

SILENT MINORITY: INFLUENCES ON ASIAN-AMERICAN WOMEN'S HIV
TESTING, ATTITUDES, AND CONCERNS

A Thesis submitted to the faculty of
San Francisco State University
In partial fulfillment of
the requirements for
the Degree

AS
36
2015
HMSX
• P43

Master of Arts Degree

In

Sexuality Studies

by

Vickie Tuyet Phan

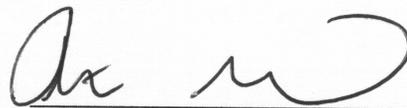
San Francisco, California

May 2015

Copyright by
Vickie Tuyet Phan
2015

CERTIFICATION OF APPROVAL

I certify that I have read *Silent Minority: Influences on Asian-American Women's HIV Testing, Attitudes, and Concerns* by Vickie Tuyet Phan, and that in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirement for the degree Master of Arts in Sexuality Studies at San Francisco State University.



Rita Melendez, PhD
Associate Professor of Sexuality Studies



Colleen Hoff, PhD
Associate Professor of Sexuality Studies

SILENT MINORITY: INFLUENCES ON ASIAN-AMERICAN WOMEN'S HIV TESTING, ATTITUDES, AND CONCERNS

Vickie Tuyet Phan
San Francisco, California
2015

The CDC estimates that Asian Americans make up 2% of the HIV-positive population in the US, with Asian-American women accounting for 16% of that population. Research indicates that new infections among Asian Americans are growing significantly. This study explores Asian-American women's concerns, attitudes, as well as their frequency of HIV testing using an online survey. Eighty-eight Asian-American women responded to the online survey. The data shows a dramatic increase in Asian-American women getting tested for HIV (49.4%). Participants report little concern around HIV ($M = 3.62$, $SD = 1.04$), and an overall positive attitude towards HIV ($M = 4.07$, $SD = .58$). However, there is a statistically significant correlation with age, education, ethnicity, and HIV testing. Data analysis revealed that older, highly educated, and multi-racial Asian-American women are more likely to get tested for HIV. Despite the dramatic increase in testing and positive attitudes, the results point to a need for more outreach programs to Asian-American population.

I certify that the abstract is a correct representation of the content of this thesis.



Chair, Thesis Committee

5/14/15

Date

ACKNOWLEDGEMENTS

I would like to thank those who participated in my survey, without which this study would not have been possible. I especially want to thank community-based organizations, Asian and Pacific Islander Wellness Center, and Community Health for Asian Americans; without your assistance, I would not have learned so much about Asian-American HIV-positive populations. Asian Sisters Participating in Reaching Excellence (ASPIRE), like API and CHAA, helped with recruitment. I would also like to acknowledge my fellow cohort members as well as my thesis committee and dedicated professors, Dr. Rita Melendez and Dr. Colleen Hoff, whose guidance and patience were paramount to my success. I would like to thank my best friend and go-to editor, Christina Nguyen, for putting up with my writing. Lastly, I would like to thank my family, whose support held me up during this long process.

TABLE OF CONTENTS

List of Table.....	vii
List of Figures	viii
Introduction.....	1
Asian Americans and HIV	3
Asian Cultures on Health.....	5
Asian Cultures on Women’s Sexuality	10
Method.....	12
Recruitment.....	12
Measures	13
Data Analysis	16
Results.....	18
Description of Participants.....	18
HIV Testing	20
AIDS CBCI.....	29
HIV/AIDS Attitude Scale	32
Discussion	38
Conclusion	44
Reference	46

LIST OF TABLES

Table	Page
1. Sample Demographic Characteristics	20
2. Whether or not the participants have ever gotten tested for HIV.....	21
3. Responses given by participants have or have not gotten tested for HIV	22
4. T-test for age and ever being tested for HIV	23
5. Cross-tabulation of generation status and HIV testing	23
6. Cross-tabulation of ethnicity/heritage identities and HIV testing	24
7. Cross-tabulation of education level and HIV testing	26
8. Binary logistical regression for age, education, and ethnicity to HIV testing	27
9. Binary logistical regression for age and ethnicity to HIV testing	28
10. Binary logistical regression for age and ethnicity separately to HIV testing.....	28
11. AIDS CBCI Sample Scores	29
12. Pearson Correlation for age and AIDS CBCI	30
13. Descriptive ANOVA for ethnicities and AIDS CBCI scores	30
14. T-test for generation status and AIDS CBCI	31
15. Descriptive ANOVA for education level and AIDS CBCI	32
16. HIV/AIDS Attitudes Scales	33
17. Pearson Correlation for age and attitude scale	33
18. Descriptive ANOVA for ethnicities and attitude scale.....	34
19. T-test for generation status and attitude scale	34
20. Descriptive ANOVA for education level and attitude scale	35
21. Chi-square of HIV testing and attitude scale	36

LIST OF TABLES

Tables	Page
22. Binary logistical regression for age, ethnicity, education, and attitude scale to HIV testing.....	37
23. Binary logistical regression for age, and attitude scale to HIV testing	37
24. Binary logistical regression for age and ethnicity separately to HIV testing	38

LIST OF FIGURES

Figures	Page
1. Sample sizes by scale	41

Introduction

In 2011, the Center of Disease Control (CDC) estimated 47,500 new human immunodeficiency virus (HIV) infections in the United States (2012). Of those 47,500 new infections, Asian Americans account for 950. CDC reports 3,212 Asian-American HIV related deaths in 2010. That same year, Asian-American deaths were higher than the rates for Hispanic's (CDC, 2013). Generally, Asian American HIV rates are low—composing 2% of HIV-positive populations. Asian-American women are 16% of that population. However, studies indicate that HIV incidents among Asian Americans has significantly grown (Chin, Leung, and Rodriguez, 2007; Parts, 2009; Chin 2009; Asian and Pacific Islander American Health Forum, 2013). The rates of HIV for Asian Americans are equal to those of white populations (Louie, 1999, p. 8), and are growing while those of white population remain steady (CDC, 2012).

Despite increasing risk, Asian Americans are least likely to get tested (Toma, 2014). Hence, Asian Americans are less likely to know their status than other ethnic groups. The CDC estimates 1 in 6 people are unaware of their status (2013). HIV is perceived as a “non-Asian epidemic” (Inouye, 1999, p. 95). It is a stigmatizing disease that many deny having. Stigma results from the perception of negative characteristics that distinguishes a person from other members of a group (Goffman, 1986). HIV-stigma is based upon HIV-related shame, fear, prejudice, discrimination, guilt, and lack of knowledge (Stigma Project, 2012). However, unlike other stigmas, HIV-stigma affects

the health and well-being of HIV-positive individuals and HIV-negative individuals. HIV-stigma fuels the ignorance and discrimination, which instills fear of getting tested.

Historically, HIV research has overlooked Asian-American populations. The Asian and Pacific Islander American Health Forum (APIAHF) conducted a case study to improve the collection, reporting, and dissemination of HIV information among Asians and Pacific Islanders in the United States (2013). They found that Asian Americans, Native Hawaiian, and Pacific Islanders classify as an “other” category with regard to race and ethnicity (2013, p. 5-7). The “other” category is used for the populations that are too small. However, while the “other” category is utilized for statistical strength, it makes these populations invisible (Rodriguez & Pajaron, 2009). Even when Asian Americans are accounted for in HIV research, there is inconsistent coding for race and ethnicity with regard to health status (Inouye, 1999, p. 87). Mislabeled and misclassified ethnicities underestimate HIV rates among Asian Americans (Salud, Marshak, Natto & Montgomery, 2013; Ports, 2009), this creates the perception that Asian Americans are at low risk for becoming HIV-positive. Low HIV rates for Asian Americans can result in further lack of testing as some believe there is little to no risk of seroconverting (Inouye, 1999, p. 87).

The study presented here provides a descriptive analysis of Asian American women's HIV testing, concerns, and attitudes on HIV. The reason behind the focus on Asian American women is due to the growing concern of HIV infections within the population (Ports, 2009; Chin, 2009; APIAHF, 2013). The CDC Morbidity and Mortality

Weekly Report (MMWR) reported the most significant increase in annual percentage HIV diagnosis occurred among Asian American women between 2001 and 2004 (14.3%, 2006). The study explores characteristics that could correlate with negative attitudes, the lack of concern, and lack of testing. Asian-American women's issues surrounding HIV is further complicated by cultural and gender values that emphasize sexual modesty, reserved sexuality, and fulfilling family obligations (Chin & Kroesen, 1999). Cultural stigma prevents conversations around HIV, and conversations that could encourage more Asian American to get tested and treated if positive.

Asian Americans and HIV

Historically, Asian Americans have been invisible in HIV/AIDS discussion. During the United States' AIDs Epidemic, Asian Americans have been categorized as "others," and in some cases that continues today (Rodriguez & Pajaron, 2009; APIAHF, 2013). Groups are categorized as "other" because populations are too few to be counted as a separate group. The low reports create an assumption that HIV does not apply to Asian Americans (Ports, 2009). It reinforces the "model minority myth" in Asian American health. The model minority myth originated in the 1960s as a tool to shame the civil rights movement, using Asian people as models to succeeding in America without asking for anything (Shih, 2015). The American success includes education, following the law, and high socioeconomic status. The model minority myth assumes Asian Americans' supposed socioeconomic success alleviates health issues.

Contrary to the myth, Asian ethnic groups are not immune to health challenges and diseases (Sun, 2013). Other explanations for low HIV reports include: shame, loss of face, delay reporting, misdiagnosis, misinformation, and lack of HIV education/outreach (Inouye, 1999). Denial, shame, and privacy concerns associated with the lack of disclosure could skew the rates as well (Chin, 1999; Louie, 1999). The collectivist mentality perceives HIV as an outgroup problem (Inouye, 1999). Collectivism is common throughout many Asian American cultures. Collectivism prioritizes the group over individuals; where individuals are interdependent and defined as part of a group (Chin, 1999). HIV is not viewed as an Asian American concern, which increases isolation for HIV-positive Asian Americans, and reduces the effectiveness of educational health programs. Asian Americans are “less knowledgeable on HIV, its transmission, where to get tested, and obtain information” (Inouye, 1999, p. 89). We must increase communication and education about HIV in order to reduce risk factors (Louie, 1999); however, communication is a barrier not only because of stigmatization, but also linguistic limitation.

Thirty-five percent of HIV-positive Asian Americans individuals are monolingual (Port, 2009). There are numerous Asian ethnic languages and dialects; not all outreach programs can accommodate all them. Immigrant parents often use their children as translators, which causes discomfort for the patients and their children—especially questions about sexual risk behavior (Ports, 2009; Daus-Magbual and Magbual, 2013). HIV/AIDS education needs to be delivered in ways that are linguistically available and

respectful of people's cultural background. Health guidelines that follow those requirements are "more likely to achieve compliance with recommendations, despite the complexity of the American health care system" (Sun, 2013, p. 29).

Respecting people's culture is crucial for Asian-Americans outreach. Programs that cater to Asian-American populations "have received far fewer resources and prioritization for HIV prevention" because of the low overall rates (Operario et al, 2013, p. 375). This limits the education and outreach Asian American populations receive on HIV prevention. Currently, Asian Americans are experiencing an alarming rise in numbers of new HIV infections (Operario et al, 2013; Ports, 2009; Chin 2009; APIAHF, 2013). Many Asian Americans who tested positive, sought testing later in the course of the infection when severe symptoms appear (Adih et al, 2011; Operario et al, 2013). Increasing outreach and research in Asian American populations will increase awareness and increase testing before symptoms appears.

Asian Cultures and Health

Death, illness, drugs, and sexuality are deemed "taboo" topics in Asian culture. HIV's association with these topics makes it difficult to discuss amongst the community (Chin & Kroesen, 1999). Many researchers hypothesize that HIV stigma among Asian-American populations repress statistics of reported HIV cases among Asians (Chin & Kroesen, 1999; Yoshioka & Schustack, 2001). There are 48 cultural traditions and practices from Asian American subgroups that influence health related behavior. While it is incorrect to assume that all Asian-American ethnicities have the same cultural beliefs,

they do possess common characteristics such as a collectivist social structure, but each subgroup experience health differently because of their cultural background. Based on the subgroups responding to the survey, the study focuses on Chinese, Vietnamese, Filipina, and multi-racial Asian heritages.

Chinese. Chinese culture surrounding health emphasizes “harmony, respect, self-control, yin-yang balance, interdependence, and collectivism, and community” (Sun, 2013, p. 26). Confucianism, Buddhism, and Holism influence Chinese health beliefs (Sun, 2013). Confucianism enforces the collectivism ideas of the common good and the community needs taking precedence over the individual (Sun, 2013). Confucianism also affirms the importance of family values, filial piety, and respect for elders. Therefore, family members influence health behaviors and those health behaviors reflect back to the family (Sun, 2013). Based on Buddhist teachings, Chinese culture views “engaging in emotional restraint and coping with suffering, such as terminal illness, as ways to improve the quality of one’s next life” (Sun, 2013, p. 28). The pain they receive is a trial they must endure as harmony and balance are achieved through the mind and body’s relationship. Holism teaches, “The onset and development of disease are considered in conjunction with social and environmental changes experienced in the life of an individual” (Sun, 2013, p. 28). Acupuncture is a popular example of Chinese holistic practice. It exemplifies how the human body internal organs are interdependent on each other. Chinese culture interprets the holistic concept to mean that all diseases and illnesses are preventable and/or controllable through maintaining balance, exercise, and

eating habits (Sun, 2013). It is on the individual and their families to maintain that balance.

Chinese health beliefs are based upon preserving balance and medical interference is not necessary until health problems occur. Chinese traditionalists turn to diagnostic procedures for health problems and may not have experienced preventive care (Sun, 2013). They do not comprehend screening for diseases they may or may not have, which explains HIV testing is more common among Asians only once symptoms have shown (Adih et al, 2011; Operario et al, 2013). HIV symptoms could take months or years after transmission to appear. Without testing or treatment, the risk of passing on the virus increases in comparison to that of a person who tests earlier, allowing for better treatment of the infection.

Vietnamese. Vietnamese are the fastest growing Asian ethnic group in the United States (Le and Nguyen, 2013, 87). They are currently the fourth largest Asian ethnic group. Vietnamese American populations primarily consist of either first- or second-generation Americans. According to the American Community Survey, 70% of Vietnamese Americans are foreign born (2009). Significant waves of Vietnamese immigration occurred due of the Vietnam War—both during and after the war. Many Vietnamese Americans are refugees from the war and arrived with extremely limited finances (Le and Nguyen, 2013). They turn to their traditional beliefs and family support as they work through their struggles in an unknown society.

Vietnamese health beliefs are similar to those from Chinese culture. For example, Am-Duong model is based on the Chinese's yin-yang model; balance between two opposing forces must be maintained for good health (Le and Nguyen, 2013). Vietnamese also practice collectivism, and Buddhism and Confucianism influence their traditions (Le and Nguyen, 2013). Many Vietnamese Americans are Catholic. Vietnamese Catholics make up at least 30% of Vietnamese American populations because significant numbers of Vietnamese Catholic were refugees from the war and immigrated to the US (Le and Nguyen, 2013). Catholicism has a strong moral influence on health, sexuality, and family (Okazaki, 2002), which intersect with Asian culture stigma on premarital sex and condoms. Family, interdependency, and group dynamics play a crucial role in Vietnamese society (Le and Nguyen, 2013). Individuals who disclose their HIV status risk dishonoring their family or losing family support (Chin, 1999). Family dishonor influences the lack to testing because the fear of a positive result and what will happen after knowing the results (Chin, 1999).

Filipino. According to Daus-Magbual and Magbual, Filipino health information is limited and misconstrued because Filipinos are lost in the Asian American umbrella (2013). Filipinos sometimes identify as Pacific Islander over Asian American, which would put them in another categorization. When Filipinos are observed separately as a subgroup, the data reveals the Filipino Americans have the highest risk for sexually transmitted diseases (Daus-Magbual and Magbual, 2013). While Filipino cultural dynamics are similar to other Southeast Asian Americans, they are distinct in many ways.

Filipino culture is heavily influenced by Catholicism as well as Islam. Spanish and American colonialism led to rampant poverty and the diaspora of Filipinos (Daus-Magbual and Magbual, 2013). In the United States, socio-economic conditions, immigrant status, diet and exercise, acculturation, and colonial mentality are cited as “contributing factors negatively affecting the health of the Filipina/o American community” (Daus-Magbual and Magbual, 2013, 52). Filipino Americans experience micro-aggressions, which contributed to the resistance to seek health. Micro-aggressions can cause unnecessary stress on top of seeking health care. Micro-aggressions can range from hostile environment to verbal and/or behavioral indignities (Daus-Magbual and Magbual, 2013). Financial barriers heavily influence preventative health care and there is a reluctance to use health services because of perceived expenses (Daus-Magbual and Magbual, 2013). HIV testing is often free, but if the outreach does not reach the population, then it will not be effective for people who need it.

Bi- and Multi-racial Asian Heritage. Little research has been done on bi- and multi-racial Asian Americans because of the low reported population. The US Census Bureau estimated that of the Asian American population, 13% are bi-racial and 1.9% are multi-racial (2014). The multi-racial population will grow when the practice of self-identification with more than one race becomes the norm in surveys (Tashiro, 2013). Previous studies have found that multi-racial adolescents are more likely to engage in greater behavioral risk than their mono-racial counterparts (Udry, Lim, and Hendrickson-Smith, 2003). Bi- and multi-racial Asian-American youth were reported to engage in

risky sex, have suicidal ideas, and abuse substances, more likely than their mono-racial counterparts (Choi, Harachi, Gillmore, & Catalano, 2006). Women in particular are more likely than their mono-racial counterpart to experience physical symptoms and substance use (Tashiro, 2013). Substance use and risky sex increases their chances of getting HIV, however, there has not been a study that factors multi-racial Asian Americans' perspective on HIV. The increased risk behavior could be attributed to a sense of not belonging and having to justify their racial identity (Tashiro, 2013), which takes a toll on their mental health.

Common Characteristics. A common characteristic with regard to health among Asian-American subgroups involve seeking treatment when the symptoms are extreme or of long duration (Operario et al, 2013). Other common characteristics include: low socioeconomic conditions, and language barriers (Inouye, 1999; Le and Nguyen, 2013; Sun, 2013; Daus-Magbual and Magbual, 2013). Many Asian-American groups do not have access to health care services, or even know where to look for these services. Even if they find health centers, language barriers play a large role in limited care (Inouye, 1999; Le and Nguyen, 2013; Sun, 2013; Daus-Magbual and Magbual, 2013; Yoo and Wood, 2013). Reduced access to care leads to delayed diagnosis, and unmanaged chronic health conditions, which leads to increased morbidity and mortality (Yoo and Wood, 2013). In 2010, 3,212 HIV-positive Asian Americans died, which was higher than the Latino death reports (CDC, 2013).

Asian Cultures on Women's Sexuality

Between 86-92% of all HIV transmission categories for women involve heterosexual sexual activities (APIAHF, 2013; Operario et al, 2013). Americans—specifically white Americans—are deemed sexually promiscuous (Espiritu, 2001). Asian American women, whether Chinese, Vietnamese, Filipina, or any Asian heritages are often told that “good Asian girls” do not act like white girls (Espiritu, 2001; Okazaki, 2002; Lee, Tran, Thoi, Change, Wu, and Trieu, 2013). Asian girls are also warned about the exoticification of Asian American women by white men to be predatory (Chou, 2012). Asian American women are navigating through a world that defines their sexuality, “As a social being, it takes exceptional strength to define oneself without regard to externally imposed definition” (Chou, 2012, p. 99). For Asian-American women, their sexuality is regulated under the guise of protection (Chou, 2012). While these ideas are intended to protect the women and girls, the collectivist mindset stigmatizes women who act outside the group.

Ideas relating to sexuality for Asian-American women reinforce patriarchal control over their sexuality. According to Yen Le Espiritu, beliefs around sexuality give a “cultural superiority over the dominant group [white Americans]” (2001). Women who behave outside their culture’s gender expectations are stigmatized as “white-washed” or “trying to be like the white girls.” These behaviors could range from how they dress to wanting to move out of their parents’ house before marriage. An Asian women’s virginity is put on a pedestal of ethnic self-respect. If the women lost their virginity before marriage, they are viewed as “spoiled”, like pieces of meat (Chou, 2012), and her actions

reflect the group. Because of the stigmatization of sexuality, there is a cultural reluctance of speaking about HIV related behaviors (Inouye, 1999), which discourages getting tested. According to a national survey of young adult women, 17.2% Asian American women have been tested for HIV, which is the lowest compared to women of other racial groups (Hahm, Song, Ozonoff, & Sassani, 2009). The purpose of this study is to explore Asian American women's attitudes, concern, and testing rates, which could shed further light on how Asian American women perceive HIV.

Methods

Data collection consisted of an online survey. The survey was developed using San Francisco State University's (SFSU) Qualtrics program and participants completed the surveys online. The survey for this study contained 42 closed-ended questions and 3 open-ended questions, meaning participants could enter their responses and not select from a category. The survey took approximately 10-15 minutes to complete. The questions were divided into three sections: demographics, HIV testing, concerns, and attitudes. For the purpose of this study, all three sections were examined. No incentives were given for survey participation. A qualitative phase of this study was planned and administered; however, due to low recruitment ($n = 1$), the phase was discarded.

Recruitment

Participants were recruited through convenience and snowball sampling method. All recruitment occurred online. Various Facebook pages catering to Asian-American organizations were contacted to post flyers such as the Union of the Vietnamese Student

Association (UVSA), and Asian Sisters Participating in Reaching Excellence (ASPIRE). The survey's link was also posted on social media pages, such as StudyRoom, and Reddit. To recruit participants who could not be reached via social media, participants were also recruited on Craigslist's "volunteer" pages. The Craigslist flyers were promoted on California county and cities' pages including: San Francisco Bay Area (including East Bay and South Bay), Sacramento, Los Angeles County, Orange County, San Diego County, Santa Barbara, and Fresno. Hard copy flyers were also posted at SFSU's ASI EROS, and handed out at SFSU classes with the professor's permission. Recruitment duration was from November 2014-January 2015.

Screening questions assured that participants met the study's criteria. The individual must: be 18 years old or above, self-identify as Asian American, and a cisgender woman. Cisgender means individuals who identify with the gender assigned at birth. To self-identified as Asian American means identifying as Asian Indian, Bangladeshi, Burmese, Cambodian, Chinese, Filipino, Hmong, Indonesian, Japanese, Korean, Laotian, Malayan, Okinawan, Thai, and Vietnamese. People of bi-racial and multi-cultural Asian descent were also able to participate.

Measures

Demographic questions include: age, ethnicity/heritage, generation status, and education. Previous research included these variables as factors toward HIV concerns, attitudes, and testing (APIAHF, 2012; APIAHF, 2013; Tung et al, 2013; Salud, 2014). Age and ethnicity/heritages were open-ended questions. Age remained a ratio measure

during analysis, while ethnicity/heritages were categorized as Vietnamese, Chinese, Filipina, Korean, Taiwanese, Malaysian, Japanese, Cambodian, Hawaiian, Hmong, more than one Asian heritage, and bi- and multi-racial heritage. To be categorized as “more than one Asian heritage,” a woman would respond with more than one Asian heritage such as “Vietnamese-Chinese” or “Filipino-Chinese.” To be categorized as “bi- and multi-racial heritage,” a woman would respond with an Asian heritage and a non-Asian heritage such as “Japanese-European” or “Filipino, French, Italian, Spanish.”

Generational status indicates whether or not the person or the person’s parents were born in the United States. For example, first generation is a foreign born citizen, who became naturalized later in life; second generation is a native born citizen, whose parents are foreign born. Generation status is based upon the question: “Who in your family was the first to immigrant to the US?” The choices are “Your parents (or someone from their generation before having children),” “Your parents with children,” “Your grandparents (or someone from their generation),” “Your great grandparents,” “Before your great-grandparents,” and “Yourself.”

HIV testing is observed because previous research reference that Asian Americans are least likely to get tested (Sabato, 2014; Toma, 2014). Participants were asked, “Have you ever been tested for HIV?” If the participants answer yes, the question is linked to asking “Why did you get tested?” If the participants answer no, the question is linked to “Why have you not gotten tested?” The link question is an open-ended question for participants to fill themselves.

Brown and Boncarnea's "Assessing AIDS-Related Concern, Beliefs, and Communication Behavior (AIDS CBCI)" was adapted to inquire about the concerns of the participants as they relate to HIV (1998). AIDS CBCI was developed in 1991 to assess concerns about AIDS, knowledge of the disease, and communication behavior regarding HIV/AIDS. The AIDS CBCI scale was designed to help researchers studying the effect of AIDS educational programs, beliefs about HIV/AIDS, and interpersonal communication with others about the disease (Brown & Boncarena, 1998). The 11 Likert's scale questions are keyed in the same direction; 1 indicates the lowest level of concern and 7 indicates the highest level of concern. A mean score was calculated. The questionnaire was screened for validity and reliability. The Cronbach's Alpha for AIDS CBCI was 0.77, which is above an acceptable minimum for a scale (Nunnally and Bernstein, 1994).

Luquis and Koch "HIV/AIDS Attitude Scales for Hispanics" was similarly adapted and used in the survey (1998). The Attitude Scale for Hispanics assesses attitudes about HIV/AIDS among people with Hispanic backgrounds. While the scale is meant for Hispanic populations, it contains questions pertaining to cultural context that are similarly relevant to Asian Americans—such as the "virginity" and "promiscuity" dichotomy, highly structured gender roles, and barriers toward contraception (Luquis and Koch, 1998). The questions utilized Likert's scales. The answers range from "strongly agree," "agree," "uncertain," "disagree," to "strongly disagree." A mean score is calculated from 1, indicating the most unsupported/negative attitude toward HIV/AIDS to 5 representing

the most supportive attitudes. There are 14 reverse coded questions for reliability. By examining the beliefs and attitudes with regards to HIV/AIDS, the study examines influencing factors and cultural barriers that resonate among Asian-American women. The attitude scale's Cronbach's Alpha was 0.90, which means the scale is reliable for this sample of Asian-American women.

Data Analysis

The data was exported from Qualtrics to SPSS Student version 22 (2013). Surveys that did not have more than six questions completed were deleted because the analyses would have been challenging or impossible. Also, surveys with incomplete scales were deleted when using the scale in analyses to ensure that the scale was complete for each participant.

Univariate analysis describes the sample population with regard to age average, generation status, education level, ethnic identity, AIDS CBCI, and attitude scale. The generation status responses were condensed to first generation ("Yourself" and "Your parents with children"), second generation ("Your parents without children"), third generation ("Your grandparents"), fourth and higher ("Your great-grandparents" and "Before your great-grandparents").

Open responses for HIV testing follow-up question was collapsed into categories for univariate analysis. The categories for the never been tested follow-up response are "not recommended/suggested by physician or medical provider," "don't feel the need," "no sexual relations/abstain from sex," "monogamous relations," "no chance/don't know

how,” “non-heterosexual relations,” and “always used a condom.” The categories for the ever been tested follow-up are “routine or standard procedure,” “Well Women Exam/pap smear/OBGYN-related visit,” “offered/suggestion/recommended by physician and medial provider,” “insurance or work-related,” “blood donation,” “before new relationship,” “failed birth control,” “STI check,” “just wanted to know/safety,” “multiple sex partners,” and “cheating partner.”

Bivariate analysis was used to find correlations between demographic variables, getting tested for HIV, and the scales. Getting tested and the scales are dependent variables. Chi-squares and a t-test were used to analyze getting tested because getting tested was a dichotomous measure. Correlations and one factor ANOVA were used for the scales’ analysis because they were continuous measures. For the multivariate analysis, age was dichotomized to one category being 18-25, and a second 26 and older. Education was also dichotomized for multivariate analysis to under Bachelor degree (dropout, high school or equivalent, associate degree, and some college), and Bachelor degree and above. Lastly ethnicities were dichotomized to one category being mono-racial Asian American and the other multi-racial Asian Americans. Variables were dichotomized to give more statistical power to group with small samples and when there is a significant difference in one group.

Analyses will answer the following questions: What demographic factors are associated with testing for HIV among Asian-American women? What factors are

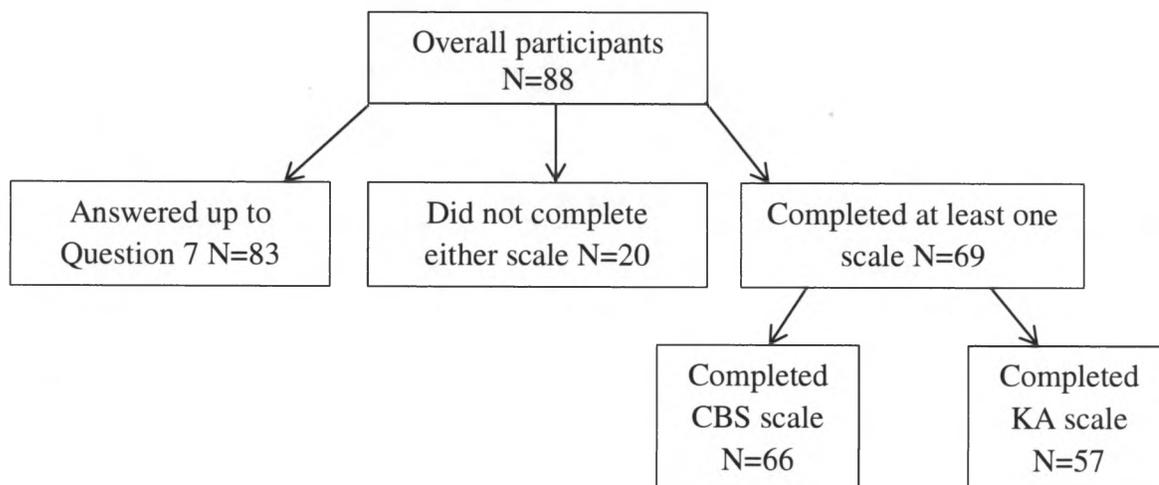
associated with Asian-American women's HIV concerns? What factors are associated with Asian-American women's HIV attitudes?

Results

Description of Participants

Of the 117 people who clicked on the survey's link, 88 completed the survey. Twenty people did not wish to proceed after reading the consent form. Three people did not follow the survey's criteria: self-identified Asian American woman. Six people did not answer more than six questions were deleted. Participants who did not complete more than six questions were delete (n = 5). Surveys that did not complete the HIV testing, AID CBCI scale, and the attitude scales were deleted for each section's data analysis (HIV testing, n = 5; AID CBCI, n = 22; attitude scale, n = 31). Of the 88 participants who submitted their surveys: 83 participants completed the HIV testing variable, and 69 participants completed at least one scale. Of those 69, 66 participants completed the AID CBCI scale and 57 participants completed the attitude scale (Figure 1).

Figure 1. Sample sizes by scale. (Question 7 is "Have you ever been tested for HIV?")



Participants are young women with an average age of 26.04 (SD = 8.15; Table 1). Fifty-three percent of the sample is second generation Asian American. The sample group is also a highly educated with 44.6% with a bachelor's degree, 24.1% with some college experience, but not yet complete. The common ethnicity/heritage identities are Vietnamese (24.4%), Chinese (19.5%), Filipina (11%), and women with more than one Asian heritage (12.2%).

Table 1. Sample Demographic Characteristics (N=83)

<i>Variable</i>	<i>Mean M (SD)</i>	<i>Median (IQR)</i>
Age (Years)	26.04 (8.15)	24 (6)
	<i>Valid Percent</i>	<i>Total (n)</i>
Generation		
First	24.1	20
Second	53.0	44
Third	18.1	15
Fourth or higher	4.8	4
Education Level		
High School or GED	7.2	6
Associate's Degree	7.2	6
Bachelor's Degree	44.6	37
Master's Degree	13.3	11
Doctorate Degree	2.4	2
Professional degree	1.2	1
Some college, not complete	24.1	20
Ethnicity/heritage		
Vietnamese	24.4	20
Chinese	19.5	16
More than one Asian heritage	12.2	10
Filipina	11.0	9
Korean	7.3	6
Taiwanese	6.1	5
Japanese	6.1	5
Hmong	4.9	4
Bi- or Multi-Racial heritage	4.9	4
Malaysian	1.2	1
Cambodian	1.2	1
Hawaiian	1.2	1

HIV Testing

About half of the participants have had a HIV test (Table 2); 49.4% of participants have gotten tested for HIV, whereas 50.6% have never gotten an HIV test.

Reasons for having had a HIV test are often medically related. For example, 23.1% of the

women who have gotten tested said it was because of a “routine or standard procedure,” while 17.9% said “Well Women Exam/OBGYN-related visit” (Table 3). In some way or form, the test was standard or offered with their procedure. One participant stated, “[It was] standard procedure at PP [Planned Parenthood], asked if I wanted, I said sure.” Another participant reported, “General STI testing when I mentioned to my gynecologist at the time that I'm now sexually active.” Participants who gotten tested were nonchalant in their response. For example, a participant reported, “It was a routine exam; I was curious if I had anything that I had no knowledge of. Since the tests were free of charge, why not?” Another reported, “I wanted to know if [I] was positive or negative on HIV.”

Table 2. Whether or not the participants have ever gotten tested for HIV.

<i>Have you ever been tested for HIV?</i>	<i>Valid Percent</i>	<i>Total</i>
Yes	49.4	40
No	50.6	42

Reasons for not having had a HIV test are often behavioral related. For example, 31.7% says they abstain from sexual activity; therefore they do not need to be tested. About a third of the women who have not gotten tested say it was because they “do not feel the need to be tested” (Table 3). One participant responds, “I have not been tested because I haven’t felt like it is necessary to.” Another says, “I have discussed my sexual history with all of my partners and feel no need to.” The third most popular reason tied (9.8%) between two reasons: monogamous relationships, and do not know how/do not have the chance to get tested. Monogamous reasons vary from current relationship or sexual history. For example, a participant reports, “[I] don’t have multiple partners nor do

one night stand. [I] am in a monogamous relationship.” Other participants report, “currently in monogamous relationship with no prior sex partners” and “Don’t think I have it—have only been with one person sexually.” These statements reflect the stigmatization that HIV only happens to people who are promiscuous.

Table 3. Responses given by participants have or have not gotten tested for HIV.

<i>Variable</i>	<i>Valid Percent</i>	<i>Total (n)</i>
Never Gotten Tested		
N = (38)		
No sexual relations/abstain from sex	31.7	13
Do not feel the need to be tested	29.3	12
Monogamous relationships	9.8	4
Do not know how/Do not have the chance	9.8	4
Not recommended/suggested by physician or medical provider	4.9	2
Non-heterosexual relations	4.9	2
Always used a condom	2.4	1
Ever Gotten Tested		
N = (37)		
Routine or standard procedure	23.1	9
Well Women Exam/OBGYN-related visit	17.9	7
Just wanted to know/feel safety	17.9	7
Insurance, license, or work-related	10.3	4
Before new relationship	7.7	3
STI check	5.1	2
Offered/suggested/recommended by physician or medical provider	2.6	1
Blood donation	2.6	1
Failed birth control	2.6	1
Multiple sex partners	2.6	1
Cheating partner	2.6	1

The women who have gotten tested group’s average age is 28.15 (SD = 8.25). By comparison the women who have never gotten tested group’s average age is 23.98 (SD = 7.59). To test the hypothesis that getting tested is associated with statistically

significantly different mean age, an independent samples *t*-test was performed. The independent samples *t*-test is associated with a statistically significant effect, $t(79) = 2.37$, p -value = .020 ($p < 0.05$; Table 4). Thus, older age is associated with a statistically significantly with getting tested for HIV.

Table 4. T-test for age and ever being tested for HIV.

Variable	<i>Have you ever been tested for HIV?</i>						<i>p</i> <0.05	<i>df</i>
	<i>Yes</i>			<i>No</i>				
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>		
Age	28.15	8.25	40	23.98	7.59	41	0.020	79

Differences in HIV testing when compared to generation status varied; therefore the samples were condensed. First and second generations were categorized together, while third, fourth, and above combined. Over half (51.6%) of first and second generation participants have had an HIV test (Table 5). Less than half (42.1%) third and fourth generation have not had an HIV test (Table 5). A Pearson chi-square test is performed to test the hypothesis that generation status is associated with getting tested. The Pearson chi-square test revealed a p -value = .47, which means there is no statistical significance between generation status and HIV testing.

Table 5. Cross-tabulation of generation status and HIV testing.

			<i>Generation Status</i>		<i>Row Total</i>
			<i>1st and 2nd generation</i>	<i>3rd and 4th generation</i>	
Have you ever been tested for HIV?	Yes	Count	33	8	41
		%	51.6	42.1	49.4
	No	Count	31	11	42
		%	48.4	57.9	50.6
Column Total		Count	64	19	83
		%	100.0	100.0	100.0

Lastly, HIV testing was explored by educational level. A Pearson chi-square test was performed to test the hypothesis that education level is associated with getting test. Women with a high school diploma or GED equivalent ($n = 6, 7.2\%$) answered that they have never gotten tested for HIV. Associate's degree samples are split evenly with 7.3% who gotten tested and 7.1% who have never gotten tested. Women with bachelor's degree revealed 48.8% have gotten tested, while 40.5% have never gotten tested. Women with master's degree reported 17.1% have gotten tested, whereas 4.9% women with a doctorate, and 2.4% women with a professional degree have gotten tested (Table 7). In the chi-square test, assumption was interrupted; 8 cells (57.1%) have expected count less than 5. The likelihood ratio shows a p -value = .026, which means there is a statistically significant association between education and HIV testing. Those with higher education levels are more likely to get tested for HIV.

Table 7. Cross-tabulation of education level and HIV testing.

			<i>Have you ever been tested for HIV?</i>		
			<i>Yes</i>	<i>No</i>	<i>Total</i>
What is your highest education level?	High school diploma or GED	Count	0	6	6
		%	0.0	14.3	7.2
	Associate's Degree (AA, AS)	Count	3	3	6
		%	7.3	7.1	7.2
	Bachelor's Degree (BA, BS)	Count	20	17	37
		%	48.8	40.5	44.6
	Master's Degree (MA MS)	Count	7	4	11
		%	17.1	9.5	13.3
	Doctorate degree (PhD, EdD)	Count	2	0	2
		%	4.9	0.0	2.4
	Professional degree beyond Bachelor's degree (MD, DDS, LLB, JD, etc)	Count	1	0	1
		%	2.4	0.0	1.2
	Some college, not complete	Count	8	12	20
		%	19.5	28.6	24.1
Column Total		Count	41	42	83
		%	100.0	100.0	100.0

Age, ethnicity, and education were significantly associated with getting an HIV test. To further explore these statistical relationships, a binary logistic regression model evaluated the association between each independent variable and the dependent variable. The dependent variable is a history of getting a HIV test. The independent variables in the logistic regression include age, ethnicity, and education. Age is dichotomized into categories of 18-25 and 26+. Education is also dichotomized into “less than a Bachelor’s degree” (high school/GED, some college, and associate’s degree) and “having a

Bachelor's degree or more" (Bachelor's degree, Master's degree, professional degree, and PhD). The binary logistic regression model shows that education does not remain statistically significantly associated with the outcome of getting tested for HIV (p -value = .130; Table 8). However, age and ethnicity are independently associated with the outcome of getting tested for HIV.

Table 8. Binary logistical regression for age, education, and ethnicity to HIV testing.

<i>Variable</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratio</i>
Age	1.509	.564	1	.007	4.523
Ethnicity	.535	.181	1	.003	1.708
Education	.153	.101	1	.130	1.165
Constant	-3.013	.996	1	.002	.049

A final model was run that included only age and ethnicity. To increase the power of the analysis, ethnicity was dichotomized into "mono-racial" and "multi-racial" because the bivariate analysis shows 71.4% Multi-racial Asian Americans getting tested for HIV (Table 6), while the other Asian American groups showed smaller chances of getting tested. The binary logistical regression test illustrates that age and ethnicity are statistically associated with the outcome of getting tested for HIV (Table 9). Age's p -value equals .004 and ethnicity's p -value equals .033. Therefore the null hypothesis is rejected; there is a relationship between the age and ethnicity, and getting tested for HIV that cannot be attributed to chance or random sample variation.

The odds ratio demonstrates the odds of getting tested for HIV for each one unit increase in the independent variable. An odds ratio greater than 1 indicates that the odds of being ever tested for HIV increase when the independent variable changes from 0 to 1.

For participants older than 25, the odds of getting tested for HIV are 4.84 times higher than participants 25 and under. The odds of getting tested for HIV are 4.17 times higher among multi-racial Asian American compared to mono-racial Asian Americans.

However, when inserted into a Pearson correlation test, there is no correlation between age and ethnicity ($r(79) = -.042$, $p\text{-value} = 0.707$).

Table 9. Binary logistical regression for age and ethnicity to HIV testing.

<i>Variable</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratios</i>
Ethnicity	1.428	.671	1	.033	4.171
Age	1.577	.541	1	.004	4.841
Constant	-.754	.313	1	.016	.470

In binary logistical regression tests for age and ethnicity separately, age continues to be significant variable ($p\text{-value} = .009$, Table 10), while ethnicity is no longer significant individually ($p\text{-value} = .072$, Table 10). This means ethnicity is only significant with age. Age is driving the effect.

Table 10. Binary logistical regression for age and ethnicity separately to HIV testing.

<i>Variable</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratios</i>
Ethnicity	1.153	.640	1	.072	3.167
Constant	-.236	.244	1	.333	.789
Age	1.577	.541	1	.004	4.841
Constant	-.420	.268	1	.118	.657

There are statistically significant differences with regard to getting tested among Asian-American women. Age, education, and ethnicity are factors to getting tested. Older Asian-American women are more likely to get tested for HIV. Asian-American women

Table 12. Pearson Correlation for age and AIDS CBCI.

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Pearson Correlation</i>	<i>Sig. (2- tailed)</i>	<i>N</i>
Age	25.70	6.96	1		66
AIDS CBCI Scores	3.62	1.04	1	0.17	66

Ethnic identities' AIDS CBCI averages varied across groups; therefore the samples were condensed like they were for HIV testing. The descriptive statistics associated with AIDS CBCI across ethnicities are reported in Table 13. Multi-racial Asian Americans reported the highest concerns around HIV/AIDS ($M = 4.04$, $SD = 1.14$). Filipina reported lowest concerns ($M = 3.01$, $SD = 0.87$). In order to test the hypothesis that ethnicities had an effect level of concerns towards HIV, an one-way ANOVA is performed. The ANOVA yielded no statistically significant effect, $F(4) = 1.27$, p -value = 0.442. Thus, there are no differences between ethnicities and level of concerns.

Table 13. Descriptive ANOVA for ethnicities and AIDS CBCI scores.

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>Std. Deviation</i>	<i>Std. Error</i>
Vietnamese	16	3.68	.98	.25
Chinese	15	3.69	1.01	.26
Filipina	8	3.01	.87	.31
Other	15	3.49	1.08	.28
Multi-racial	12	4.04	1.14	.33
Total	66	3.62	1.04	.13

Descriptive statistics associated with the AIDS CBCI scale across generation status are reported in Table 13. First generation and second generation Asian-American women have a higher level of concerns around HIV, $M = 3.64$ ($SD = 1.08$). Fourth and third generation report lower level of concerns with an average of 3.57 ($SD = 0.93$). A T-

test was performed to test the hypothesis that generation status has an effect level of concerns towards HIV. The t-test yielded no statistically significant effect, $t(64) = 0.21$, p -value = 0.84 (Table 14). Thus, there are no differences between generation status and level of concerns.

Table 14. T-test for generation status and AIDS CBCI.

Variable	AIDS CBCI Scores			$p < 0.05$	df
	<i>M</i>	<i>SD</i>	<i>n</i>		
1 st and 2 nd Generation	3.64	1.08	52	0.84	64
3 rd and 4 th Generation	3.57	0.93	14		

Education and AIDS CBCI scores do not vary as much as ethnicity. Women with professional degrees possess the highest level of concern for HIV ($M = 6.00$, $SD = NA$; Table 15), but there is only one participant in the sample. The group sample with the highest average is Asian-American women with a bachelor's degree with an average of 3.85 ($SD = 1.19$), which means there is a low level of concern for HIV. The rest of the group samples remained above 3, but below 4. Asian-American women with master's degree reported the lowest average, $M = 3.19$ ($SD = 0.61$). The one-way ANOVA revealed no statistical significant effect, $F(6) = 1.87$, p -value = .10, which means there is no difference between education and levels of concerns.

Table 15. Descriptive ANOVA for education level and AIDS CBCI.

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
High school diploma or GED	5	3.20	.70009	.31309
Associate's Degree (AA, AS)	5	3.87	.64502	.28846
Bachelor's Degree (BA, BS)	30	3.85	1.19403	.21800
Master's Degree (MA MS)	8	3.19	.60786	.21491
Doctorate degree (PhD, EdD)	2	3.38	1.33565	.94444
Professional degree beyond Bachelor's degree (MD, DDS, LLB, JD, etc)	1	6.00	.	.
Some college, not complete	15	3.33	.83042	.21441
Total	66	3.62	1.03919	.12792

The bivariate analyses do not show any difference between age, generation status, ethnicity, education, and HIV concerns. There are no factors associated with Asian-American women's HIV concerns. The null hypothesis for each variable is accepted. There is no statistically significant difference with regard to Asian-American women's concerns.

HIV/AIDS Attitude Scale

Participants' attitude scale average is 4.07 ($SD = 0.58$). The average indicates an overall positive attitude toward HIV/AIDS (Table 16). Combined with the AIDS CBCS scale, Asian American women in this study have low concerns around HIV/AIDS, but have a supportive attitude towards HIV/AIDS issues. To test for statically significant correlations with the independent variables, a Pearson correlation test, t-test, and one-way ANOVAs are performed.

Table 16. HIV/AIDS Attitudes Scales.

<i>Scale</i>	<i>Mean (SD)</i>	<i>Median (IQR)</i>	<i>Range</i>	<i>Total (n)</i>
Knowledge and Attitude	4.07 (0.58)	4.19 (0.54)	2.92	57

The average age of women who completed the attitude scale is 25.82 ($SD = 7.20$).

To test the hypothesis that attitude towards HIV is associated with statistically significantly different mean age, a Pearson correlation test was performed. The Pearson correlation test revealed a perfect positive linear relationship between variables ($r(55) = 1$, Table 17). However, the p -value = .07 (Table 17), which indicates age and attitudes are not significantly correlated.

Table 17. Pearson Correlation for age and attitude scale.

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Pearson Correlation</i>	<i>Sig. (2- tailed)</i>	<i>N</i>
Age	25.82	7.20	1		57
Attitude Scale	4.07	.58	1	0.07	57

Unlike AIDS CBCI, ethnic identities' attitude scores do not vary as much across groups. The descriptive statistics associated with attitudes across ethnicities are reported in Table 18. Between Vietnamese, Chinese, Filipina, and women with more than one Asian heritage, Filipina have the most positive attitude towards HIV ($M = 4.13$, $SD = 0.28$). The sample group with the least positive attitude is women who identify as Chinese with an average of 3.90 ($SD = 0.65$). To test the hypothesis that ethnicities related to attitudes, an one-way ANOVA is performed. The ANOVA yielded no

statistically significant effect, $F(4) = 0.29$, p -value = 0.89. Thus, ethnicities and attitudes are not significantly correlated.

Table 18. Descriptive ANOVA for ethnicities and attitude scale.

<i>Variables</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Vietnamese	15	4.12	.34	.09
Chinese	11	3.90	.65	.19
Filipina	8	4.13	.28	.10
Other	14	4.07	.64	.17
Multi-racial	9	4.12	.90	.30
Total	57	4.07	.58	.08

The descriptive statistics associated with attitude scales across generation status are reported in Table 19. First and second generation Asian American women have the most positive attitudes towards HIV in this sample with an average of 4.10 ($SD = 0.55$). Third and fourth generation only has a 0.14 difference. Their average is 3.96 ($SD = 1.21$), which is less positive than first and second generation. T -test is performed to analyze generation status and HIV attitudes' relationship. The t -test yielded no statistically significant effect, $t(55) = .74$, p -value = .47 (Table 19). Thus, generation status and attitudes are not significantly correlated.

Table 19. T-test for generation status and attitude scale.

<i>Variable</i>	<i>Attitude Scale</i>			<i>p < 0.05</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>n</i>		
1 st and 2 nd Generation	4.10	0.55	45	0.47	55
3 rd and 4 th Generation	3.96	0.68	12		

Much like AIDS CBCI, education and attitude scores do not vary as other variables. When separated by degree, each education levels have an overall positive

attitude towards HIV. The group samples remained above 4. Women with associate's degree possess the highest average of 4.21 ($SD = .54$, Table 20), which is a positive and supportive attitude towards HIV. Asian-American women with some college experience reported the lowest average, $M = 3.66$ ($SD = 0.85$, Table 20), which is less positive attitude, but the scale's half-way point. However, the one-way ANOVA revealed no statistical significant effect, $F(6) = 1.36$, $p\text{-value} = 0.25$, which means there is no difference between education and attitude.

Table 20. Descriptive ANOVA for education level and attitude scale.

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
High school diploma or GED	5	4.10	.40	.18
Associate's Degree (AA, AS)	4	4.21	.54	.27
Bachelor's Degree (BA, BS)	25	4.20	.48	.10
Master's Degree (MA MS)	8	4.16	.31	.11
Doctorate degree (PhD, EdD)	2	4.08	.49	.35
Professional degree beyond Bachelor's degree (MD, DDS, LLB, JD, etc)	1	4.08	.	.
Some college, not complete	12	3.66	.85	.24
Total	57	4.07	.58	.08

Based on Table 3's open responses, attitudes seem to have a relationship with getting tested; therefore, the attitude scale and HIV testing rates are tested. Attitude scores are the independent variable and the HIV testing is the dependent variable. The sample's overall attitude is high ($M = 4.07$; Table 16); to give more statistical power, attitude is dichotomized based on the median average (4.19; Table 16). Attitude score was

dichotomized into scores less than or equal to 4.20 and scores greater than or equal to 4.20001. Middle point was average up to group the median in the lower scores. A Pearson chi-square test is performed to test the hypothesis that attitudes are associated with getting test (Table 21). The Pearson chi-square revealed p -value = .024, which indicate there is a significant statistical correlation between attitudes and HIV testing. Those with highest positive attitudes are more likely to get tested for HIV.

Table 21. Chi-square of HIV testing and attitude scale.

		<i>Attitude Scale Score</i>		<i>Total</i>	
		<i>Score ≤ 4.20</i>	<i>Score > 4.20001</i>		
Have you ever been tested for HIV?	Yes	Count	18	20	38
		%	43.9	71.4	55.1
	No	Count	23	8	31
		%	56.1	28.6	44.9
Total	Count	41	28	69	
	%	100.0	100.0	100.0	

Attitude is significantly associated with getting an HIV test; therefore, a binary logistic regression model evaluated the association between age, ethnicity, education, attitude, and HIV testing. The dependent variable is a history of getting a HIV test. The independent variables in the logistic regression include age, ethnicity, education, and attitude scale. The binary logistic regression model shows that education (p -value = .854) and ethnicity (p -value = .069) does not remain statistically significantly associated with the outcome of getting tested for HIV (Table 22). However, age and attitudes remain associated with the outcome of getting tested for HIV.

Table 22. Binary logistical regression for age, ethnicity, education, and attitude scale to HIV testing.

<i>Variables</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratios</i>
Age	1.741	.727	1	.017	5.701
Ethnicity	1.430	.786	1	.069	4.181
Education	.114	.620	1	.854	1.120
Attitude Scale	1.404	.605	1	.020	4.073
Constant	-1.251	.963	1	.194	.286

A final model was run that included only age and attitude scale. The binary logistical regression test illustrates that age and attitude scale are statistically associated with the outcome of getting tested for HIV (Table 23). Age's *p*-value equals .011, and attitude scale's *p*-value equals .011. Therefore, the null hypothesis is rejected; there is a relationship between age and attitude, and getting tested for HIV that cannot be attributed to chance or random sample variation. For participants older than 25, the odds of getting tested for HIV are 5.018 times higher than participants 25 and under. The odds of getting tested for HIV are 4.188 times higher among Asian-American women with the highest positive attitude compared to Asian-American women whose attitudes scales are below 4.20. However, when inserted into a Pearson correlation test, there is no correlation between age and attitude scale ($r(67) = -.098$, p -value = 0.425).

Table 23. Binary logistical regression for age, and attitude scale to HIV testing.

<i>Variables</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratios</i>
Age	1.613	.631	1	.011	5.018
Attitude Scale	1.432	.567	1	.011	4.188
Constant	-.808	.401	1	.044	.446

Because there is no correlation between age and attitude scale, a binary logistical regression test was run for attitude scale separately. Age and attitude continue to be

significant variables. The p -value for age equals .009, while the p -value for attitude scale equals .027 (Table 24). This means age and attitudes are both driving the effect. Age and attitude remain significantly correlated to HIV testing.

Table 24. Binary logistical regression for age and ethnicity separately to HIV testing.

<i>Variables</i>	<i>B</i>	<i>S.E.</i>	<i>Df</i>	<i>p < .05</i>	<i>Odds Ratios</i>
Attitude Scale	1.161	.523	1	.027	3.194
Constant	-.245	.315	1	.436	.783
Age	1.364	.520	1	.009	3.913
Constant	-.420	.268	1	.118	.657

Discussion

Results show a dramatic increase in Asian-American women getting tested for HIV compared to other studies. Based on a national survey, 7.2% Asian American women reported having tested for HIV (Hahm et al 2009). While the results shows higher rates, the sample size is too small to generalize that HIV testing is going up since 2009. However, the results show the variables that increase the likelihood for Asian-American women. Asian-American women are more likely to get tested if they are older, multi-racial, highly educated, and possess an extremely positive attitude regarding HIV. Testing can increase if more outreach is brought to Asian-American populations especially for younger, mono-racial, less educated populations.

The open responses demonstrate Asian-American women testing for HIV at health care setting. Many non-profit health care settings such as Planned Parenthood offer free HIV testing with standard procedures such as Well Women Exams. These health care setting often offer free testing even without an OB/GYN related visit, which some of

the participants do not know where to receive (9.8%, Table 3). Increasing outreach will increase knowledge on HIV testing, services, and its transmissions. The participants who stated they have not gotten tested reflect stigmatizing statements that infer people who get HIV are promiscuous.

HIV-stigma has plagued populations since the AIDS Crisis. Much of the stigma stems in fear of contagion, but a person does not need to have concerns for HIV to stigmatize it. Perceiving a person who gets HIV must be a “failure, promiscuous, or that they ‘deserve’ to become infected with HIV” is a form of HIV-stigma (Stigma Project, 2013). When HIV is assumed to be the result of individual failure, it undermines prevention outreach. Women, in particular, are held to a different moral standard than men, “they often are disproportionately blamed for HIV in their communities” (ICRW, 2015). One participant states that she discussed her sexual history with her partners, but she did not disclose whether or not her partners have done the same. “Trusting that every sexual partner will be honest in disclosing their status” is stigmatizing reason not to get tested (Stigma Project, 2013). It assumes that when a partner states they are negative, they do not need to get tested. Participants who have reported that they do not know how to get tested or do not have the chance to get tested reflect the lack of outreach to Asian American communities.

Based on the results, multi-racial Asian-American women are more likely to get tested for HIV, which shows a lack of culturally tailored outreach in the mono-racial Asian-American communities. The Asian American population represent more than 50

ethnicities (APIAHF, 2009), but this study reported only 11 ethnicities/heritages. The Census Bureau reported 15.2% multi-racial Asian American, whereas this study collected 17.1%. General physical examinations are low in Asian American populations because of socioeconomic, lack of insurance, and lack of knowledge on where to receive free testing (Sun, 2013; Yoo & Wood, 2013; McCracken et al, 2007). One in 10 Asian Americans rely on Medicaid (National Asian Pacific American Women's Forum, 2013). Routine HIV screening is offered in Medicaid; however, national data on testing is not currently available and not all states offer HIV screening unless it is medically necessary (Kaiser Family Foundation, 2014). However, with the Affordable Care Act, more low-income Asian-American women are getting access to regular care, changing previous statistics. Asian-American women especially rely on affordable reproductive services. Asian Americans ratings for Pap smears vary among ethnic groups; Korean Americans are least likely to get Pap smears (Yoo & Wood, 2013; McCracken et al 2007), while California Filipina's incidence of screening is higher than non-Hispanic Whites (McCracken et al 2007). Regularly accessing preventative services will increase the likelihood Asian-American women getting tested for HIV.

Culturally tailored community-level HIV outreach has been proven to increase HIV conversations, decrease risky behaviors, and increase testing in other communities—especially African American communities (Lauby, Smith, Stark, Person, & Adams, 2000; Kalichman, Kelly, Hunter, Murphy, & Tyler, 1993). However, outreach could be limited if it is not sensitive to the culture of the community (Sun, 2013; Operario et al, 2013).

Asian-American cultures possess their own perspective on health, sexuality, and stigma, which needs to be addressed in outreach programs. If outreach programs wish to increase their education and testing among Asian American populations, especially mono-racial Asian American populations, they must train staff members to be inclusive and respectful to Asian American culture. Outreach programs that collaborate with other Asian-American community-based organizations have been shown to increase HIV knowledge and increase HIV-related prevention services for Asian-American communities (Sheth, Operario, Latham, & Sheoran, 2007). By working with other Asian-American community-based organizations, it allowed HIV outreach to address the cultural norms that limit HIV education.

The silence around Asian-American sexuality hinders their ability to get tested for HIV. “Silence itself—the things one declines to say, or is forbidden to name, the discretion that is required between different speakers—is less the absolute limit of discourse, the other side from which it is separated by a strict boundary, than an element that functions alongside the things said, with them and in relation to them within over-all strategies... We must try to determine the difference ways of not saying such things, how those who can and those who cannot speak of them are distributed, which type of discourse is authorized, or which form of discretion is required in either case” (Foucault, 1978, p. 27). Silence gives meaning to Asian-American sexuality discourse and it stigmatizes the discourse. Asian-American women speaking about sexuality stigmatizes them. The stigma can affect their self-efficacy and abilities to practice safer sex behaviors

(Operario, et al 2013). Sexual behaviors and desires are something they cannot talk about, and HIV falls into its realm. Because of the collective mentality, that stigma reflects her social groups including family. The silence hinders Asian-American women who seek out reproductive health. HIV can only be discussed when it is medically necessary—when there are symptoms—not when it is in its preventative state.

Asian Americans often test later when they seek medical attention due to symptoms that appear or the long duration of an illness (Sun, 2013; Yoo & Wood, 2013; Inouye, 1999; Operario et al, 2013). Asian Americans who do test positive for HIV “are likely to do so later in the course of infection” (Operario et al, 2013, 379). Late testing and results lead to delayed treatments, which will increase mortality and infection to other partners—or in the case of pregnant women, their children could be infected if left untreated. However, because of HIV-stigma, people could withhold getting tested for fear of a positive result (Stigma Project, 2013). Eradicating stigma will lead to more Asian Americans getting tested for HIV.

Based on the results, age plays an important indication in HIV testing. Because the study took place online, the majority of our participants are young adults between ages 18-30. Yet the data indicates that older participants are more likely to get tested for HIV. In a national study, 32% young adults ages 18-24 gotten tested for HIV (Anderson, Chandra, & Mosher, 2005). Younger populations are less likely to be tested for HIV. However, the largest new infection in 2010 occurred among people age 25-34 (31%, CDC, 2012), followed by people aged 13-24 (26%, CDC 2012). Despite these infection

rates, HIV remains little concern for younger populations. Based on the AID CBSI, there is little concern for HIV among Asian-American women. A 2014 study reported Asian Americans perceive themselves to be low risk (Salud et al, 2014). However, this low risk perception discourages the use of a condom which in turn leads to riskier sexual behaviors (Trieu et al, 2013).

Highly positive attitudes are a major indicator in getting tested for HIV. The calm open responses from participants who have been tested for HIV reflect the high positive attitudes. Negative attitudes and HIV-stigma decreases the chances of people getting tested for HIV (AVERT, 2014). While there is no correlation between education and attitude, previous studies have shown that education and attitudes towards HIV are related (Salud et al, 2014). Comparably, the participants are highly educated, but not as educated as the national rates. US Department of Education reports 58% Asian Americans have a Bachelor's degree in 2013 (NCES, 2014). Based on the bivariate and regression tests, it is not the matter of education level that determines attitudes, concerns, and/or testing. Having a bachelor's degree does not ensure a person has taken proper sex education and has access to adequate information. Inadequate knowledge results in negative attitudes towards HIV (Tung et al, 2013). Despite generation, age, ethnicity, and education level, if the person is given proper sex education from outreach programs, negative attitudes and HIV-stigma will decrease (Toleran et al, 2013; Tung et al, 2013), leading to more people getting testing. More people getting tested will result in finding

positive results earlier in infections. This will lead to decreasing mortality rates and increasing supportive attitudes towards HIV, which will lead to more HIV testing rates.

Participants who were tested were casual in their response. The calm responses reflect the high positive attitudes. Negative attitudes and HIV-stigma decreases the chance of people getting tested for HIV (AVERT, 2014). While attitude scores indicate an overall positive attitude for HIV (Table 15), Asian American women with the highest positive and most supportive attitudes towards HIV are more likely to get tested for HIV (Table 20). Despite generation, age, ethnicity, and education level, if the person is given proper education from outreach programs, negative attitudes and HIV-stigma will decrease (Toleran et al, 2013; Tung et al, 2013), leading to more people getting testing. More people getting tested will result in finding positive results earlier in infections; thereby decreasing late treatments.

Conclusion

Increasing education and outreach to the Asian American community will increase HIV awareness; thereby increasing positive attitudes towards HIV, which will increase HIV testing. The increase in testing will change the statistic reported on Asian American populations with HIV and change how to approach Asian American HIV treatment and prevention. These targeted messages must be culturally sensitive to Asian American cultures, while increasing their body of knowledge on HIV, and provide diverse language support for mono-lingual populations (Operario et al 2013). The outreach must address layers of HIV and sexual stigmas, especially sexual stigma for

Asian-American women. Education and outreach must start early to reach younger populations to encourage testing. Women in particular should be given access to education materials and regular health examinations to expose them to outlets to get tested. The outreach needs to inform Asian-American women where they can get tested for free and supportive resources based on the outcome.

Future studies should conduct a program evaluation to look at programs and community outreach that are working with Asian American populations. Thereby, the community organization and academics can understand what is working in the outreach and what is not working. Future studies should also look if the Affordable Care Act influenced the HIV testing rates in Asian-American population. Studies need to also look at where women have access to sources on HIV and sexuality information, whether that is through community outreach programs, school, family, and/or the internet. Those studies should assess attitudes and HIV testing to see if there is a difference on their sex education, attitudes, and HIV testing. Sexual behaviors and practices should be included in the studies to analyze their risk behaviors. These will all paint a better image on how vulnerable Asian Americans are to HIV beyond the CDC statistic.

Reference

- Adih, W. K., Campsmith, M., Williams, C. L., Hardnett, F. P., & Hughes, D. (2011). Epidemiology of HIV among Asians and Pacific Islanders in the United States, 2001-2008. *Journal of the International Association of Physicians in AIDS Care (JIAPAC)*, *10*(3), 150–159.
- Anderson, J., Chandra, A., & Mosher, W. (2005). *HIV testing in the United States, 2002*. Atlanta: Center for Disease Control and Prevention (Eds).
- Asian & Pacific Islander American Health Forum (APIAHF). (2012). *Diverse Communities Diverse Experiences: The Status of Asian Americans and Pacific Islanders in the U.S.* Retrieved April 11, 2015, from <http://www.aapcho.org/wp/wp-content/uploads/2012/02/APIAHF-DiverseCommunitiesDiverseExperiences.pdf>
- Asian & Pacific Islander American Health Forum (APIAHF). (2013). *Case Studies to Improve Asian American, Native Hawaiian, and Pacific Islander HIV/AIDS Data Collection, Reporting, and Dissemination.* (n.d.). Retrieved December 1, 2014, from <http://www.apiahf.org/resources/resources-database/case-studies-improve-asian-american-native-hawaiian-and-pacific-islande>
- Brown, W. J. & Bocarnea, M. C. (1998). Assessing AIDS-Related Concern, Beliefs, and Communication Behavior (AIDS CBCI). In C. M. Davis, W. L. Yarber, & R. Bauserman, (Eds.). *Handbook of Sexuality-Related Measures.* (pp. 310-312). Thousand Oaks: SAGE.

- Bureau, U. S. C. (2013). American FactFinder. Retrieved May 5, 2015, from <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- Center of Disease Control (CDC). (2006, February 10). Racial/Ethnic Disparities in Diagnoses of HIV/AIDS --- 33 States, 2001—2004. CDC Morbidity and Mortality Weekly Report (MMWR). Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5505a1.htm>
- Center of Disease Control (CDC). (2012). CDC Fact Sheet: New HIV Infections in the United States. Retrieved from <http://www.cdc.gov/hiv/library/factsheets/index.html>
- Center of Disease Control (CDC). (2013). HIV Infection among Asians in the United States and Dependent Area. Retrieved from <http://www.cdc.gov/HIV/risk/raciaethnic/asians/index.html>
- Chin, D., & Kroesen, K. W. (1999). Disclosure of HIV infection among Asian/Pacific Islander American women: Cultural stigma and support. *Cultural Diversity and Ethnic Minority Psychology, 5*(3), 222–235.
- Chin, J. J., (2009). Asian American Health in Global Cities: It's A Small World After All. In W. B. Bateman, N. F. Abesamis, & H. Ho-Asjoe (Eds). *Praeger Handbook of Asian American Health: Taking Notice and Taking Action* (Vol. 1). (pp. 159-176). Santa Barbara: Praeger.

- Chin, J. J., Leung, M., Sheth, L., & Rodriguez, T. R. (2007). Let's Not Ignore a Growing HIV Problem for Asians and Pacific Islanders in the U.S. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 84(5), 642–647.
- Choi, Y., Harachi, T. W., Gillmore, M. R., Catalano, R. F. (2006). Are Multiracial Adolescents at Greater Risk? Comparisons of Rates, Patterns, and Correlates of Substance Use and Violence Between Monoracial and Multiracial Adolescents. *American Journal of Orthopsychiatry*, 76(1), 86-97.
- Chou, R. (2012). *Asian American sexual politics the construction of race, gender, and sexuality*. Lanham: Rowman & Littlefield.
- Daus-Magbual, R. R., & Magbual, R. S. (2013). The Health of Filipina/o America: Challenges and Opportunities for Change. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 47–58). New York: Springer.
- Delgado-Infante, M. L., & Ofreneo, M. A. P. (2014). Maintaining a “good girl” position: Young Filipina women constructing sexual agency in first sex within Catholicism. *Feminism & Psychology*, 24(3), 390–407.
- Espiritu, Y. L. (2001). “We Don’t Sleep Around Like White Girls Do’: Family, Culture, and Gender in Filipina American Lives. *Signs: Journal of Women in Culture & Society*, 26(2), 413-440.
- Foucault, M. (1978). *The History of Sexuality: An Introduction: I* (Reissue edition). New York: Vintage.

- Goffman, E. (1986). *Stigma: Notes on the Management of Spoiled Identity* (Reissue edition). New York: Touchstone.
- Hahm, H. C., Song, I. H., Ozonoff, A., & Sassani, J. C. (2009). HIV Testing Among Sexually Experienced Asian and Pacific Islander Young Women: Association With Routine Gynecologic Care. *Women's Health Issues, 19*(4), 279–288.
- HIV & AIDS Stigma and Discrimination | AVERT. (2014). Retrieved May 5, 2015, from <http://www.avert.org/hiv-aids-stigma-and-discrimination.htm>
- HIV102: Introduction to Stigma | The Stigma Project. (2013). Retrieved May 5, 2015, from <http://www.thestigmaproject.org/#!hiv102/ct8p>
- Inouye, J. (1999). The Invisible Disease: HIV/AIDS in Asian Americans. In L.Zhan & National League for Nursing (Eds.). *Asian Voices: Asian and Asian American Health Educators Speak Out*. (pp. 82-105). Sanbury: Jones & Bartlett Learning.
- Kalichman, S. C., Kelly, J. A., Hunter, T. L., Murphy, D. A., & Tyler, R. (1993). Culturally tailored HIV-AIDS risk-reduction messages targeted to African-American urban women: Impact on risk sensitization and risk reduction. *Journal of Consulting and Clinical Psychology, 61*(2), 291–295.
- Kang, E., Delzell, D. A. P., Chin, J. J., Behar, E., & Li, M. Y. (2013). Influences of Stigma and HIV Transmission Knowledge on Member Support for Faith-Placed HIV Initiatives in Chinese Immigrant Buddhist and Protestant Religious Institutions in New York City. *AIDS Education & Prevention, 25*(5), 445–456.

- Katz, I. T., Ryu, A. E., Onuegbu, A. G., Psaros, C., Weiser, S. D., Bangsberg, D. R., & Tsa, A. C. (2013). Impact of HIV-related stigma on treatment adherence: systematic review and meta-synthesis. *Journal of the International AIDS Society, 16*, 1–25.
- Lauby, J. L., Smith, P. J., Stark, M., Person, B., & Adams, J. (2000). A Community-Level HIV Prevention Intervention for Inner-City Women: Results of the Women and Infants Demonstration Projects. *American Journal of Public Health, 90*(2), 216–222.
- Le, M., & Nguyen, T. (2013). Social and Cultural Influences on the Health of the Vietnamese American Population. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 87–102). New York: Springer.
- Lee, C., Tran, D. Y., Thoi, D., Chang, M., Wu, L., & Trieu, S. L. (2012). Sex Education Among Asian American College Females: Who is Teaching them and What is Being Taught. *Journal of Immigrant and Minority Health, 15*(2), 350–356.
- Louie, K. B. (1999). Health Promotion Interventions for Asian American Pacific Islanders. In L. Zhan & National League for Nursing (Eds.). *Asian Voices: Asian and Asian American Health Educators Speak Out*. (pp. 3-15). Sanbury: Jones & Bartlett Learning.
- Luquis, R. R. & Koch, P. B. (1998) HIV/AIDS Attitude Scales for Hispanics. In C. M. Davis, W. L. Yarber, & R. Bauserman, (Eds.). *Handbook of Sexuality-Related Measures*. (pp. 325-327). Thousand Oaks: SAGE.

- McCracken, M., Olsen, M., Chen, M. S., Jemal, A., Thun, M., Cokkinides, V., & Ward, E. (2007). Cancer Incidence, Mortality, and Associated Risk Factors Among Asian Americans of Chinese, Filipino, Vietnamese, Korean, and Japanese Ethnicities. *CA: A Cancer Journal for Clinicians*, 57(4), 190–205.
- Meston, C. M., & Ahrold, T. (2008). Ethnic, Gender, and Acculturation Influences on Sexual Behaviors. *Archives of Sexual Behavior*, 39(1), 179–189.
- Meston, C. M., Trapnell, P. D., & Gorzalka, B. B. (1998). Ethnic, Gender, and Length-of-Residency Influences on Sexual Knowledge and Attitudes. *Journal of Sex Research*, 35(2), 176–188.
- National Asian Pacific American Women's Forum News (NAPAWF). (2013, October 3). AP(eye) on the Hill – September 2013. National Asian Pacific American Women's Forum. Retrieved from <https://napawf.org/2013/10/apeye-on-the-hill-september-2013/>
- National Center for Education Statistic (NCES). The Condition of Education - Population Characteristics - Attainment - Educational Attainment – Indicator. (2014, April). Retrieved May 5, 2015, from https://nces.ed.gov/programs/coe/indicator_caa.asp
- Needle, R. H., Burrows, D., Friedman, S. R., Dorabjee, J., Touzé, G., Badrieva, L., & Latkin, C. (2005). Effectiveness of community-based outreach in preventing HIV/AIDS among injecting drug users. *International Journal of Drug Policy*, 16, Supplement 1, 45–57.

- Operario, D. Tan, J., & Kuo, C. (2013). HIV/AIDS in Asian and Pacific Islanders in the United States. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 375–389). New York: Springer.
- Ports, S. T. (2009). Voices of the Community: Building a Dual Awareness about HIV and AIDS—In Asian American Communities and About Asian Americans. In W. B. Bateman, N. F. Abesamis, & H. Ho-Asjoe (Eds.). *Praeger Handbook of Asian American Health: Taking Notice and Taking Action* (Vol. 1). (pp. 239-266). Santa Barbara: Praeger.
- Rodriguez, T. R. & Pajaron, D. (2009). Voices of the Community: APICHA: A Voice for Asians and Pacific Islanders. In W. B. Bateman, N. F. Abesamis, & H. Ho-Asjoe (Eds.). *Praeger Handbook of Asian American Health: Taking Notice and Taking Action* (Vol. 1). (pp. 267-276). Santa Barbara: Praeger.
- Sabato, T. M. (2014). A Comprehensive Approach to Risk Reduction for Asian and Pacific Islander American Women With HIV/AIDS. *Journal of Transcultural Nursing*, 25(3), 307–313.
- Salud, M. C., Marshak, H. H., Natto, Z.S., & Montgomery, S. (2013). Exploring HIV-testing intentions in young Asian/Pacific Islander (API) women as it relates to acculturation, theory of gender and power (TGP), and the AIDS risk reduction model (ARRM). *AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV*, 26(5), 642-647.

- Sheth, L., Operario, D., Latham, N., & Sheoran, B. (2007). National-level Capacity-building Assistance Model to Enhance HIV Prevention for Asian & Pacific Islander Communities. *Journal of Public Health Management & Practice*, 13(1), S40–S48.
- Stigma & Discrimination | ICRW. (2012, November 28). Retrieved May 5, 2015, from <http://www.icrw.org/what-we-do/hiv-aids/stigma-discrimination>
- Sun, A. (2013). Chinese Americans and Health: The Impact of Culture on Disease Prevention and Management. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 23–46). New York: Springer.
- Tashiro, C. J. (2013). Mixed Asian Americans and Health: Navigating Uncharted Waters. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 129–135). New York: Springer.
- Toleran, D. E., Friese, B., Battle, R. S., Gardiner, P., Tran, P. D., Lam, J., & Cabangun, B. (2013). Correlates of HIV and HCV Risk and Testing Among Chinese, Filipino, and Vietnamese Men Who Have Sex With Men and Other At-Risk Men. *AIDS Education & Prevention*, 25(3), 244–254.
- Trieu, S. L., Marshak, H. H., & Bratton, S. I. (2013). Sexual and Reproductive Health Behaviors of Asian Pacific Islander Community College Students. *Community College Journal of Research and Practice*, 37:6, 467-477.

- Tung, W.-C., Lu, M., & Cook, D. M. (2012). HIV/AIDS Knowledge and Attitudes Among Chinese College Students in the US. *Journal of Immigrant and Minority Health, 15*(4), 788–795.
- Udry, J. R., Li, R. M., & Hendrickson-Smith, J. (2003). Health and Behavior Risks of Adolescents with Mixed-Race Identity. *American Journal of Public Health, 93*(11), 1865–1870.
- Yoo, G. J., & Wood, S. (2013). Challenges and Opportunities for Improving Health in the Korean American Community. In G. J. Yoo, M.-N. Le, & A. Y. Ods (Eds.). *Handbook of Asian American Health*. (pp. 73 – 86). New York: Springer.
- Yoshioka, M. R., & Schustack, A. (2001). Disclosure of HIV Status: Cultural Issues of Asian Patients. *AIDS Patient Care and STDs, 15*(2), 77–82.