control, while alerting women of their rights (Parrado & Flippen, 2005, p. 607). In addition, social networks within the household are seen as beneficial to women's independence because these networks are not shared within the same sphere (Flippen et al., 2005, p. 350). Mahler's (1999) migration study of women in El Salvador concluded that young female transnational immigrants viewed the process of migration as crucial for their social mobility (Curran & Rivero-Fuentes, 2003, p. 291).

This study hopes to contribute and provide additional information and data to the limited amount of knowledge focused on Mexican males within the realm of gender roles. Moreover, it can provide a better qualitative understanding of the changes and effects between the male and female
relationship resulting from the process of migration. Scholarship on Mexican families has been limited (Hirsch, Sotelo, & Rouse, 1999), and has yet to be explored in depth. Finally, this study’s goal is to foster discussion and connections with other racial groups regarding gender roles and migration.

**Methodology**

This qualitative case study explores changes in gender relationships among first and second stage immigrant Mexican couples as a result of migration to the United States. These terms refer specifically to the sequence of family migration to the United States. For this study, families who migrated from Mexico to the United States for the first time and had no kin support in the U.S. are referred to as the *first stage*. Family members of these first stage immigrants who migrated to the U.S. at a later date with kin support are referred to as the *second stage*.

**Participants**

A total of six immigrant Mexican couples participated in this study: three from first stage migration (ages 46-65) and three from second stage migration (ages 30-45). All participants were from the same town in Michoacán, México, and resided in the San Andreas Community Labor Camp in Watsonville, California.

**Materials**

Two qualitative methods were employed as part of this study: in depth interviews (both open and semi-structured) and informal interviews, which provided a qualitative understanding of the changes that occur after migration in Mexican couples. All interviews held with the participants were conducted in Spanish, but were later transcribed into English using a tape recording device. Similarly, research memos were written as part of the data collection process, which included recorded ideas and discussions that arose during the data collection period. Interviews took place in respondents’ apartment complexes, the community park, or wherever the participants felt comfortable. Some of the respondents were familiar with the researcher, and thus, were comfortable being interviewed. Other participants, who were less familiar with the researcher, were asked to be referred to other respondents who fit the study’s criteria, using a snowball sampling technique.

The 41 open-ended and semi-structured questions used in this study examined experiences with migration, work, family, and gender relationships. An example of one open-ended question is:
¿Cómo padres de hijos/as, cree usted que sean las mismas reglas para un hombre y una mujer cuando se viene a cosas como salir a ciertos lugares o estar con ciertas personas? Si si, porque? Si no, porque?
(Translation: As parents of children, do you see the same rules being set for a man and a woman when it comes to things, such as, going out to certain places or being with certain people? Why, or, why not?).

A semi-structured question was based on an hourly schedule chart that focused on the amount of household chores that both the men and women performed in their homes. Specifically, the chart required the respondents to note the number of hours each week that they spent doing the following duties: cooking, washing dishes, cleaning the home, shopping, ironing clothes, contributing to home repairs, fixing the car, paying bills, and taking the children to school.

RESULTS
This study’s findings are organized according to the main themes of gender empowerment: gender ideology, power and authority (mando)/household division of labor and spatial mobility. From these key themes, the most relevant and insightful questions and answers were selected to compare patterns or gaps resulting from the responses of the participants.

Gender Ideology
Two main questions were selected to explore and compare the theme of gender ideology among first and second stage participants.

The first question asked parents whether the same rules should be applied for a man and a woman when it comes to things, such as going out to certain places or being with certain people. Among the first stage participants, three of four did not think the same rules should be applied to a man and a woman. At first, most of the participants answered that the rules should be the same, but after providing them with an example of a bar (where if a man goes to a bar it is fine, but if a women goes to a bar it is not correct), their gendered ideologies of what is proper for men and women surfaced. One male participant said:

No, because there are places where couples could go and places that are exclusively for men only. It doesn’t look right for women to go to places where only men could go, but if they are going with someone who is a relative or from the family, then it’s okay for them to go.

As this participant’s response shows, the rules were not the same for men and women because for a woman entering non-specified places such as a bar, was not acceptable, which could lead to criticism of her and affects upon her reputation. Therefore, the three couples from first stage migration revealed their continued adherence to traditional gender ideology norms and beliefs.
Second stage participants’ responses were similar to those of first stage participants. Of the three couples interviewed, three out of four participants responded that the rules for both men and women were not the same. However, one atypical response from a participant provided hopeful evidence that changes are occurring. This female respondent stated:

I think that now it's the same; men and women do the same things. Both men and women, I think they are the same, we both work, we both get ahead, so we both have to go out and enjoy life.

Although most of the first and second stage participants noticed that different rules applied by gender, they were aware that the gender ideology belief was present in their responses, where their answer placed men into one position and women into another. The atypical answer given by the one female participant, nevertheless, offers some hope that changes will come in the future, knowing that if both have the same privileges, women could actually break the gender patterns and liberate themselves.

In the second key question related to gender ideology, parents were asked if the same rules should be applied to a man and a woman when it comes to having premarital sex. Three out of four first stage participants reported that the rules were not the same for both a man and a woman when it came to having premarital sex. The most common responses were that having premarital sex before marriage was not acceptable by society and the laws of God, and that a woman who engages in premarital sex loses more in her reputation than a man. As one male participant responded:

Well it's not well accepted by society and the laws of God, so the rules should not be the same, because these things look bad on a woman, since they carry the whole load. With a laugh, he continued, “They carry the responsibility and a man only plants the seed and that's that.

This participant shared that the rules were not the same because he saw that, for a woman engaging in premarital sex was a serious consequence. He considered women to have a greater responsibility than do men and able to losing more in their reputation. Sharing the same idea, a female participant answered, “No because from my point of view it’s not correct to have premarital sex before marriage.” According to this female participant, engaging in premarital sex was an activity that was not acceptable as she was growing up. As a result, her response similar to the other first stage respondents, demonstrates that for these participants, the norms and attitudes regarding gender ideology and the role of the male and female in society are still maintained within their traditional beliefs.

For the second stage participants, similar patterns were shown. Four out of six participant couples reported that the rules were not the same for a man and a woman when it came to having premarital sex. The most common responses were that having premarital sex before marriage was not a correct thing to do and that the couples should think of the consequences, especially
if they are young or immature. However, two of the participants stated that the rules should be the same. These responses opened a gap between the answers provided by the first stage respondents.

Some of the interviews provided evidence that beliefs from one generation to the next may be changing, and that old traditions and beliefs are beginning to fade. One male participant mentioned how, over time men gave minimal importance to whether women engage in premarital sex or remain abstinent. He said, “No, now they don’t look at whether a woman is a virgin or not, but back then they did (Gonzales-Lopez, Gloria also found similar responses that related to this answer).” A second stage female added:

*I think, that probably the ones who have to take care of themselves are men because if a person gets pregnant being younger and under the age or even if they are over, the responsibility would be of the parents.*

She continued, “So I think that people need to see and open their eyes more closely on these things.

From these responses one can infer that, in present times, the participants considered men to care less about whether a woman is sexually active or not. As the quoted male participant explained, generations back, this belief was considered unacceptable. Similarly, the quoted female participant said that the rules should be the same, but said that both men and women need to take precautions and responsibility, especially if they were younger. According to her, not doing so, could lead to problems for the family.

The first stage participants’ responses reveal that the belief in the traditional gender ideology remained ingrained within these Mexican couples. Although these participants had experienced changes in gender ideology, somewhat, for the majority of the first stage participants, the traditional norms and ideologies are still factors maintained, and divide women from men in terms of their roles in society. Although the second stage respondents reported a similar pattern, it was evident that they are aware that old beliefs and traditions are changing. As a result, although they still had the belief that the rules were not the same for women and men, second stage participants nevertheless, are able to recognize and admit that today, men care less about whether or not women engage in premarital sex.

**Power and Authority (Mando)/Household Division of Labor**

The study compared power and authority (mando) and household division of labor to explore patterns and gaps among the first and second stage participants. One main power and authority (mando) question was selected for examination and two questions, one semi-structured, were utilized to explore the household division of labor theme.

The first question about power and authority (mando) asked couple participants who they believed had the authority in their homes. Two first stage couples, uncertain in their response (probably due to their partners’ presence) reported that their husband held the authority within their home,
where only one participant reported that his wife had the authority in their home. One female participant anticipated and answered the question before the researcher had finished saying, “…Has the authority. Well him.” Laughing, she then told her husband to respond saying, “Tell him that you Beto.” The researcher then asked her husband if both shared the authority within the home and he responded saying, “No, well the one who has the authority around the home is me.” What is evident from this interview is that there was a great sense of power held by the husband in the home. As this interview was conducted in the presence of both partners, there were examples of the power roles, where the husband would sometimes interrupt a specified question and answer for his wife. The wife, on the other hand, would sometimes look at her husband for his approval or response to a question. However, for the participant who reported that his wife maintained the authority within the home, a different outcome was revealed. After asking him the question he stopped to think, then laughed responding, “It should be me, but the one who has the authority right now is my wife.” It is interesting to note that during the interview this couple was having problems, where both the husband and wife reported that their relationship had changed since the husband had entered a different religion. As a result, the husband, who at one time had maintained the power and authority within the home, was now losing ground and reporting that his wife was the one who had the power because they had once been separated and he feared having any problems with her. However, a contradicting answer was reported by his wife who, after being interviewed, mentioned that her husband held complete authority within the family and the home. Thus, even though both participants showed contradictions in their response, there were fronts that hid domination, where the husband still maintained the power and authority (mando) in the home.

Second stage participant findings showed a more varied and egalitarian relationship pattern when it came to authority in the home. From the three interviews, all male participants were more aware that they and their partner held the same level of power and authority within the home. The responses of the female participants, however, varied, where two of three reported that their husbands held complete authority and power within the household. When asked who had the authority, one male participant answered, “One says one has the power, but I say both make the decisions.” As this participant stated, having equal power to that of his wife was beneficial. Nevertheless, participants who reported their partner as having the power and authority within the home showed a similar pattern of response to those of first stage participants. When asked for her response, one female participant answered:

> My husband. He is the one with the authority because, you know, that there are women out there who want to control their husband, but he doesn’t let me order him.

This participant’s response suggests that the level of power maintained by her husband resulted from her inability to control him. As a result, there
were few negotiations and decisions shared by both, that she considered her husband as the sole possessor of the power within the home. Only as she was able to interact and take part in decision making, was she then able to bring the relationship to a more egalitarian state.

The findings from the responses to the power and authority (mando) theme questions suggest that there are variations in beliefs between the first and second stage participants. The wives from the first stage were more likely to maintain the norm of patriarchy, as they were still ingrained with the traditional gender ideology beliefs. Although they work more than their husbands do, these participants believe that their husbands hold complete authority within the home, and indicated that there were no negotiations or agreements when it came to making decisions. For the second stage couples, however, the responses showed a somewhat more varied and egalitarian relationships. The females and, interestingly, the males, reported that they share the authority within the home and were more likely to negotiate when making decisions. As a result, women were privileged with equal power, even though, in one way or another, they still maintained the ideology that the men always held the power and authority.

The household division of labor theme, asked participants what they thought distinguished a man from a woman, in terms of household chores. The three first stage couples reported various responses and explanations, including that men could engage into helping women in the household sphere, while others argued that women were more suited than men into doing those types of tasks. The females, however, said their partners were less cooperative and more attached to their work fields. Due to fear of losing their pride as men and being criticized by society, they restrained themselves from helping with household chores. One female participant stated:

The tasks are different in that men don’t want to do anything because, when have you seen a man do something like help out or things like that? They may be criticized as a mandilón and they don’t want to help out in that way.

According to her response, men are less willing to help out women in the home because, for them, engaging in household activities is a threat that can affect their position and lower their status. This participant’s response indicates that men may not want to participate in household chores due to the intimidation that engaging in this realm could bring to their self-esteem.

Second stage participants’ responses provided a different pattern in the ways men and women are perceived in terms of household chores. The three interviews conducted with second stage participant couples revealed that there is a more egalitarian relationship between the male and female when it comes to doing household chores. All participants reported their partners as cooperative and willing to engage in helping around the home. In addition, for men, being criticized and having their pride affected was less important.
They saw their involvement in household chores as beneficial to getting ahead in this country and having a better lifestyle and relationship with their partners. As one second stage male participant said:

> For us Mexicans, well at least for me, I think sex, because a lot of people say mandilón or machista, but I think that in this country, both, in the man and the woman, we must both do the same types of household chores.

This participant’s response, in correlation to the other second stage participants, reveals that engaging in household chores for both the male and female is beneficial to overcome barriers imposed on them in the United States. For male participants, engaging in household chores and activities allowed them to have a more egalitarian relationship, where both they and their partners could collaborate equally in the household. As a result, this practice provides an opportunity for their female partners to participate in the household decision making.

For first stage participants, although each couple provided a different response, it was relevant that women were more aware that men were less willing to help their partners do the household chores. The responses gave the sense that these participants believe that men were not suited to engage in that sphere, but were rather, more suited in others, such as labor intensive jobs requiring more physical strength that would maintain their gender role and, more importantly, preserve their pride. Second stage couples, especially the male participants, were more willing to cooperate in household chores than were first stage couples. They saw the importance of getting ahead in this country and were less concerned about the opinions of others who might use terms such as machista or mandilón to describe these men. The first stage couples have not yet broken out of that pattern of thinking, which, as a result, leads them to retain the gender ideology brought with them from their country.

Using the semi-structured questions and the weekly hourly chart focused on the amount of household chores performed by both the male and female within the home, the researcher found that in both the first and second stage participants, women reported doing the majority of household chores. Only in one case did a second stage male participant report doing half as much household chores as his wife performed. Though the second stage participants reported a more egalitarian perspective, in actual behaviors, there was no difference between them and the first stage participants when it came to doing the household chores.

**Spatial Mobility**

The final sets of questions were based on spatial mobility. Three key questions related to this theme were chosen to compare patterns and gaps between first and second stage couples.
The first question related to the spatial mobility theme asked participants to share any struggles and changes they faced or encountered in their relationship when they first migrated to the United States. The three first stage couples reported that their relationships had changed after migrating to the United States. The majority who answered the question were mostly women. However, their responses did not influence that their relationships improved after reuniting with their husbands. All of these women remained in Mexico after their husbands’ migrations, which could have been a factor into bringing the relationship to its past stage and maintain the traditional gender ideology norm. These women reported that their relationships changed due to family reunification in the United States, while others reported that their relationship remained the same or was affected due to social influences. As one female participant stated, “It was very sad, because he wasn’t very courteous with me. Now that he entered that religion, everything changed.” For this participant, the role of religion was a factor that affected her relationship and causing problems within the family. For this wife, being Catholic was a way of life and being a true believer of the faith, was leading her to experience unacceptable norms and practices with her husband. For her husband, having been a Catholic affected him, where social influences forced him to integrate himself into a new religion. As a result, both participants reported their relationship as being affected due to differences and beliefs towards each other’s religion. As this female participant’s answer reflects, for some of the Mexican females, their migration to the United States affected their relationship, where social influences, such as religion, played a key role in their relationship. As a result, their migration brought many obstacles, where the power that was once maintained by the husbands had been reinforced after reuniting with their wives.

The three second stage participant couples’ who were interviewed, their answers reflected that their relationships after migration had remained the same, reporting no major changes encountered. Some participants reported having well and normal relationships with their partners, while others had minor conflicts concerning work opportunities. As a female participant stated:

*At the beginning, he says that we should both go work in the strawberries, but I say that it is fine, that I should stay there (at the day care), because even though I am earning less money, it's a job that I have secured, from Monday to Friday, so I tell him that I should stay and continue at the day care.*

This female’s response to the question helps understand that, for her husband, deciding where his wife works is a form of power and authority he maintains that allowed him to control her and make decisions within the home. However, after seeing the opportunity offered to her at the day care, she decided to make the decision and negotiated successfully with him.
The responses to this question reveal that, for first stage women, the beliefs and attitudes of their husband were maintained after migrating to the United States. As a result, for these women their migration was a factor that affected their relationship, because they remained detained under their husbands’ ideology. For husbands, the surrounding social influences led to changes, which caused the relationship to deteriorate not only within the couple, but also towards the family as a whole. For the second stage female participants, the context of reception and the process of migration allowed them to gain equality with that of men, which opened the door for more opportunity, work and decision making. Although some of the second stage participants struggled over making decisions, such as those related to work, they were able to negotiate with their partners, and choose the sphere of employment they preferred.

A second question associated with spatial mobility asked participants whether they considered their spouses to be dependent or independent of them, and if so, in what ways. Three out of the four first stage participant couples reported their spouse as being dependent on them. Likewise, as one female acknowledged, “He was independent back then, but now he is dependent because he is living from our support.” This female’s response infers that her husbands’ dependency on her and the family for support was a factor that in one way or another decreased the power and authority he maintained in the home. At the same time, she enhanced her freedom and involvement in the decision making.

Second stage participants revealed a varied pattern of response, where the three couples reported their spouses as being both independent and dependent of them and provided explanations. Such was the response of one female who, sighing, commented about her spouse’s independence:

> If we don’t have enough money for the rent he has to go and find someone to lend him money; he is more independent, or if we need something in the house, he is the one who knows how to bring things or money to the house.

According to this females response, for her husband, being independent was a norm that allowed him to support his family by bringing necessities, such as money, to the home when the family was in need.

The three interviews with first stage couple participants revealed that there was a level of perceived dependence upon one another. This perception could result from the women who reported this answer either being on disability, having health issues, not working or working minimal hours, leading to dependency on their husbands for money and support of the family. These factors may cause the women to reinforce their gender ideology belief, and help maintain the power and authority their husbands had over the relationships. On the other hand, the second stage participants’ responses revealed that being independent for these couples came out of necessity.
rather than a difference in ideology. While some participants report being dependent because of family and necessity, others are more independent, which, in turn, allows the male and female relationship to become more equal.

The final question within spatial mobility asked participants of the first and second stage if their spouses worked, and if they did, would they prefer that they continued or stopped working. Three out of four first stage couple participants reported that they preferred that their spouse work. Similarly, five out of six second stage couple participants reported that they preferred that their spouses work.

For first stage couples, the necessity of working has become very important among the San Andreas Community Labor Camp members. These couples, who reported that they preferred that their partners work in order to support the family, had, in a sense, given a direct form of liberation to their partner within the working sector. However, this response does not guarantee that, by having the freedom to work, women from first stage couples gain complete power and liberation in other forms of decision making or social and work spheres. Second stage couples results showed a similar pattern of response to the first stage couples responses, but demonstrated a more egalitarian freedom and decision making perspective, so that less power and authority is held by one partner only.

The overall findings on gender ideology, power and authority (mando)/household division of labor, and spatial mobility informed differences in terms of thoughts and behaviors among first and second stage Mexican couples. Although similarities and differences were noted from the participants’ responses to the open-ended and semi-structured questions, the researcher did not identify a clear pattern that demonstrated that the ideas and perspectives of gender roles were changing. While the idea of gender equality among first and second stage Mexican couples was espoused, actual behaviors provided a different scenario. Similarly, there were insignificant differences between the first and second stage participants’ responses. From their responses, first stage participants revealed that changes in gender roles were not happening, though a few expressed changes were occurring somewhat. Nevertheless, these first stage participants reflected traditional norms and values after migration to the United States and remained ingrained with these beliefs of what the roles of men and women “should” be in society.

The second stage Mexican couples, however, reported differences in gender roles and a more egalitarian viewpoint, but their reports of behavior showed a different picture. Evidently there are variations within families when it comes to gender roles. Moreover, disproved is the hypothesis that gender roles change as a result of migration, where women obtain power and liberation, gain independence and take part in the decision making of their households. First stage participant couples were more attached to
and showed similar patterns of agreement with traditional gender ideology beliefs, power and authority (mando)/ household division of labor and spatial mobility themes. Second stage participants, on the other hand, showed varied patterns of response regarding gender ideology, power and authority (mando)/ household division of labor and spatial mobility themes. However, these responses and beliefs proved insignificant differences because their actual behaviors showed the contrary.

LIMITATIONS
Several limitations were present in this study. The first limitation consisted of the limited body of research found on Mexican males with regards to migration and gender roles. This challenge made it difficult for the researcher to obtain fundamental background on this group’s experiences and insights. The loss of contact with some of the members living at the San Andreas Community Labor Camp, limited the researcher’s level of entry and the pool of married couples from which to obtain participants. Many of the people who lived in the community previously had moved to other areas in Watsonville, requiring the researcher to find them with the assistance of other families involved in the study, using the snowball sampling technique. Nevertheless, findings from this study encourage further research within this area. For example, an increase in the sample size of both, first stage and second stage Mexican couples would allow for the meaningful comparison of first stage males with first stage females and second stage males with second stage females. The final limitation to this study was time, which limited the researcher’s objective in constructing a larger sample size and an extended questionnaire that would have benefited this study’s proposal.

Although these limitations challenged this study, the research, nonetheless, documented and identified valuable insights on the impact of migration and settlement experiences on gender and family relations among the Gómez-Farías transnational community members of the San Andreas Community Labor Camp.

CONCLUSION
In conclusion, for first stage immigrants, showing a less egalitarian perspective may have resulted from the lack of kin support which may have consequently intensified patriarchy within the home. Because second stage immigrants, however, expressed more egalitarian ideals, migrating to the United States might have been less stressful for these participants as they encountered a higher level of kin support (i.e. social networks, relatives, or childcare). These kin networks could have possibly led the second stage participants to experience fewer responsibilities. As a result, they were more likely to extend their egalitarian behavior within the home and disperse the level of power equally, minimizing more extreme expressions of patriarchy. However, this finding does not prove that the host society is more egalitarian,
but rather, helps observe that patriarchy and other forms of gender practices are intensified under forces of social and economic stressors. Nonetheless the questions and themes addressed in this study provided an insight on some of the changes that first and second stage Mexican couples undergo upon their migration and settlement in the United States.

APPENDIX

Table

The following table chart was created to obtain further valuable demographic data regarding the participants of the study.

<table>
<thead>
<tr>
<th>Couples</th>
<th>Gender</th>
<th>Date of Birth</th>
<th>Age</th>
<th>Years living in the United States</th>
<th>Transnationality (How often they travel back to Gómez Farias, Michoacán, Mexico)</th>
<th>Educational Level (in Mexico)</th>
<th>Occupation</th>
<th>Household yearly income</th>
<th>Religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd stage Couple 1 Husband</td>
<td>Male</td>
<td>12-16-66</td>
<td>40</td>
<td>25</td>
<td>Every 4-6 years</td>
<td>6th Grade</td>
<td>Farm Worker</td>
<td>$12,000</td>
<td>Catholic</td>
</tr>
<tr>
<td>2nd stage Couple 1 Wife</td>
<td>Female</td>
<td>6-10-63</td>
<td>42</td>
<td>25</td>
<td>Every 1-3 years</td>
<td>3rd Grade</td>
<td>Farm Worker</td>
<td>$5,000</td>
<td>Catholic</td>
</tr>
<tr>
<td>2nd stage Couple 2 Husband</td>
<td>Male</td>
<td>1-6-61</td>
<td>44</td>
<td>25</td>
<td>Every 1-3 years</td>
<td>6th Grade</td>
<td>Farm Worker</td>
<td>$14,000</td>
<td>Catholic</td>
</tr>
<tr>
<td>2nd stage Couple 2 Wife</td>
<td>Female</td>
<td>8-16-55</td>
<td>51</td>
<td>30</td>
<td>Every 4-6 years</td>
<td>3rd Grade</td>
<td>Farm Worker</td>
<td>$10,000</td>
<td>Jehovah’s Witness</td>
</tr>
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<td>Male</td>
<td>10-15-55</td>
<td>52</td>
<td>8</td>
<td>No Return</td>
<td>6th Grade</td>
<td>N/A Disability</td>
<td>N/A</td>
<td>Catholic</td>
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<td>Female</td>
<td>7-19-45</td>
<td>63</td>
<td>15</td>
<td>Every 4-6 years</td>
<td>N/A Disability</td>
<td>N/A</td>
<td>Catholic</td>
<td></td>
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<tr>
<td>1st stage Couple 4 Husband</td>
<td>Male</td>
<td>11-10-71</td>
<td>35</td>
<td>14</td>
<td>No Return</td>
<td>No School</td>
<td>Farm Worker</td>
<td>$4,000</td>
<td>Catholic</td>
</tr>
<tr>
<td>1st stage Couple 4 Wife</td>
<td>Female</td>
<td>3-2-71</td>
<td>35</td>
<td>23</td>
<td>No Return</td>
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<td>Farm Worker</td>
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<tr>
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<td>1-25-60</td>
<td>47</td>
<td>10</td>
<td>Every 1-3 years</td>
<td>No School</td>
<td>Farm Worker</td>
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<tr>
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<td>9-17-57</td>
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<td>Every 1-3 years</td>
<td>2nd Grade</td>
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<td>Catholic</td>
</tr>
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Table 1. Demographic data on study participants. Participants are listed in the order of their interviews.
REFERENCES


Understanding Alexithymia and Its Relation to Binge Eating Disorder in Obese Individuals

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Abstract
People classified as obese habitually overeat despite the knowledge that doing so increases their mortality and morbidity rate and risk. Obese individuals, especially those diagnosed with a binge eating disorder (BED), despite the health risks, have a greater difficulty in controlling their tendency to overeat. An explanation as to the continued binge eating in this population is a cognitive-affective personality trait called Alexithymia. A literature review of academic articles and scholarly journals concerning Alexithymia related to obesity and eating disorders, examines the extent to which Alexithymic symptoms increase BED-obese individuals’ susceptibility to overeat.

Hippocrates once said that “Corpulence is not only a disease itself, but the harbinger of others.” This statement is true today, as the sixth most important risk factor contributing to the overall prevalence of global disease is excess weight (Haslam & James, 2005). Being obese puts one at high risk for developing chronic maladies such as heart disease, hypertension, stroke, Type 2 diabetes, osteoarthritis and some forms of cancer, such as breast, colorectal, kidney, and uterine cancer. A person who is obese has an excessive amount of body fat. As a health care standard, men with more than 25 percent body fat and women with more than 30 percent body fat are deemed obese (National Institute of Diabetes and Digestive and Kidney Diseases [NIDDK], 2006).

Worldwide statistics show that over 1.1 billion adults and 10 percent of children are classified as being overweight or obese and 312 million adults suffer from obesity (Haslam & James, 2005). In the United States, more than 65 percent of adults are overweight, and 30.5 percent are obese (NIDDK, 2006). From 1960 to 2000, the prevalence of overweight adults aged 20 to 74 increased from 31.5 to 33.6 percent, and the prevalence of obesity during the same period more than doubled, rising from 13.3 to 30.9 percent (NIDDK, 2006). The World Health Organization (WHO) identifies obesity as one of the most blatantly visible, yet most neglected, public health problems threatening to overwhelm both developed and developing countries (WHO, 2000). Obesity has become a medical disorder leading to much co-morbidity, which leads to a significant reduction in life expectancy by as much as seven years at the age of 40 (Haslam & James, 2005).

Many people who are obese are victims of overeating syndrome, which is characterized as a “chronic compulsion to overeat, and a tendency to abuse
food” (Maddox, 2004, para. 4). Despite the negative health risks associated with being obese, those suffering from binge eating disorder (BED) are becoming a growing concern. Such individuals are unable to curb their eating habits, which leads to obesity; therefore, placing them at higher risk for health co-morbidities. It is not so much that BED individuals have an insatiable biological appetite that increased food intake is required, but is perhaps perpetuated by a psychological trait known as **Alexithymia**.

Alexithymia is a psychological trait that may help explain a BED sufferer’s compulsion to eat despite neurobiological processes controlling food intake. The condition was first introduced by P. Sifneos in 1967 and was further refined by J.C. Nemiah in 1970 who explained Alexithymia as one’s difficulty to express emotions and turn emotions into symbols to facilitate individual internal communication (http://www.alexithymia.info/definitions.html, para 11). Alexithymia is described as a set of personality traits with several degrees of manifestations. Salient manifestations of the trait include the disturbance in affective and cognitive functioning, which is characterized by:

- Difficulty in identifying feelings and distinguishing emotions from physical sensations
- Difficulty in communicating emotional states to others
- Restricted day-dreaming
- A concrete/externally-oriented style of thinking (Bydlowski, Corcos, Jeammet, Paterniti, Berthoz, Laurier, Chambry & Consoli, 2005)

Several studies have been conducted to associate the presence of Alexithymia with overeating in obese individuals, especially those suffering from BED. This researcher suggests that reviewing and compiling published literature on Alexithymia and BED may help further educate the public about a more disturbing factor of obesity, which is the uncontrollable compulsion to eat. The knowledge gained from this research will hopefully lead to the development of more meaningful and realistic weight-loss treatment programs that in turn, may lead to permanent weight-loss success.

**RATIONALE**

The purpose of this study is to review previously conducted research on Alexithymia as it relates to overeating in obese individuals who suffer from binge eating disorder (BED), provide a rationalized opinion on the subject matter, offer realistic weight-loss treatment options for BED-obese individuals based on the literature review, and suggest further study of Alexithymia as it relates to BED.
Obesity has become a growing concern globally and there exists a vast pool of medical and scientific research which explains this widely accepted medical condition. Certain research supports that obesity is primarily caused by genetic pre-disposition; some other studies explain that obesity is a result of hormonal imbalance; while other research suggest that obesity is merely a cause of caloric intake imbalance and a lack of physical activity or exercise. Although all research on the multi-variants leading to obesity is noteworthy, one reoccurring theme in most obesity-related literature is the tendency of obese individuals to overeat.

Overeating is viewed as a defense mechanism for obese people to combat emotional factors, which can neither be explained nor seen; hence, obese individuals are unable to associate their feelings with any mental representation, which may compel overeating in an attempt to satisfy their anxiety. Literature suggests that the “psychogenic process of denial and repression” (www.alexithymia.info/definitions, para. 5) may be a better explanation for an obese individual's compulsion to overeat. Although obese individuals are aware of the negative impact overeating places on their health, these individuals “cannot control their overeating” despite their non-physiological need to consume food (Maddox, 2004, para. 4). Haslam and James (2005) support this idea by noting that “the relation of obesity and disease … is rarely apparent to affected individuals.” These researchers further note that “an obese person’s health might not be as obviously compromised as that of someone with asthma or chronic pain, unless co-morbidities have already developed … which helps to explain that lack for change of many obese individuals” (p. 1197).

**Binge Eating Disorder (BED)**

This lack of change in the eating behaviors of obese individuals may develop into something of a compulsive nature – binge eating disorder (BED). Binge eating disorder first appeared in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The disorder is associated with overweight and obesity, and is considered an eating disorder of clinical severity (Wilfrey, Wilson & Agras, 2003). According to Pinaquy, Chabrol, Simon, Louvet and Barbe (2003), binge eating disorder is “a term used to describe overweight or obese patients who practice recurrent eating of an unusually large amount of food during a short period of time and who do not engage in compensatory behaviors of bulimia nervosa, such as vomiting following their binge” (p. 195).

As outlined by the NIDDK (2006), people with binge eating disorder engage in the following behaviors:

- Eating much more quickly during binge episodes than usual
- Eating until they are uncomfortably full
Eating large amounts of food even when they are not hungry
Eating alone because they are embarrassed about the amount of food they eat
Feeling disgusted, depressed, or guilty after overeating. (para. 2)

Furthermore, BED is thought to be the most common eating disorder affecting at least four million adults in the United States. The disorder is prevalent among adults aged 46 to 55 years; yet is also known to affect people in other age groups (NIDDK, 2006).

Pinaquy et al. (2003) emphasized that 20-30 percent of obese individuals seeking treatment are affected by the disorder. With respect to emotional overeating, Wilfrey et al. (2003) suggests that “BED subjects reported a significantly greater tendency to eat in response to negative mood states …” (p. 195). In a study conducted by Laquatra and Clopton (1994), subjects suffering from BED “reported concerns about their weight and reported eating binges” (p. 375); “were dissatisfied with the shape of their bodies (58%) and thought that they were overweight (51%)”; “49 percent of binge eating subjects admitted to having engaged in binge eating” and “12% of subjects (24% of those reported binge eating) reported ‘often’ or ‘always’ feeling out of control while binge eating” (p. 376).

However, Wilfrey, Wilson and Agras (2003) reasoned that there is much difference between obese individuals exhibiting BED and obese individuals who do not; therefore, obese individuals suffering from BED are considered a “distinctive subset of the obese population” (p. S98), and “occurs across ethnically diverse samples” (p. S99). Research by Wilfrey et al. (2003) explains that “… persons with BED consume more calories at both binge meals and non-binge meals than weight-matched control participants without BED.” Obese binge eaters “display more chaotic eating habits, exhibit higher levels of eating disinhibition (i.e., eating in response to emotional states), and suffer from significantly higher levels of eating disorder psychopathology” (p. S97). Furthermore, Wilfrey et al. (2003) indicates that obese individuals suffering from BED are “three times more likely to suffer from current major depressive disorder” (p. S97) due to their “dysfunctional attitudes regarding weight and shape” that characterizes the “core eating disorder psychopathology of BED” (p. S98).

Alexithymia
A promising theory to explain the psychopathology present in BED individuals is a psychological trait called Alexithymia. Alexithymia is derived from the Greek, literally meaning that one lacks the words for emotions (a = lack, lexis = word, thymos = emotions). Therefore, patients with Alexithymic characteristics are believed to lack the words to describe obvious feelings to themselves and to others (Muller, 2000). Furthermore, Muller (2000) explains that “someone who cannot verbally express negative emotions will
have trouble discharging and neutralizing such emotions, physiologically and psychically” (para. 3).

Bydlowski et al. (2005) offers a more detailed explanation of Alexithymia as being “conceptualized as a cognitive-affective deficit, characterized predominantly by the following cluster of impairments: difficulties in identifying feelings and distinguishing emotions from physical sensations; difficulties in communicating emotional states to others; restricted day-dreaming; and a concrete/externally-oriented style of thinking” (p. 321).

In addition, Bydlowski et al. (2005) restates Lane and Schwartz’s (1987) definition of an individual’s emotional awareness as “the capacity … to describe his or her own feelings and another person’s emotional experience; and emotional awareness is a cognitive process undergoing various structural transformations along a cognitive-developmental sequence”. Alexithymia, therefore, can be viewed as a “deficit in the cognitive process involved in the representation of emotional internal and external experiences, characterized by the persistence of cognitive-affective modalities of the first levels of development, below the concrete operational level, where emotions are experienced somatically” (p. 322).

Larsen, van Strien, Eisinga and Engels (2005) postulate that obese individuals’ inability to control their overeating is a result of early life experiences, wherein food is utilized as a tool to aid in coping with psychological dilemmas. Because of these early learning experiences, “some individuals may have developed a poor introspective awareness: difficulties in recognizing and accurately identifying subjective emotional feelings and distinguishing between feelings and bodily sensations of emotional arousal, difficulty describing feelings to other people, and impoverished fantasy life, and a stimulus-bound, externally-oriented, cognitive style” (p. 237).

This explanation ties in closely with research by Baldaro, Rossi, Caterina, Codispoti, Balsamo and Trombini (2005), which suggests that there is a “strong association between Alexithymia and emotion recognition ability” (p. 194). Laquatra and Clopton (1994) offer that eating disorders have been linked with “difficulties in perceiving and labeling the internal bodily sensations associated with emotions and have described the disruptiveness of strong emotions for individuals with eating disorders” (p. 373). Thus, supporting Becker-Stoll and Gerlinghoff’s (2004) notion that “eating-disordered patients use or misuse eating … to regulate their negative feelings” which are “highly effective strategies to suppress emotions and to divert attention from negative feelings by focusing on body weight and nutrition” (p. 159). Laquatra and Clopton (1994) link eating disorders to “difficulties in perceiving and labeling the internal bodily sensations associated with emotions” and also noted that such dissociation is a result of the “disruptiveness of strong emotions for individuals with eating disorders” (p. 373). Pinaquy et al. (2003) further states that Alexithymia is “present in obese or eating disorder subjects with psychopathological characteristics” (p. 196).
Alexithymia and BED
Research conducted by Bydlowski et al. (2005) summarizes the relationship between Alexithymia and BED; they note that the most primary difficulty of BED is the “deficits in the processing of the subjective experience and the perception of oneself” (p. 326). Bydlowski et al. (2005) further poses that BED sufferers have “limited access to their emotional life and/or feel easily dominated and overwhelmed by their emotions” (p. 326). Hence, these individuals have a diminished account of their own emotions most likely because “body sensations cannot be related to affects, or because the perception of undifferentiated body impulses prevents understanding of how affects are elaborated” (p. 326).

BED-obese individuals possessing Alexithymic symptoms are cause for alarm as the symptoms may become “hard to challenge” (Becker-Stoll and Gerlinghoff, 2004, p. 160). Both Becker-Stoll and Gerlinghoff agree that an individual’s Alexithymic style of dealing with conflict coupled with “eating-disordered strategies” may become a “deeply ingrained pattern” (p. 162). Rief, Heuser and Fichter (1996) previously noted in their research that “individuals who must inhibit their emotional expressions are at increased risk for a variety of health problems” (p. 427). Irwin and Melbin-Helberg (1997) further state that “habitual reliance upon dissociation as a coping mechanism can put a person at risk for a dissociative disorder” (p. 159). The concern for BED-obese individuals possessing Alexithymic symptoms, therefore, has become of clinical importance because of its “association with somatic symptoms and with a lack of response to psychotherapy” (Irwin & Melbin-Helberg, 1997, p. 160).

The relationship between Alexithymia as a psychological construct and obesity suggests that individuals with BED exhibit high degrees of the personality trait (Adami, Campostano, Ravera, Leggieri & Scopinaro, 2001). Zwaan, Bach, Mitchell, Ackard, Specker, Pyle and Pakesch (1995) found a “higher prevalence of Alexithymia in BED subjects compared with non-BED subjects” (p. 138); Larsen et al. (2006) found that among obese subjects with BED, difficulty in identifying feelings showed to be highly associated with emotional eating; however, this condition was not present among non-BED obese subjects. Pinaquy et al. (2003) showed that Alexithymia was the predictor of emotional eating in BED subjects. Laquatra and Clopton (1994) found “a relationship between disordered eating and Alexithymia among college women. Characteristics of disordered eating were positively correlated with difficulties in identifying and communicating feelings.” Laquatra and Clopton’s (1994) results are significant because it concurs with other studies that state “college students with disordered eating patterns and individuals with clinical eating disorders have difficulty expressing their feelings” (p. 378). Becker-Stoll and Gerlinghoff (2004) concluded that Alexithymic patients “show disturbances in recognizing internal visceral and affective states” (p. 159).
Gender Specific BED/Alexithymia
According to further research collected by the writer, there seems to be a gender differentiation between male and female BED individuals who possess Alexithymic symptoms. Results from Larsen et al. (2006) imply that “men showed stronger associations between Alexithymic characteristics and emotional eating than women” (p. 241). Larsen et al. (2006) found that individuals having “more difficulty in describing feelings was associated with more emotional eating in men, but not in women”; and “difficulty in identifying feelings” was also found to be highly distinctive in men than in women; therefore, indicating that Alexithymic characteristics are “more strongly involved in emotional eating of obese men than women” (p. 242). However, these researchers also hypothesize that depression could be a factor influencing the strong relationship between gender and Alexithymia, as depression and Alexithymia have been noted to be positively associated with one another.

Emotional Aspect of Alexithymia
Another important observation comes from research conducted by Zwaan et al. (1995) who found that “obese subjects with BED exhibited significantly higher scores on most of the eating disorder questionnaires … compared with their non-binge eating obese counterparts” (p. 137). This finding strengthens hypotheses made by other studies that not all obese individuals suffer from BED or possess Alexithymic symptoms. Zwaan et al. (1995) reports that “binge eating may be a consequence of Alexithymic features such as the limited ability to process emotions cognitively”, but found that “the lack of significant difference between BED and non-BED subjects … indicated that not all binge eating or so-called impulsive behavior is caused by a lack of emotional or interceptive awareness” (p. 139).

Bydlowski et al. (2005) concur that obese individuals with BED are not always restricted to expressing their emotions. Bydlowski et al. (2005) found that those subjects who viewed themselves negatively and rated themselves highly on the Toronto Alexithymia Scale (TAS), a reliable and valid measure of Alexithymia assessing deficits in cognitive processing and emotion regulation, did so because they had a low opinion of themselves, which may not have necessarily corresponded to their real environment. Hence, those subjects may have felt that describing their feelings was a great challenge, even though they were not impaired in expressing their emotions. Therefore, Bydlowski et al. (2005) suggest that “eating disorder patients have good verbal skills, but cannot use them adequately to describe their emotional experience, indicating a pronounced incapacity for emotional understanding” (p. 326).

Earlier research conducted by Irwin and Melbin-Helberg (1997) stressed that “highly Alexithymic people do not lack emotions.” These subjects’ physiological responses to emotive stimuli are consistent with the view that
they do experience emotions but simply cannot describe such experiences verbally.” They further state that:

…it is doubtful that highly Alexithymic people have a mental lexicon devoid of words for emotions. In Alexithymic subjects, physiological and cognitive responses have become ‘decoupled.’ Alexithymic people may well have an adequate affective lexicon to their own subjective states. This distinction is especially cogent in relation to people with dissociative tendencies; such people might be well inclined to dissociate their verbal processes from their emotional processes (p. 160).

Taylor (2000) reiterates research by Bucci who suggests that Alexithymia “is far more complex than being without words or emotions … the individual is without symbols (verbal and nonverbal) for somatic states” and the “dissociation between subsymbolic and symbolic within the nonverbal emotion schemas may allow physiological activation to occur during emotional arousal without a corresponding cognitive activation” (para. 8).

Alexithymia and Depression
Among subjects presenting Alexithymic symptoms, researchers have found contradicting results to correlate Alexithymia and depression as being positively related to one another and associated with emotional eating. Larsen et al. (2006) found that “more depression and Alexithymia are associated with more emotional eating” among women and younger individuals; however, these researchers also found that there was “no significant interaction between depression and Alexithymia” (p. 240). Yet, another important finding showed that the correlation between gender and Alexithymic symptoms and its relation to emotional eating is significantly related. Larsen et al. (2006) argues that because “depression is more frequent among females than among males, and depression and Alexithymia are positively associated, it is possible that depression influences that strength of the relation between gender and Alexithymia” (p. 241).

De Lenclave, Florequin and Bailly (2001) validate that “Alexithymia is a psychological feature frequently observed in obese patients” (p. 350). This research further indicates that the “correlation found between obesity and Alexithymia appears to be irrespective of BED and seems to be mediated by the educational level and frequency associated depression” (p. 350). Pinaquy et al. (2003) concur that BED subjects “exhibited higher scores of depression, anxiety, and perceived stress” (p. 198). However, Pinaquy et al. (2003) were also very careful to point out that the presence or absence of depression in BED and non-BED subjects were of significant importance. Data from their research showed that the “relationships between Alexithymia and depression differ between the two groups.” Data resulting from “correlation analysis indicated a significant positive correlation between the TAS-20 score and the depression score in non-BED subjects”; and that “no correlation was observed in the BED subjects” (p. 199). These researchers,
therefore, suggest that depression, and not Alexithymia, is the primary culprit to emotional eating among non-BED obese individuals. Likewise, the absence of a link between Alexithymia and depression in BED subjects suggest that Alexithymia is a “primary factor” within this group (p. 199).

Research by Bydlowski et al. (2005) supports the later finding, noting that Alexithymia scores disappeared after controlling for depression. Laquatra and Clopton (1994) support that Alexithymia “may function similarly to other disorders, such as depression” which have “qualitative differences between mild and severe forms;” these researchers propose that “mild forms of Alexithymia, such as those found in a non-clinical sample, might be characterized by disturbances in affect, whereas more severe forms of Alexithymia might also include cognitive disturbances” (p. 378).

However, Laquatra and Clopton (1994) hold a contradictory view on the severity of Alexithymia. Their research found that affective or emotional deficits are primary features, which support an individual’s susceptibility in developing “other deficits and difficulties in order to cope with their affective deficits;” and cognitive deficits, which lead one to focus on external details, are secondary features of Alexithymia (p. 378). These researchers concluded that it could not be determined whether eating problems developed due to affective deficits or vice versa; it also could not be determined if either situation emerged as a result of another basic difficulty such as depression or anxiety.

Features of BED and Alexithymia
Adami et al. (2001) found that an eating disorder may be caused by repeated and failed attempts to lose weight, a “state thought to be associated with a high rate of Alexithymia” (p. 121). However, Adami et al. (2001) also found that Alexithymic characteristics observed in obese individuals were a “reflection of the psychological characteristics” and seemed to be “substantially independent of obesity” (p. 125). Research by Adami et al. (2001) further suggests that an obese individual’s “external bodily appearance” or the “poor social acceptance of their obesity” do not cause one to become Alexithymic (p. 125). Moreover, Adami et al. (2001) recommend that “Alexithymia in obese patients must not be regarded as simply a result of a chronic disease, such as obesity, or of other external cues, but must be seen as an independent personality trait” (p. 124).

Pinaquy et al. (2003) agree that since “eating-disorder patients are considerably more Alexithymic than apparently healthy controls” then it could be inferred that “Alexithymia is more related to the psychological characteristics” of eating disordered patients rather than to the “eating behavior itself” (p. 199). This observation is supported by Bydlowski et al. (2005) who concluded that “emotional internal life impoverishment is not due to the severity of the disorder” and that Alexithymia should be considered to be a “predisposing factor for addictive behaviors” such as binge eating disorder (p. 326).
Evidence of emotional life impoverishment has been noted in recent empirical research conducted by Aftanas and Varlamov (2004), which revealed the strong influence of Alexithymia on cortical/brain activity. Their research involved recording 62-channels Electroencephalogram (EEG) frequencies on both Alexithymic and non-Alexithymic individuals, who were exposed to ten specially designed film clips intended to evoke emotions ranging from anger, fear, disgust, contempt, and sadness. These researchers hypothesized that individuals exhibiting Alexithymic characteristics would manifest “EEG signs of enhanced right hemispheric involvement into emotional experience” through increased “electrocortical effort.”

The right hemisphere of the brain is known to control emotional behavior, where the “unconscious, nonverbal, and emotional information processing” takes place. On the other hand, the left hemisphere of the brain controls “verbal, conscious, and serial information processing” (p. 1145). Results from this research suggest that Alexithymia can possibly result from the dysfunction of the right hemisphere of the brain. Moreover, it is believed that increased activity of the left hemisphere reflects “a tendency to focus on external events rather than inner experiences” (p. 1458). Furthermore, increased right-hemispheric activity “during emotional experience might account for the reduced ability to identify emotions and feelings, and therefore lead to consequent behavioral changes” (p. 1459) in Alexithymic individuals.

**Treatment**

Specific treatment for Alexithymia has yet to be determined by medical and psychiatric practitioners. Taylor (2000) suggests that more exploratory studies need to be conducted in order to “establish the direction of causality” (p. 0706) of Alexithymia. Muller (2000) suggests that it is a therapists’ duty to assist a patient with overt Alexithymic symptoms to “convert a non-story into a story that is at least partially authentic” (para. 30) referring to an individual’s need to understand their inner self in order to accept treatment for the condition. Adami et al. (2001) suggests that the “stable normalization of body weight and shape in most cases corresponds to a sharp and non therapeutically induced improvement of psychological status and emotional condition” (p. 121-122). Pinaquy et al. (2003) suggests that the “affective dimension of Alexithymia could be a potential target in treatment focused on the improvement of abilities to regulate emotions” among BED-obese individuals (p. 199). Bydlowski et al. (2005) does not offer a specific course of treatment for Alexithymia, instead they suggest that “the joint use of instruments evaluating various aspects of emotional functioning seems particularly relevant in helping clinicians to characterize and understand better the emotional processes of these patients” (p. 327).

Larsen et al. (2006) suggests that “gender-specific treatment for emotional eating” is ideal and that treatment for men should be “more strongly focused upon learning to identify and describe feelings than treatments for women.”
Larsen et al. (2006) further mention that “dialectical behavioral therapy specifically aimed at emotional dysregulation” may be a more effective approach for men exhibiting problems with emotional eating (p. 242).

Exploratory treatment for Alexithymia in eating-disordered patients was previously conducted in a study by Becker-Stoll and Gerlinghoff (2004). This study sought to investigate whether a) Alexithymic symptoms would decrease and b) predict short-term treatment outcome in eating-disordered patients during a four-month day hospital program. This was made possible by admitting 47 female patients suffering from eating disorders to the Treatment Center for Eating Disorders (TCE) of the Max Planck Institute of Psychiatry in Munich, Germany during 2001. Patients were asked to attend a day treatment program for seven days each week logging in 8 to 17 hours for a period of four months. The study’s outcome proved promising as Alexithymic symptoms decreased significantly among the participants. However, Becker-Stoll and Gerlinghoff (2004) also noted that “baseline scores for Alexithymia did not predict post-treatment outcome” (p. 159) and that patients still exhibited a “tendency to Alexithymia” (p. 162) despite a decrease in the prevalence of the symptoms.

A promising observation from the treatment program was the “significant decrease of both observed and self-reported eating disorder symptoms” (p. 163). This led Becker-Stoll and Gerlinghoff (2004) to conclude that a day hospital group treatment would be a “highly effective intervention for eating-disordered patients” (p. 163). Overall, Becker-Stoll and Gerlinghoff conclude that Alexithymic patients “benefit from psychological treatment which encourages understanding and expressions of emotions and also leads to a significant reduction in eating disorder-related symptoms” (p. 159).

Wilfrey et al. (2003) propose that “increased psychiatric co-morbidity among individuals with BED is accounted for by the severity of binge eating rather than by the degree of obesity” (p. S97). These researchers suggest that treating the eating disorder will promote treatment of both the obesity and any psychological deficit that arises from the maladaptive eating behavior. Wilfrey et al. (2003) recommend that either cognitive-behavioral therapy or interpersonal psychotherapy be utilized, as both treatments have “produced highly similar short-term results in the treatment of BED” (p. S99). Cognitive-behavioral therapy (CBT) involves patients keeping track of eating patterns and modification of unhealthy eating habits; it also teaches behavior modification about body shape and weight, and response to stressful situations. Interpersonal psychotherapy (IPT) coaches individuals in dealing with their close relationships (i.e., family, friends, and significant other) and how to adjust and cope with problems stemming from such interpersonal relationships (NIDDK, 2006).

Wilfrey et al. (2003) suggest other treatment options including: Behavioral Weight Loss Treatment (BWL), which is designed to “explicitly alter eating behavior, reduce disorganization, and produce a more regular eating pattern comprising of moderate caloric restriction” (p. S102); Dialectical Behavior
Therapy (DBT), which helps people to understand and regulate their emotions; and other “guided self-help based on cognitive-behavioral principles” (p. S101). Wilfrey et al. (2003) explain that “these procedural distinctive therapies either are affecting some common factor or the response may be largely due to the commonality of nonspecific factors among these different therapies” (p. S101). Yet the promising outcome regarding short-term weight loss with both obese and non-obese BED individuals have exhibited great response to behavioral weight loss treatment (BWL) for the treatment of the disorder. However, Wilfrey et al. (2003) explain that not all BED-obese individuals will respond equally well to all treatment options.

**Methodology**

This study entailed gathering contemporary literature regarding Alexithymia and its connection with obesity as caused by BED. Academic and scholarly articles written between 1980 and 2006 were obtained by searching the California State University, Sacramento library database, the internet, and via direct contact with authors. Articles were analyzed to form the rationale of this paper, as well as to gather data to support the literature review.

**Limitations**

A major limitation for this research was the lack of time available to conduct a two-part study utilizing the 20-question Toronto Alexithymia Scale (TAS), a reliable and valid measure of Alexithymia as developed by Dr. Graeme J. Taylor and colleagues, and a self-report questionnaire to assess the prevalence of Alexithymic symptoms in BED individuals. Collected data would have been utilized to find a correlation between Alexithymic symptoms and the emergence of binge eating in obese individuals, or the information would have further analyzed whether or not binge eating in obese individuals increases one’s susceptibility to Alexithymia.

Analyzing this aspect of Alexithymia would serve as a good topic for future research, as narrowing and understanding the conditions that lead to the emergence of Alexithymia, especially the direction of causality, in binge eating obese individuals would greatly assist medical and psychiatric practitioners in prescribing treatment for Alexithymic symptoms in this population. This would lead to the development of more meaningful and realistic treatment programs that would help reduce BED-obese individuals’ predisposition to react through hyperphagia behavior. Such treatment would then help control the psychogenesis involved in emotional eating, which would eventually aid patients in achieving permanent weight-loss.

Understanding the direction of causality of Alexithymia and the development of binge eating disorder could be conducted via a national cross-section longitudinal study. Children with a genetic predisposition to being overweight or obese would be interviewed every two to three years starting at age three and ending at age thirty; it would be important to involve children at a young
age before their food preferences are formed, and end at a mature age where eating habits have long been practiced. The objective of the study would be to determine if either disorganized eating rituals increase one’s chances of developing Alexithymic symptoms, or vice versa.

**CONCLUSION**

The Alexithymia personality construct is a nascent attempt to explain the psychogenesis behind binge eating disorder (BED). Established alexithymic characteristics such as difficulties in identifying feelings, distinguishing emotions from somatic sensations, and difficulty expressing and symbolizing emotional states to others pave the way to understanding the fundamental problems that increase an individual’s susceptibility to overeat, which increases one’s chance of becoming obese. Several studies have shown that binge eaters who have scored highly on the Toronto Alexithymia Scale (TAS) find comfort in their binge eating rituals in order to control their inner confusion and help pacify their affective disturbances. However, there still remains uncertainty as to the direction of causality of Alexithymia. Researchers have yet to distinguish whether Alexithymia increases one’s susceptibility to binge eat, or whether one’s binge eating habits increases their susceptibility to depression, which is thought to be a pre-morbid characteristic of Alexithymia. Research on brain activity in Alexithymic patients show impairment or disorganization between emotional and cognitive functionality in BED-obese individuals; thus, solidifying the theory that such individuals are unable to connect and verbalize their somatic state with their cognitive state. Based on the literature, Alexithymic symptoms in BED-obese individuals is a cause for concern as inhibiting emotions may increase one’s risk for developing somatic illnesses and other health problems.

Excess weight and obesity are both a global public health problem. Obesity increases mortality rates and is blamed for at least 2.6 million untimely deaths annually (Yahoo News, 26 Apr. 2006). About two-thirds of obese adults in the U.S. are trying to lose weight, but success rates are low ranging from two percent to twenty percent (Strychar, 2006, p. 56). BED in obese individuals cannot be cured by conventional diets as promoted by nutritionists, physicians and by the weight-loss industry. The increasing prevalence of individuals becoming obese due to BED is an indication that the condition should be considered a chronic illness requiring aggressive treatment.

Understanding the Alexithymia construct can be an effective approach in improving methods in treating emotional eating in obese individuals. Recognizing both their affective and cognitive disturbances should assist psychiatric and medical practitioners in developing constructive intervention to treat the personality trait first, and then weight-loss second. Treatment programs should recognize that placing a focus on losing a predetermined
amount of weight for obese individuals suffering from BED would only increase their weight-loss failure rate, which may agitate their alexithymic symptoms. A pragmatic approach for successful weight loss in this population would be a combination of healthy changes in food selection and non-judgmental psychotherapy.
REFERENCES


DIFFERENCES IN INTELLIGENCE SCORES ACROSS ETHNIC GROUPS
Adrienne Taylor
Faculty Mentor: George Parrott, Ph.D.

ABSTRACT
This study hypothesized that, when studying the relationship between types of intelligence scores and ethnicity, there would be a significant difference found across ethnic groups. To test this hypothesis, a 59-item instrument was administered to college students to assess intelligence scores, along with a demographic survey to account for ethnicity. The data was analyzed using an analysis of variance between ethnicity and various types of intelligence, and a correlation test between the three types of intelligence. Specifically, the three areas examined were basic intelligence, emotional intelligence, and social interest intelligence. The results of this study showed that there was significant relationship between basic intelligence scores and ethnicity, and no significant relationship between emotional intelligence, or social interest intelligence, scores and ethnicity.

The purpose of this study is to assess the possible difference of intelligence across ethnic groups. Specifically, this study is looking at intelligence scores in three areas- basic knowledge, emotional intelligence, and social interest knowledge (pop-culture knowledge). The goal of taking this different approach to testing for intelligence by focusing on specific areas is to move beyond the limitations of past studies. In the previous research cited, intelligence was typically seen as a whole unit, rather than as the various parts that make up the whole. By examining different areas of intelligence, we will not only be able to assess if there is a difference across intelligence scores of the ethnic groups, but if there is a difference across the various areas of intelligence as well.

LITERATURE REVIEW
The discussion on the differences of intelligence scores across ethnicity has been extremely controversial. Different findings conflict with each other, leaving us without a clear answer. In the 1950s, Cyril Burt was one of the first to discuss the hereditary nature of intelligence, leading future researchers to study the relationship of intelligence to specific genetic areas, such as ethnicity. In 1971, Jensen focused on the issue by stating three beliefs: that IQ is real, biological and highly genetic; that race is a biological reality; and that race is the cause of the 15 point IQ difference between whites and blacks. Later, in 1994 the controversial book, The Bell Curve, discussed the differences in intelligence scores across ethnic groups. “Ethnic differences in measured cognitive ability have been found since intelligence tests were invented,” (Hernnstein and Murray, 1994). Based on these two studies, as well as data from numerous other studies on the relationship of ethnicity
and intelligence, it would appear that there is a consensus on the fact that there are general differences in the intelligence scores across ethnic groups. However, a question has been raised as to the reasons behind the difference. Vincent (1991), found that while there was a difference between black and white intelligence scores, the gap was decreasing in recent years. This finding suggests that whatever difference being tracked might be related to a factor outside of race.

Montagu (1975) asked the question, “How else, indeed, they ask, can one account for differences in individual abilities and group achievement of the different ‘races’? This is a legitimate question, and the answer to it is that when the facts are considered, the weight of the evidence indicates that the differences are primarily due to differences in the history of the experiences the individuals and their groups have undergone.” While he acknowledges that there is a difference between the scores, Montagu’s main focus is on finding the reason why (1975). Vance et al. (1988) had found that there was no difference between black and white scores on “standardized” intelligence tests, which suggests that the differences that are found stem from researcher or assessment tool bias.

The concept of intelligence is not universally agreed upon, which creates even greater confusion in this controversy. How are we defining what we are measuring? What is considered an important focus of knowledge may differ across culture, group, and family. In light of these factors, how are we to draw conclusions from data assessed on this factor? Guildford (1967) began working to create a foundation for the definition and application of the term “intelligence.” His extensive work led him to the theory that intelligence can be broken down into 120 different facets, an idea that many researchers in this area follow today. The lack of consistent findings in the studies however, makes the issue even more confusing, and yet more interesting to examine.

The issue of differences in intelligence scores across ethnic groups is not one that lies only in Standard Aptitude Test (SAT) scores, or job opportunities. It has a part in society from how we think about and treat other races. “On average, blacks in the United States tend to score significantly lower than whites on intelligence tests, even when socioeconomic status is statistically controlled,” (Myerson et al., 1998). This type of statement is just one of the leading factors that help create and maintain the stereotypes of certain minorities here in the United States.

Some people readily believe that genetics plays the controlling role in the differences appearing in intelligence scores between ethnic groups. “Jensenism, n: the theory that an individual’s IQ is largely due to heredity, including racial heritage,” (Miele, 2002). In his published interview with Jensen, Miele focused on Jensen's comments four decades earlier. Although Jensen stated that he believes in his theories now more than ever, he noted that, “The problem is that the word ‘intelligence’ is such an umbrella term. It
covers many definitions, but has little if any scientific precision.” Despite this fact, Jensen believes that:

The fact that g is more strongly genetic than most other psychological variables is not really controversial among empirical researchers in this field. It is highly controversial only in the popular media.

Aligning with Jensen’s beliefs, Herrnstein and Murray (1994) published the book, *The Bell Curve*, in which they stated, “Ethnic differences in measured cognitive ability have been found since intelligence tests were invented.” The findings discussed in *The Bell Curve* show that there is a difference between group scores, and that the difference varies along the social-economic status spectrum. Societal issues at the time of the book’s publication have made the statements in this book highly controversial.

Montagu (1975) held a different perspective on the issue. “I do not contest the obvious fact that there are real differences among individuals’ psychological traits - such as intelligence - that our society values. But I do suggest that, given the insufficient and controversial quality of the information relevant to the causes of these differences, it is likely that deep personal attitudes rather than logic or sound empirical data dictate one’s interpretations of the documented variability in IQ,” (1975). This new perspective on the difference in scores focuses more on societal and cultural issues, than on racial issues. Montagu disagrees with Jensen specifically on the fact that, “The notion of race is a comparatively recent development, (Snyder 1962, 25)” (1975). While this statement in itself is controversial, it does go along with the current argument that race is a socially-created concept, and therefore cannot be a genetic issue to measure.

“It appears that lack of early education and economic opportunity has taken a toll on the Black adult population that still is being reflected in the recent renorming of the WAIS-R and other adult IQ tests…As can be seen in the Raven’s restandardization (Table 1), Black/White IQ differences for 12-year-olds are half those previously reported,” (Vincent, 1991). The fact that the difference is narrowing could indicate that Montagu is correct in his assumption of outside factors affecting the scores (1975). All that is left is to find evidence telling us what these factors are.

Other studies show that there is no significant difference in intelligence across ethnic groups. Vance et al. (1988) examined intelligence scores

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
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<tr>
<td>Hispanic</td>
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</tr>
<tr>
<td>Asian/Pacific</td>
<td>18</td>
</tr>
<tr>
<td>Islander</td>
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</tr>
<tr>
<td>Middle Eastern</td>
<td>2</td>
</tr>
<tr>
<td>Bi-Racial</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
</tr>
</tbody>
</table>

Table 1

**Frequency Table for Ethnicity**
using three standardized intelligence tests: The Test of nonverbal Intelligence, Quick Test of Intelligence, and Wechsler Intelligence Scale for Children-Revised. All three tests were given to each of the 89 subjects, and the results were analyzed. “The findings did not indicate any significant differences between IQ scores with regard to ethnicity or sex,” (Vance et al., 1998). This discrepancy in findings has led to the discussions of what reasons could lead to the resulting data. Most prevalent is the debate between the culture-only and the hereditarian models. The culture-only model accounts for such factors as the difference between black and white scores decreasing in children, as well as the fact that while some studies find differences between groups, others do not. The hereditarian model is based on the idea that there is a genetic basis in intelligence.

“What group differences actually refer to are average intellectual differences in performance of the individuals who are linked, usually through self-identification, to racial-ethnic group membership,” (Suzuki et al., 1997). This theory leads to another controversy about how we define intelligence and the constructs we use to assess it. The definition of intelligence is not one that is clearly set, so how do we test for it? Because researchers hold such differing views of what it is, how can we create more accurate assessments?

**Methodology**

This study’s participants were sampled from the California State University, Sacramento’s Psychology Department Human Subjects pool. As an incentive, students were offered 0.5 credited hours towards participation in research.

There were 80 participants in this survey between the ages of 18 and 49, whose mean age was 22.41. There were 23 male participants and 57 female participants. By ethnicity, the group included (see Table 1) 35 Caucasians, 5 African Americans, 15 Hispanics, 18 Asian/Pacific Islanders, 2 Middle Easterners, 3 Bi-Racial, and 2 Others. Of those who were Bi-Racial, one was a mix of African American/Caucasian/American Indian/French, another was a combination of Hispanic and Middle Eastern, and the third was a blend of black and white. Of the participants marking “Other,” one labeled him/herself as “Mexican,” and the other used the label “Indian (Sikh).”

In order to assure that each group studied was represented by a reasonably significant number of subjects, significant ethnic groups were selected on the basis of an n, or subject count, that was greater than or equal to 5. This resulted in four ethnic groups being used in the assessment: Caucasians, African Americans, Hispanics, and Asian/Pacific Islanders. While this choice narrows the focus of the study to fewer ethnic groups, it assures that the results we are seeing are validly comparable, rather than basing results on a group of 35 participants of one ethnicity being compared to 2 participants of another ethnicity.
Assessment Tool
For the purposes of this study, this researcher created intelligence assessments that were specifically focused on measuring basic intelligence, emotional intelligence, and social interest knowledge. This assessment tools were approved by the researcher’s faculty advisor prior to their use. The 20 questions used to measure basic intelligence were similar to those found on an SAT test, a Graduate Record Examination (GRE) test, or even tests used to gain membership into Mensa. (Mensa is an international group that is specifically geared towards people who receive high scores on standardized IQ scores.) The 20 emotional intelligence questions were similar to those found on a standard emotional intelligence exam, specifically from one posted in *Psychology Today*. These two types of intelligence are typical examples of what western culture might measure as intelligence. Social interest knowledge was chosen as the other intelligence variable because, today knowledge of pop culture is valued in society, and therefore might be of importance to some people. The 19 questions used for this measure were found in various places, ranging from trivia books to popular trivia games.

Taking into account assertions made by Montagu (1975) that the difference between intelligence scores across ethnic groups might stem from factors other than genetics, this researcher also created a 10-item measure to determine the participants’ perception of encouragement of the use of their intellectual abilities. These items are designed to account for encouragement from both family and society.

This researcher gathered data on the participants’ ethnicity using a seven question demographic survey designed to collect the participants’ age, gender, race, education level, living situation, social-economic status, and religion. Collecting demographic information besides race provided information on the impact on intelligence of factors outside of ethnicity.

Procedure
The participants completed the 59 item intelligence assessment specifically designed for this study. The goal of the assessment was to obtain a variety of intelligence scores for each subject. Along with the assessment, the 10-item survey on perception of encouragement and a basic demographic survey of seven questions were administered. Each session took approximately 25-30 minutes.

Variables
There is no universally agreed upon definition of intelligence, and therefore it is hard to test for it specifically. However, we can break intelligence down into categories and test for each. For the purposes of this study, intelligence was determined by three factors: basic knowledge, emotional intelligence, and social-interests intelligence (specifically pop-culture knowledge). Basic knowledge was assessed by items that were pulled from a Mensa Web site; emotional intelligence was assessed by items pulled from the *Psychology Today*
Web site; and the social-interests intelligence was assessed using items pulled from various sources.

RESULTS

Descriptive statistics were compiled for the three areas of intelligence in relation to ethnicity (see Table 2).

Table 2

Descriptive Statistics for a Variety of Intelligence Scores in relation to Ethnicity

<table>
<thead>
<tr>
<th>Intelligence</th>
<th>Ethnicity</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Intelligence</td>
<td>Caucasian</td>
<td>35</td>
<td>13.26</td>
<td>2.40</td>
</tr>
<tr>
<td></td>
<td>African American</td>
<td>5</td>
<td>12.40</td>
<td>2.07</td>
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<td>Hispanic</td>
<td>15</td>
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<td>10.67</td>
<td>3.40</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>Caucasian</td>
<td>35</td>
<td>74.00</td>
<td>9.23</td>
</tr>
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<td></td>
<td>African American</td>
<td>5</td>
<td>74.60</td>
<td>11.72</td>
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<td>11.54</td>
<td>2.23</td>
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<td>African American</td>
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<td>9.40</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>15</td>
<td>10.00</td>
<td>3.18</td>
</tr>
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<td></td>
<td>Asian/Pacific Islander</td>
<td>18</td>
<td>10.67</td>
<td>2.24</td>
</tr>
</tbody>
</table>

Emotional Intelligence Assessment

The total mean score for emotional intelligence was 72.49 (standard deviation of 8.43). Out of 100 possible points on the emotional intelligence assessment, the results are as follows:

- Caucasians had a mean score of 74.00 (standard deviation of 9.23)
- African Americans’ mean score was 74.60 (standard deviation of 11.72)
- Hispanics had a mean score of 72.87 (standard deviation of 8.72)
- Asian/Pacific Islanders had a mean score of 70.33 (standard deviation of 5.25)
- The mean score for Middle Easterners was 61.50 (standard deviation of 2.12)
- The Bi-Racial group had a mean score of 68.33 (standard deviation of 4.04)
- The Other group had a mean score of 74.50 (standard deviation of 10.61)

Social Interest Intelligence Assessment

The total mean score for social interest intelligence was 10.95 (standard deviation of 2.68). Out of 19 possible points on the Social Interest Intelligence assessment, the results were as follows:

- Caucasians had a mean score of 11.54 (standard deviation of 2.23)
• African Americans’ mean score was 9.40 (standard deviation of 1.67)
• Hispanics had a mean score of 10.00 (standard deviation of 3.16)
• Asian/Pacific Islanders had a mean score of 10.67 (standard deviation of 3.24)
• The mean score for Middle Easterners was 13.50 (standard deviation of 0.71)
• The Bi-Racial group had a mean score of 12.33 (standard deviation of 1.53)
• The Other group had a mean score of 9.50 (standard deviation of 0.71)

**Basic Intelligence Assessment**

The total mean score for basic intelligence was 11.95 (standard deviation of 2.97). Out of 20 possible points for Basic Intelligence, the results were as follows:

• Caucasians had a mean score of 13.26 (standard deviation of 2.49)
• African Americans’ mean score was 12.40 (standard deviation of 2.07)
• Hispanics had a mean score of 10.33 (standard deviation of 1.95)
• Asian/Pacific Islanders had a mean score of 10.67 (standard deviation of 3.40)
• The mean score for Middle Easterners was 15.00 (standard deviation of 4.24)
• The Bi-Racial group had a mean score of 12.33 (standard deviation of 3.06)
• The Other group had a mean score of 8.00 (standard deviation of 1.41)

Seeing that some of the ethnic groups were not reasonably represented in this study caused this researcher to define significant ethnic groups on the basis that a significant group had an n that was greater than or equal to 5. This resulted in four ethnic groups being used in the analysis of data: Caucasians, African Americans, Hispanics, and Asian/Pacific Islanders.

After compiling the collected data, this investigator ran three statistical tests to examine the various hypotheses. First, a one-way analysis of variance (ANOVA) was run to determine the significance of the differences between ethnicity and each of the three intelligence variables. Next, a correlation test was run between the three types of intelligence in order to establish that each assessment is measuring different areas of intelligence. Finally, another one-way ANOVA was used to examine the significance of the relationship between ethnicity and level of encouragement.
The one-way ANOVA between ethnicity and intelligence yielded varying levels of difference across the three types of intelligence examined (see Table 3). The emotional intelligence was not significant (p>0.05), meaning that it is not related to the ethnicity of the subject. Social interest intelligence was also not significant (p=0.16). A significant difference was found between the basic intelligence scores and ethnicity at the 0.00 level. Post Hoc tests on the same relationships cohabited these findings (see Tables 4-6).

The correlation test between the three types of intelligence showed that, while the emotional intelligence questions were assessing for a specific area, it seems that the social interest intelligence questions and basic intelligence questions were correlated at the 0.00 level, suggesting that they were assessing the same area of intelligence (see Table 7). Although they are correlated, when you take into account the results of the previously mentioned ANOVA, it is more likely that they are different areas of a similar aspect of intelligence. The other comparisons between the intelligence assessments did not show a correlation.

Table 3

Analysis of Variance Between Various Types of Intelligence and Ethnicity

<table>
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<th>df</th>
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<th>F</th>
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<td></td>
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<td>Total</td>
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<tr>
<td>BetweenGroups</td>
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Table 4

Post Hoc Tests Between Basic Intelligence and Ethnicity

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<th>Ethnicity</th>
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<td>Asian/Pacific Islander</td>
</tr>
<tr>
<td></td>
<td>African American</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
</tr>
<tr>
<td>Duncan</td>
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<td>Asian/Pacific Islander</td>
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<td>African American</td>
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<td>Caucasian</td>
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<tr>
<td></td>
<td>Sig.</td>
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175
Table 5

*Post Hoc Tests Between Emotional Intelligence and Ethnicity*

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Table 6

*Post Hoc Tests Between Social Interest Intelligence and Ethnicity*

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<tr>
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<td>5</td>
<td>9.40</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15</td>
<td>10.00</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>18</td>
<td>10.67</td>
</tr>
<tr>
<td>Caucasian</td>
<td>35</td>
<td>11.54</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.09</td>
</tr>
</tbody>
</table>

Table 7

*Correlation Matrix for the Various Types of Intelligence*

<table>
<thead>
<tr>
<th></th>
<th>EmotIntell</th>
<th>SocialIntell</th>
<th>BasicIntell</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmotIntell</td>
<td>1.00</td>
<td>-0.05</td>
<td>-0.12</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.63</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>SocialIntell</td>
<td>-0.05</td>
<td>1.00</td>
<td>0.43</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.63</td>
<td></td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>BasicIntell</td>
<td>-0.12</td>
<td>0.43</td>
<td>1.00</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.30</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>
For the level of encouragement survey that assessed how much encouragement a participant felt from society and his/her family, the descriptive statistics are listed in Table 8. The ANOVA yielded a trending pattern (see Table 9), which was supported in the post hoc findings (see Table 10). Although there is no significance between participants’ ethnicity and perception of encouragement relating to the use of their intellectual abilities, this finding suggests that further research into the matter might find a definitive pattern in relation to ethnicity.

Table 8

**Descriptive Statistics for the Relationship Between Ethnicity and Encouragement Scores**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>35</td>
<td>40.66</td>
<td>8.85</td>
</tr>
<tr>
<td>African American</td>
<td>5</td>
<td>43.20</td>
<td>7.98</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15</td>
<td>40.40</td>
<td>5.21</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>18</td>
<td>38.83</td>
<td>10.33</td>
</tr>
</tbody>
</table>

Table 9

**Analysis of Variance for the Relationship Between Ethnicity and Encouragement Scores**

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MeanSquare</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BetweenGroups</td>
<td>85.32</td>
<td>3</td>
<td>28.44</td>
<td>0.38</td>
<td>0.77</td>
</tr>
<tr>
<td>WithinGroups</td>
<td>5108.79</td>
<td>69</td>
<td>74.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5194.11</td>
<td>72</td>
<td>31.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10

**Post Hoc Tests Between Ethnicity and Encouragement Scores**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N</th>
<th>Subset for alpha= .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-N-K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>18</td>
<td>38.83</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15</td>
<td>40.40</td>
</tr>
<tr>
<td>Caucasian</td>
<td>35</td>
<td>40.66</td>
</tr>
<tr>
<td>African American</td>
<td>5</td>
<td>43.20</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.62</td>
</tr>
<tr>
<td>Duncan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>18</td>
<td>38.83</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15</td>
<td>40.40</td>
</tr>
<tr>
<td>Caucasian</td>
<td>35</td>
<td>40.66</td>
</tr>
<tr>
<td>African American</td>
<td>5</td>
<td>43.20</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.28</td>
</tr>
</tbody>
</table>
DISCUSSION
The data from this study supports this researcher’s hypothesis that there are differences in a variety of intelligence scores across ethnic groups. Although there was little difference across the emotional intelligence and social interest scores, ethnicity and the basic intelligence scores had a significant relationship. This finding holds with the suggestion that a subject’s ethnicity has an effect on his/her intelligence. Even with this finding this study does support the idea that it is not an “all or nothing” case. While showing that ethnicity might play a part in some intelligence variables, this study shows that there are areas of intelligence that it does not influence.

In relation to the literature on the issue of ethnicity and intelligence, it is worth noting that Jensen’s “constant” 15-point difference between Caucasians and African Americans was not found in this study. There was no more than a 2.14 mean difference between the two groups on any of the intelligence variables and, in fact, the African American group outscored the Caucasians by 0.60 on their mean for emotional intelligence scores. In relating this to Jensen’s data, we can compare these results to his 15 point standard difference, which was in roughly the 10-15 % range. In the current study’s social intelligence assessment, the difference between Caucasians and African Americans was 10.52%; in the basic intelligence assessment, it was 4%; and in the emotional intelligence assessment it was .6% and African Americans had the higher of the scores. This data suggests that Vincent (1991) was correct in his findings that the intelligence scores between the two groups have been narrowing in the recent generations. This finding may also show that the data that Jensen examined back in 1959 was simply a socio-historical effect.

When looking at the participants’ perceived level of encouragement from their families and society, this researcher hoped to ascertain whether or not this area of influence played a factor in a person’s actual intelligence. This theory relates to Montagu’s statement:

> I do not contest the obvious fact that there are real differences among individuals’ psychological traits—such as intelligence—that our society values. But I do suggest that, given the insufficient and controversial quality of the information relevant to the causes of these differences, it is likely that deep personal attitudes rather than logic or sound empirical data dictate one’s interpretations of the documented variability in IQ (1999).

However, the data for the current study did not support this particular focus, showing instead that ethnicity and perception of encouragement level have only a weak relationship. Considering the controversy around this research topic and the racial stereotypes of the issue, it is important to note the means of the groups in this area. Despite popular opinion, it seems that African Americans outscored all of the other ethnic groups on this point by at least a 0.20 mean difference.
LIMITATIONS

As is the case with other studies on intelligence, the greatest limitation for this study is that the concept of intelligence is not universally agreed upon. For this study, basic knowledge questions, emotional intelligence questions, and social interest (pop culture) questions were used to define intelligence. Although using these assessment tools defines what intelligence means to this study, it in no way represents the complete concept of intelligence. The data gathered with this survey might easily be challenged by another researcher who considers the focused selection inadequate to define intelligence. For future research, this researcher suggests using broader questions from various standardized intelligence tests, provided that they are less culturally biased than what we often see on such tests, and expanding on the concept of intelligence to include a cultural focus.

Another factor that limited this research was the time frame in which it was conducted. With more time committed to the study, a larger number of participants could have been gathered. In addition, there might have been an option for conducting a pilot study in order to test the assessment tool, thereby evaluating its functionality prior to the final results.

A final limitation to note is that the participants were from a convenience sample of college-bound, or enrolled, psychology students. Although this can be a benefit for a homogenous sample in this area, because the participants all have similar education experiences, it makes it difficult to generalize the findings to the general population. Not everyone, from every ethnicity, is thinking of a college education, planning for one, or currently experiencing one. Also, while the participants were volunteers, they were offered credit for participation. So, as volunteers who were offered incentives to participate, that incentive could have impacted their decision about participating. Both of these factors limit the applicability of the data gathered.

CONCLUSION

The goal of this study was to assess certain facets of intelligence, and yet the data shows that the study might have fallen short of its goal to gather data in three completely separate areas. The findings from the correlation matrix generated between the three measures, suggests that the present study has actually assessed two highly -correlated areas of intelligence, and a less related area of emotional intelligence. Interestingly, even though the social interest intelligence and basic intelligence questions were highly correlated, the ANOVA between ethnicity and the three intelligence groups showed
that ethnicity was only a significant factor for basic intelligence. If each assessment tool were truly measuring such similar factors, one would expect ethnicity to play a significant part in both. The relatively small differences in all three of these measures across the sampled ethnic groups may well suggest that earlier studies showing large IQ differences between groups may well have been the outcome of poorer educational and social opportunities for minorities at that time. Future research is clearly needed to explicate this hypothesis.
REFERENCES


