LEADERSHIP ACHIEVEMENT GAP OF ASIAN/PACIFIC AMERICAN LIBRARIANS

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LEADERSHIP ACHIEVEMENT GAP OF ASIAN/PACIFIC AMERICAN LIBRARIANS

A Dissertation

by

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SPRING 2012

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LEADERSHIP ACHIEVEMENT GAP OF ASIAN/PACIFIC AMERICAN LIBRARIANS

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I certify that this student has met the requirements for format contained in the University format manual, and that this dissertation is suitable for shelving in the library and credit is to be awarded for the dissertation.

____________________, Director
Carlos Nevarez, Ph.D.


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DEDICATION

First of all, this dissertation is dedicated to my wife Min and my mother Ding, the two women who love me the most in their lives. Without my wife’s love and her permission to be absent from the family every Friday night and all day Saturday for three years, it would not have been possible for me to complete this dissertation. As a computer engineer with Intel, my wife provided the main financial support for the family and became “a single parent” on weekends as I took a pay cut with a reduced work schedule to go back to school. My 88-year old mother, a retired Chinese history professor at Beijing Normal University, is another source of culture capital and inspiration for me to conduct high quality dissertation research. Every week when I called her during the last three years, instead of asking me when I would be completing the dissertation; my mother always asked how many articles I plan to publish based on my dissertation research. Now I have completed my dissertation, but I still have to answer my mother’s inquiry on scholarly publications.

Secondly this dissertation is dedicated to my late father Zhi-Yao and my late grandfather Ming-Shan. My grandfather was the first in the family to receive a 4-year college degree (Engineering) in the early 1920s in Shanghai, China. He has had a great impact on our family’s education ever since. My grandfather’s accomplishment assured that his three daughters, his son (my father) and daughter-in-law (my mother) complete 4-year colleges. My grandfather also supported more than 30 of his nieces and nephews, including six of my mother’s siblings, and enabled them to complete 4-
year colleges or 2-year technical schools from 1940s to 1960s. To put this into context, even in 2012, China has difficulty enforcing its 9-year public education mandates. Under the influence of my grandfather, my father was the first in the family to receive graduate degrees, including one from Europe, after finishing a bachelor’s degree in Economics in 1949 from the prestigious college in China -- Beijing University.

Thirdly, this dissertation is dedicated to my sister Hsiao-Ling and brother Yi-zhong. As the oldest of three siblings, Dr. Hsiao-ling sets the bar high as she is the first in the family to receive a doctoral degree (Astrophysics) from the University of Colorado at Boulder. My older brother never had a chance to attend colleges when he graduated from high school in 1967 due to the Chinese Cultural Revolution, a period when there was no college admissions at all from 1966 to 1976 in China. But he spent 7 years (1978-1985) self studying after 48-hour work-weeks as a building construction worker, and received two engineering degrees (Mechanical and Civil/Structural) by taking Tsinghua University’s course exams. He passed the Professional Engineer’s (PE) license exams in Chinese and the International PE license in English later on, all through self-education. He has served as the Building and Engineering Division Chief for Beijing Foreign Studies University since 1990. My brother also has been taking care of my aging parents in China for the last 25 years since my sister and I came to the United States in the mid-1980s. He expects me to match the high bar set by our older sister; in his words “boys cannot lose to girls in our family.”
I would also like to dedicate my dissertation to my cousin June. She and I grew up together in our grandfather’s house in Shanghai, China until the Culture Revolution took away all assets from our grandfather. Now June and I both are settled in Northern California within 100 miles of each other, but 10,000 miles away from our grandfather’s house in Shanghai. June works as an electrical engineer and lives in Silicon Valley with her husband Dr. Ningjia. Their son has just graduated from college and attends a medical school in Chicago. June’s understanding of female immigrant engineers with American educated kids provided spiritual support to my wife and my boys when I was away writing this dissertation.

Lastly, I dedicate my dissertation to my three teenage sons, Glen, Allan, and Milan. I was absent from their weekend sports and extra-curricular activities for 128 weekends. During these weeks, my oldest son Glen graduated from high school not only with 4.35 GPA, but also as varsity tennis team captain and Folsom Teen Council President to demonstrate his leadership potentials. But his Dad did not attend any of his college visits during his high school years. Glen took trains and flew twice to potential colleges all by himself in 2011 and 2012. My middle son Allan graduated from his middle school and went to two state level competitions as he was either the first or the second place in Sacramento County. His Dad was unable to attend any of his state competition finals. My youngest son Milan went to the California National History Day competition twice in Southern California as the winner of Sacramento County History Day. His Dad missed the first one, but was able to take him to the
second State Finals in late April 2012. Many researches show that parents support is strongly correlated to children’s performance at high level competitions. Milan’s 2012 National History Day documentary film was titled “Proposition 98: its impact to California Education.”
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I want to first acknowledge and thank the dissertation committee members, Chair Dr. Rose Borunda, Dr. Frank Lilly, Dr. Timothy Fong, and Education Librarian Betty Ronayne. Their dedication and guidance helped me greatly to complete my dissertation. I want to pay special thanks to Chair Dr. Borunda and Education Librarian Ronayne for adding their great insight of minorities in higher education and librarianship, plus editing my dissertation writing tirelessly.

I would like to acknowledge and thank members of the California State University, Sacramento (CSUS) Ed.D. Cohort III. Over the past three years, we all experienced some times of excitement, anxiety, and hardship. and we helped each other by sharing experiences, technology, languages, and food and drinks. I had unprecedented intellectual challenges and brain stimulations on Friday night and Saturdays through conversation, presentations and discussions with the CSUS EDD Cohort III members. I also had one physical challenge during the Peak Adventure climbing trip with Cohort III and I wish I could have been in better physical shape and not have my leg muscle about to cramp 30 feet up on a climbing post. I survived both physical and intellectual challenges, as the majority of Cohort III members did.

I would also like to acknowledge CSUS Ed.D. Cohort III entire faculty and staff who lead us and support us through this doctoral education journey. Dr. Nevarez, the Ed.D. Program Director and our first course faculty, set an example of what a transformational leader can do. Dr. Rodriguez, the President of Mira Costa
Community College District, flew to Sacramento from San Diego every other week to teach Human Resource Management course. Dr. Britt, a professor younger than the median age of Cohort III students and good with both qualitative and quantitative research methodology, flew baby sitters from Oregon to watch her two young kids while she taught us research methodology course on weekends.

I must acknowledge CSUS and the American Library Association (ALA) for their financial support to conduct my research. Without these grants, the research of this dissertation would not be at this scale and finished within three years.

Finally, I want to acknowledge Chinese American Librarian Association (CALA) and Asian and Pacific American Librarian Association (APALA), the two ALA affiliated librarian associations for Asian/Pacific Islanders for their support of my surveys to their members. I want to thank computer system administrator Bin Zhang for his technical support in sending my surveys to several hundred Asian/Pacific librarians in every geographic region in the United States.
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FIELDS OF STUDY

Asian/Pacific American librarian leadership, Academic librarianship, Higher education leadership
Abstract

of

LEADERSHIP ACHIEVEMENT GAP OF ASIAN/PACIFIC AMERICAN LIBRARIANS

by

Jian-zhong “Joe” Zhou

The total population of Asian American and Pacific Islanders (AAPI) in the United States as a race and an ethnic minority group ranks third at about 5%. However, the population of AAPI with at least a 4-year bachelor’s degree is the largest among all minority groups according to the Census Current Population Survey 2010. At the professional or doctoral degree level, about 20% of the total degree holders over 18 years old are minorities and AAPI account for 10.50% of them. A higher education is a foundation for leadership positions, but highly educated AAPI are severely under-represented at the top leadership level. For example, only 7% of full time tenured college faculty members are AAPI, and less than 1% of college presidents are AAPI, despite the fact that a professional or a doctoral degree is required for both tenured faculty and college president positions, and AAPI account for more than 10% of all professional and doctoral degrees.

This study introduces the Representation Disparity (RD) ratios and Advancement ratios to quantify the under-representation phenomenon in social justice research for the first time. The RD and Advancement ratios measure a probability to
be represented at the higher level positions based on the number of professionals in the qualified pools. Each ratio is defined and applied to AAPI in higher education. Not surprisingly, AAPI faculty’s chance to be represented at the top leadership level is much smaller than Whites. But surprisingly, AAPI faculty has a much worse chance to be represented at the president level than Blacks and Hispanics.

Furthermore, this study surveyed two major groups of credentialed AAPI librarians and focused on their leadership achievement gaps. Strong correlations are found between the AAPI librarians highest leadership positions ever held and their advanced education level beyond Master’s Degree in Library Science, years of professional work, scholarly and creative activities, institutional, professional and community involvement. Although AAPI librarians are more educated than general credentialed librarians, and have published more, with similar years experience, their probability to represented at the top leadership level is one third of Whites and one half of Blacks according to this research.

Two theoretical frameworks are introduced in this study which attempts to identify reasons for the contrast between high education attainment and low leadership achievement among AAPI librarians and faculty in education. The **Immigration Filtering Theory** provides an inside perspective on the high percentage of foreign-born AAPI and high education attainment. The **Four Capitals Theory** provides an outside perspective on AAPI as a racial minority group. The Four Capital Theory introduces Political Capital as the group influence on policies in the United States, in
addition to the existing theories of Human Capital, Cultural Capital, and Social Capital. Weak political capital for AAPI as a group undermines strong individual human capital as measured by high education attainment, strong cultural capital illustrated by the traditional Asian culture which chooses leaders from the best scholars (学而优则仕), and strong social capital as demonstrated by the study of Guanxi, a Chinese theory of networking to expand influence beyond one’s official position.

Finally, the study makes several strong recommendations to AAPI librarians: (a) build ONE strong association for Asian/Pacific librarians and make it a major venue for American Library Association presidential campaigns, (b) promote current or recently retired AAPI chief librarians as role models and mentors, and (c) have all AAPI support policies and legislation to promote immigration through higher education. Further researches on native-born AAPI population, survey of AAPI chief librarian’s hiring authorities, and Hispanic leadership achievement in higher education and in librarianship are recommended.
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Chapter 1
INTRODUCTION

When referring to Asian American students’ performance in schools and colleges, “over-achievers” and “hard working” are words that come to mind. But what happens when the test-taking ends and test scores give way to American style competition in the real world? “Paper Tiger” written by Asian American author Wesley Yang, asked that exact question in a cover story for the May 8, 2011 New York Magazine. Yang pointed out that more than 40% of the student populations were Asians in top California public universities where test scores are the primary consideration for college admission. Thomas Espenshade, a sociology professor at Princeton University, collected and analyzed college freshmen data by race and by socioeconomic class from selected top 50 universities ranked by the U.S. New and World Report since 1996. The result was published in a book co-authored with Radford titled No Longer Separate, Not Yet Equal. The average SAT score of Asian students enrolled in highly selective colleges was 140 points higher than the average score of Whites, 270 points higher than the average score of Hispanics, and 450 points higher than the average score of Blacks on a 1600 points SAT test. The average ACT score of Asian American students was 3.4, 3.7, and 7.2 points higher than the average score of Whites, Hispanics, and Blacks respectively on a 36 points ACT test (Espenshade, 2006, pp. 62-92). Despite the “higher entrance barrier,” 17-20% of the student population in Ivy League colleges has been Asian Americans since 1997. Top universities are supposed to be incubators for leaders, and therefore Asian Americans
are expected to be represented at the top leadership positions in corresponding ratios. But statistics displayed later in this chapter show that Asian Americans are severely under-represented at the leadership positions in higher education and in other areas as well. The phenomenon of low Asian American representation in leadership positions in disproportion to their high educational attainment is defined as the Asian Americans’ leadership achievement gap.

The under-representation of Asian American and Pacific Islander (AAPI) leaders in education is not a widely known phenomenon in research literature or in mainstream media. In the last Decade, a few AAPI leadership studies were conducted primarily by AAPI researchers, scholars and doctoral students (Adrian, 2004; Chong, 2003; Chung, 2008; Hu, 2008; Kobayashi, 2009; Lam, 2002; Salleh-Barone, 2004; Shintaku, 1996; Wong, 2002). Other studies, such as “glass ceiling” reports from the United States Department of Labor and various reports from Equal Employment Opportunity Commission (EEOC), revealed a lack of AAPI leadership representation based on available promotion pools among all major employment sectors in the U.S.--government agencies, large corporations, and academics (U. S. Department of Labor--Glass Ceiling Commission, 1994; U.S. Equal Employment Opportunity Commission, 2003; U.S. Equal Employment Opportunity Commission, 2008).

This study attempts to uncover contributing factors to the AAPI leadership achievement gap in one educational field – librarianship. It will study the status of AAPI representation at the chief library executive level compared with other race, gender and ethnic groups. Libraries were an essential part of higher education even
before the United States became an independent country. The first university library established in 1638 antedates the first university -- Harvard College (Hamlin, 1981, p. 4). The academic library is the largest building on most university campuses and librarians work across disciplines with professors and students in the teaching, learning and research mission of universities. The public library system is widely considered as part of local government and the public library’s role in free access of information and education of all citizens is an integral part of the democratic society in the United States.

Descriptive studies based on surveys of one group of AAPI librarians—members of the Chinese American Librarians Association (CALA), revealed severe under-representation of CALA librarians at the chief executive level among medium to large libraries in the U.S. (Ruan & Xiong, 2008a, 2008b; Liu, 2000; Yang 1996; Zhou, 2003.) There have not been any research studies, quantitative or qualitative, that focus on the AAPI librarians leadership achievement gap. The majority of journal literature and dissertations focus on under-representation of African American and women leaders in higher education and in librarianship. These will be discussed in Chapter Two.

The Importance of Leadership Diversity in Higher Education

Democratic Representative Bureaucracy Theory

Leadership diversity can be traced back to the representation bureaucracy theory in any democratic society. According to Frederick Mosher’s book Democracy and the Public Service, the majority of public officers in a democratic society are not
directly elected by the people (elected officials), nor appointed by those who were
directly elected (political appointees). The majority of public officers are lifelong
professionals with competence in subject-matter fields, and they influence and make
decisions of great significance for the people, though within an environment of
constraints. The decisions and actions taken by public officials who are lifelong
professionals draw upon their capabilities, their orientations, their values, their
backgrounds, their training and education as well as their associations (Mosher, 1968,
pp. 1, 3-5). In another book, *Representative Bureaucracy*, Samuel Krislov stated that a
representative bureaucracy with many minds represented may not guarantee the best
decision, but they clearly guard against the worst. Furthermore, “no matter how
brilliantly conceived, no matter how artfully contrived, government action usually also
requires societal support.” One of the oldest methods of securing such support is to
draw a wide segment of society into the government decision making bureaucracy
(1974, pp. 4-5, 7-8.) Almost all educational institutions and libraries are a form of
bureaucracy and their leaders are lifelong credentialed professionals. The proper
representation of all minorities at the decision making level not only affects
institutional stake holders’ interests, but it also influences the societal acceptance of
even the best policy made for institutions. Thus, higher education leadership diversity
is as important as college enrollment and graduation diversity, and faculty
employment diversity. Leadership diversity will affect a wide-range of diversity issues
through leaders’ decision making and policy implementation.
Diversity in Higher Education Leadership

Literature related to diversity in higher education is abundant. Milem summarized various research studies conducted by the American Educational Research Association’s (AERA)--Panel on Racial Dynamics in Higher Education. Milem concluded that the benefits of racial and ethnic diversity in higher education are: (a) enrichment of the educational experience; (b) promotion of personal growth and a healthy society; (c) strengthening communities and the workplace; and (d) enhancement of America’s economic competitiveness (Milam, 2000a). He also conducted research with Kenji Hakuta on behalf of the American Council on Education (ACE) -- Office of Minorities in Higher Education, and found that “both individuals and institutions gain from greater diversity on campus” (Milem, 2000b). In 2006, an entire issue of the Association for the Study of Higher Education’s (ASHE) Higher Education Report was devoted to diversity leadership in higher education. It was later published as a monograph. Its executive summary states:

Major shifts in population diversity have created significant pressures for all social institutions, including higher education. As a social force, diversity promotes the importance of incorporating difference in building cohesive institutional arrangements that address structural barriers and organizational cultures that limit opportunities for members of ethnic and racial minority groups. Leadership is very important to diversity because it has the potential for developing and
implementing practices in organizational culture that are inclusive of diversity. (Aguirre & Martinez, 2006, p. vii)

Literature focused on African American and Latino students and faculty representations in U.S. higher education points to the benefit of diverse leaders in higher education. Garcia and Moses (2000) suggested positive impacts of Latino faculty in higher education on successful recruitment, retention and graduation of Latino students. Crase (1994) found that African Americans were less interested in education as a profession due to lack of role models in the education field. Alger (1997) studied the value of racial diversity in higher education through communication, interaction, and mutual learning among different races. Alger’s finding was that the college diversity experience helped in overcoming prejudice and establishing a common ground of understanding. Nevarez and Borunda (2006) discovered that “faculty of color bring a richness of knowledge and practical experience that can enhance the knowledge base of all students” in college and university settings.

In library leadership diversity studies, Winston and Li’s research (2007) focused on the impact of organizational leadership and administrative structure on library operational diversity in the areas of service, collection, and recruitment and retention in large public libraries. American Library Association (ALA) President of 2009/10, Dr. Camila A. Alire, studied library leadership diversity and the difference between White and minority library leaders in providing service to minority library users (2001). Alire advocated the need for minority library leaders and emphasized the important role of diversity in library leadership to serve diverse library users. However,
very few if any studies have looked specifically at library leadership diversity and its social impact on AAPI librarians and AAPI library users.

This study will focus on the representation disparity of AAPI among chief librarians, the main decision makers for libraries. The remainder of Chapter One will cover the following sections: problem statement, nature of the study, theoretical bases, assumptions, limitations, scope and delimitations, and the significance of the study. There will be an operational definition section at the end of Chapter One.

**Problem Statement**

The AAPI population has the highest educational attainment compared with all other racial and ethnic groups in the United States, yet the lowest representation at the top leadership level in higher education and academic librarianship. Based on data from *Annual Demographic Supplement to the March 2002 Current Population Survey*, AAPI men were much more likely than non-Hispanic White men to have earned at least a bachelor’s degree (51% compared with 32%, a difference of 19 percentage points.) Similarly AAPI women were more likely than non-Hispanic White women to have earned at least a bachelor’s degree, (44% compared with 27%). More recent data from *Statistical Abstract of the United States: 2009* showed that the Asian population with a college degree or higher was the highest for both male and female among all race and ethnic groups from 2003 to 2007.
Beyond completion of the 4-year college degrees, AAPI have the highest percentage of graduate degrees, professional degrees and doctoral degrees. Asians had 1,747,000+ persons 25 years or older with a graduate degree or higher in the year 2006 based on 2007 American Community Survey. This number is larger than that of
any other minority groups although AAPI population has not been the largest among
minority groups in the U.S. It is fair to say that AAPI is a well educated ethnic group
in the United States. Among professional or doctoral degrees holders, 20% of them are
minorities and AAPI account for more than 10.50%, or more than half of all minority
professional or doctoral degrees (National Center for Education Statistics, 2010, p26-
27).

![Figure 3: Graduate Degree Attainment by Race](image)

Note. Figure 3 was compiled by author based on “Table 35. Selected Characteristics of Racial Groups

Figure 3. Graduate Degree Attainment by Race.

**AAPI Representation in Leadership Positions**

From 1995 to 2005, AAPI professors in the United States who held full-time
positions were 7.6% of the total college professorial pool (Ryu 2008). This is the
highest percentage among all minority professors. This should not be a surprise
because AAPI have the highest percentage of doctoral degrees or other terminal graduate degrees, which are a required qualification for college professors. The following figure provides a comparison of all tenured minority faculty in U.S. universities for selected years from 1995 to 2005.

Figure 4: Percentage of Tenured Minority Faculty by Race/Ethnicity

Note. Figure 4 was compiled by author based on “Table 29. Full-Time Faculty, by Tenure Status, Race/Ethnicity, and Gender.” (Ryu 2008)

Figure 4. Percentage of Tenured Minority Faculty by Race/Ethnicity.

Asian and Pacific Islanders have the highest percentage of tenured faculty among all minority groups (see Table 4 above). As a common practice and supported by research studies (Birnbaum & Umbach, 2001; Moore, 1983), tenured faculty serve as the base pool for faculty administrators and college presidents. It would be a reasonable assumption that AAPI university administrators and presidents would be well represented in proportion to AAPI large percentage of tenured faculty. However,
this has not been the case. As the following figures illustrate, White, African Americans and Hispanics have more representation among college and university administrators and presidents than AAPI. AAPI were severely under-represented in this upper echelon of leadership compared with White and other minorities. Based on data collected, it is fair to state that well-educated Asian Americans are severely and disproportionately under-represented at top executive positions in U.S. colleges and universities.

![Figure 5: Percentage of Full-Time Administrators in Higher Education by Race/Ethnicity](image)

Note. Figure 5 was compiled by author based on “Table 30. Full-time Administrators in Higher Education, by Race/Ethnicity and Gender: 1995 and 2005 (Percent).” (Ryu 2008)

*Figure 5.* Percentage of Full-Time Administrators in Higher Education by Race/Ethnicity
Figure 6. College and University Presidents (Percent)

AAPI Representation at Chief Librarian Positions

Similar to the disproportionate representation of AAPI in higher education, there have been very few AAPI librarians at the top executive positions in relationship to the pool of AAPI credentialed librarians. In October, 2011, the author checked 95 largest academic libraries in the United States based on Association of Research Libraries (ARL) member directory, there was only one Asian Indian chief librarian appointed in July 2011 and one Pacific Islander chief librarian at University of Hawaii since 2006. The ARL Executive Director, Dr. Charles Lowry, confirmed author’s finding by e-mail and provided names of seven total ARL minority chief librarians out of 95 ARL academic libraries, with the other five African Americans (Lowry, 2011). ARL Office also listed the percentage of librarians in ARL libraries: White 85.8%, Asian 6.6%, Black 4.4%, Hispanic 2.8%, American Indian 0.4% in its annual statistics.
at http://www.arl.org/bm~doc/tables2010-11.xls. This is a persistent trend that reflects, once again, AAPI librarians have higher than average educational attainment and they are reasonably represented among the largest research academic libraries; but they lack representation in top leadership positions. According to the ALA statistical report (American Library Association, January 2007), nearly 110,000 credentialed librarians are predominantly White (near 90%) and female (over 80%). AAPI credentialed librarians account for 3.5% of the total, more than Latino at 2.1% and less than African American credentialed librarians at 5.2%. However, the same report showed the percentage of credentialed AAPI librarians in higher education was higher than any other minority groups at over 6%, compared with less than 5% for African American academic librarians. This is consistent with higher educational attainment of the AAPI population. Librarian positions in higher education typically require a minimum of a Master’s degree in Library and Information Science (MLS or MLIS) as the base credential, plus a second master degree for many tenure track library faculty positions in academic libraries. Ruan and Xiong’s study (2008a) showed that 67% of the members of Chinese American Librarians Association (CALA) had a second master’s degree, 6% had a doctoral degree, in addition to the MLS. These percentages are much higher than average of 29% second master and 2% doctoral degrees for all credentialed librarians (American Library Association, 2007, p. 10). The Directory of African American (AA) Library Directors at http://www.uky.edu/Libraries/NKAA/directors.php lists over 150 current and retired AA chief librarians in medium and large libraries who have the potential to serve as
mentors for future AA library leaders. *The number of current and retired CALA chief librarians in medium to large libraries has been in single digits for the last 20 years.* This information is derived from surveys and CALA directory of 1,000+ librarians (Li, 1979; Liu, 2000; Yang 1996; Zhou, 2003; Ruan and Xiong, 2008a and 2008b.)

Based on AAPI chief librarian representation at ARL member libraries and previous CALA librarians survey for their representation at medium to large libraries, it is fair to say that the most education AAPI librarians represent very few top library leadership positions. It is clear that the leadership achievement gap exists for CALA librarians.

**Nature of the Study**

The AAPI librarians’ leadership achievement gap is measured by the *Representation Disparity Ratio* of full time credentialed librarians reaching library executive positions (Deans and University Librarians for academic libraries, Library Directors for Public Libraries). This study will first gather data on credentialed librarians and chief librarians by race and ethnicity among large libraries in the United States, and develop for the first time a method to calculate the probability of reaching a chief executive position for AAPI librarians, other minority librarians, women librarians, and White librarians. Please note the probability of AAPI reaching a post of chief librarian is based on credentialed librarians working full time, not based on population characteristics of the United States. Next, this study will survey selected AAPI librarians and AAPI chief librarians to find out major factors and major
obstacles on their pathways to chief librarians. In summary, the research questions of this study are:

- What is the probability that AAPI credentialed librarians will reach chief librarian positions in large libraries, compared with the majority, and with other minority groups, using the Representation Disparity (RD) Ratios developed in this study?
- What factors contributed to successful pathways toward leadership positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions?

A more detailed description of the methodology to measure the representation disparity and leadership achievement gap, survey design and open-ended questionnaires will be discussed in Chapter Two and Chapter Three.

**Theoretical Base and Conceptual Framework**

**Critical Race Theory**

Delgado and Stefancic described Critical Race Theory (CRT) as a movement in “studying and transforming relationship among race, racism and power” (2001, p. 2). The CRT movement began in law schools in 1970s, and it focused on the relationship between laws/policies and racial power. Basic tenets of CRT can be summarized as follows:
1. Racism is ordinary, not aberrational, under the dominant society’s laws and rules.

2. Our system of White-over-color ascendancy serves an important purpose, both psychic to working class Whites and material to elite Whites. Therefore, large segments of society have little incentive to eradicate it.

3. From a social construction point of view, races are products of social thought and relations, not objective, inherent, or fixed. They correspond to no biological or genetic reality; rather, races are categories that society invents, manipulates or retires when convenient.

4. Dominant society racializes different minority groups at different times, in response to shifting needs of the dominant group.

5. Minority status brings with it a presumed competence to speak about race and racism, based on their own unique perspectives to society (Delgado & Stefancic, 2001, pp.6-9).

CRT was built on the insights of two previous movements, critical legal studies and radical feminism. CRT owes a large debt to “feminism’s insights into the relationship between power and the construction of social roles, as well as the unseen, largely invisible collection of patterns and habits that make up patriarchy and other types of domination” (Delgado & Stefancic, 2001, p.5). However, the coverage of Asian Americans under CRT is inadequate because the difference between minorities under current CRT is not fully developed. Most CRT scholarship tends to focus on the Black-White racial paradigm, excluding Asian Americans. For example, in a recent
Colloquy entitled *Racism in the Wake of the Los Angeles Riots*, the Korean American-African American conflict was not addressed at all (70 Denv. U. L. Rev. 187, 1992-1993). Asian Americans are racialized in unique ways that are in direct contrast to and challenge the dominant Black-White paradigm of race relations. Yosso (2006) applied CRT to Latinos in educational fields and described the five tenets of CRT in education as the (a) intercentricity of race and racism, (b) the challenge to dominant ideology, (c) the commitment to social justice, (d) the centrality of experiential knowledge, and (e) the interdisciplinary perspective. CRT is a framework challenging the dominant group’s perspective, and it should be further developed to include other minority groups. The racial paradigm shifts from one dimension of Black-White in the 1960s to multi-dimensional diverse society in the 2010s and CRT needs to be modified accordingly.

**Glass Ceiling Theory**

According to the Federal Glass Ceiling Commission (1995a), the concept glass ceiling refers to “artificial barriers to the advancement of women and minorities.” Another report published by the Commission in the same year described the glass ceiling as the “unseen, yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements” (Federal Glass Ceiling Commission, 1995b). Cotter and others further developed four glass ceiling criteria (2001):
1. A gender or racial difference that is not explained by other job-relevant characteristics of the employee.

2. A gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome.

3. A gender or racial inequality in the chances of advancement into higher levels, not merely the proportions of each gender or race currently at those higher levels.

4. A gender or racial inequality that increases over the course of a career. (pp. 655-682)

Glass ceiling theory has been widely used for feminist research. Similar to race, ethnicity, religions, and nations of origin, gender is one of the differences between individuals and groups. According to Chris Weedon, “in contemporary capitalist societies power is central to the production of difference as both oppressive and hierarchical” (1999, p. vii). Eyring & Stead (1998) applied the glass ceiling theory to women executives in corporations. Their study listed common barriers to female managers moving up and suggested strategies to “shatter the glass ceiling.” More about glass ceiling literature will be reviewed in Chapter Two.

One of the main feminist theories in the 18th century was equal education for women--“an equal education would prepare women with equal quality in family life, professional and public life” (Wollstonecraft, 1975, p. 148; originally published in 1792). In the next two centuries, education remained a key theme of the feminist movement throughout the world. The glass ceiling criteria developed for women fits
the leadership achievement gap of AAPI in general, but the equal education theme of feminist theory does not explain the AAPI leadership achievement gap. The feminist theory’s prediction of equal opportunity in professional and public life based on equal education did not materialize for AAPI or for women. Women are still paid less than men in similar positions and faced with the glass ceiling in leadership positions. AAPI as a group, as illustrated in Figures 1 to 5, have the highest education attainment and yet the lowest representation at the top leadership level. More glass ceiling and feminist theory research will be discussed in Chapter Two.

**Immigration Filtering Theory**

Asian Americans have two distinct labels—*model minority* and *forever foreigners*. Back in the 1960s when there were two societies in the U.S. – “one Black, one White – separate and unequal” (National Advisory Commission on Civil Disorders, 1968), Asian Americans were romanticized as the “model minority” which encompasses a hard-working, self-reliant, high achieving minority that overcomes hardship, oppression and discrimination to reach educational and financial success (Petersen, January 09, 1966; *U.S. News and World Report*, December 26, 1966; Kasindorf & Chin, 1982). Numerous criticisms have been published since the 1960s on the model minority myth (Chang, 1993; Chou & Feagin, 2008; Fong, 2008; Kitano & Daniels, 2001; Lee, 2009; Yun, 1989). This will be discussed further in Chapter Two.

In the book *Forever Foreigners or Honorary Whites*, Mia Tuan (1999) interviewed 95 Asian Americans from age 20 to 70+, all U.S. born third-plus
generation immigrants. In their private lives, most Asian Americans had a White American life-style and grew up in middle class White neighborhoods, due to their immigrant ancestors’ educational and financial success and their disconnection with their immigrant ancestors’ countries of origin. However, in their public lives, Asian Americans were socially constrained on racialized terms and involuntarily imposed with an assumption of foreignness. Therefore, it is assumed that Asian Americans cannot be trusted with important positions, such as leaders and decision makers. The third-plus generation Asian Americans’ conflict between their private and public lives was referred to as the “banana” syndrome. This reference denotes a state of being white inside but invisible, and yellow to viewers from outside. The forever foreigners’ view of Asian Americans has established the basis for racial discrimination against this ethnic group because foreigners are not entitled to equal opportunities, not to mention leadership positions. More forever foreigners research will be discussed in Chapter Two.

Zhou studied model minority and forever foreigners’ theories and proposed the Immigration Filtering Theory (IFT) during a Multi-cultural Education Conference held at the California State University, Sacramento in 2010. Zhou proposed that Asians, who were excluded from U.S. immigration for many years prior to 1965, and had very limited chance through the “immediate family” category, thereafter came in large numbers filtered through the professional and market shortage categories of the Immigration and Nationality Act of 1965. IFT asserts that Asians who immigrated after 1965 will have higher educational achievement for up to three generations
compared to the general U.S. population and compared to the native population in immigrants’ exporting countries. The model minority is the direct result of IFT as the AAPI new immigrants must have higher education achievement and special skills, and the forever foreigner is the perception based on the fact that many AAPI are either first or second generation immigrants since 1965. In addition to the traditional categories of family members and immediate relatives of U.S. citizens and legal residents, The Immigration and Nationality Act of 1965 established two new categories to bring in new immigrants -- “Professionals, scientists, and artists of exceptional ability” and “skilled or unskilled persons capable of filling labor shortages in the United States” (Public Law 89-236, 79 Stat. 911). Children and grandchildren of those highly educated/special skilled immigrants tend to have the drive, family tradition, and family assistance, or other cultural and social capitals, to complete higher education. The “three generations” limit was based on an old Chinese proverb “富不过三代--the influence of first generation pioneers (foreign born immigrants) can only last to the third generation in a family. Even though the larger percentage of immigration numbers is still set for family members and relatives of U.S. citizens and legal residents, the two new categories significantly increased the percentage of Asian immigrants with college degrees and special skills (such as nurses). Asians started to arrive in large numbers after 1965, first as college or graduate students, who then became immigrants through the two new professional/market shortage categories in the Immigration and Nationality Act of 1965.
Asians were excluded from the United States as laborers after the Chinese Exclusion Act of 1882 and a series of later immigration laws rejecting Asian immigrants all together. These discriminatory immigration laws included the Gentlemen’s Agreement of 1907 with Japan, the 1917 Asiatic Barred Zone Act, and 1924 National Origins Act and Asian Exclusion Act. By 1965, very few Asian Americans still had family members or close relatives in Asia, and immigration to the U.S. by family sponsorship was a small percentage compared with European immigrants. The U.S. Census Bureau (2011) data show that in 2008, 90.5% of Asian college students, and 97.4% of Asian graduate students were either first (foreign-born) or second generation immigrants. These percentages are much higher than 9.0% and 16.3% non-Hispanic White first and second generation immigrants among college and graduate students respectively. The higher percentage of first and second generation immigrants among college and graduate students also applies to other non-European populations. Black first and second generation immigrants are 21.3% and 24.9% among college and graduate students, and the numbers for Hispanics are 63.1% and 58.5% respectively (U.S. Census Bureau, 2011).

It is interesting to point out that Zhou’s IFT applies to Black immigrants as well because very few African Americans could sponsor their immediate family members to the U.S. before 1965. As a matter of fact, according to Census 2000, highly educated Black immigrants are the only sub-group that matches the education attainment of Asian Americans. The percentage of Black foreign-born immigrants with a 4-year college degree is not only much higher than native-born African
Americans, but also higher than native-born White Americans. This will be discussed in Chapter Two.

The *Immigration and Nationality Act of 1965* increased immigration flow from non-European countries and it abolished the national quota system that favored existing residents in the U.S. based on the 1890 census. The *Immigration and Nationality Act of 1965* changed the demographic composition of the United States forever and increased the Asian American foreign born population from under 50% before 1965 to 67% in 2000 (U.S. Census Bureau, January 2010). Since the 1990’s, the increased numbers of H-1b working visas with a minimum of 4-year college degrees in high tech fields further increased immigrants from Asian countries with higher education and special skills. The *Immigration Filtering Theory* applies well to the fact of high education achievement of first generation Asian and Black immigrants, but it does not explain why highly educated AAPI have a leadership achievement gap. IFT needs to be modified to include other unique features for new immigrants in addition to their education attainment.

**Four Capitals Theory: Cultural, Social, Human and Political Capitals**

Capitals and assets originally came from business and economics concepts. Capitals and assets have different meanings. Capital refers to reusable resources immediately available to produce profit. Assets are total values under the ownership of a company. Capital can be borrowed from banks, exchanged for part ownership with investors and is therefore not “owned” by a company. On the other hand, some assets cannot be turned into capital since they are not readily available, such as an
uncollectable item in accounts receivable. It is an asset, but it cannot be turned into capital because it is not available at the moment. Pierre Bourdieu defined cultural capital and social capital in his book *Forms of Capital* (1985). Cultural capital resides in forms of knowledge, skills, education, and cultural background of a person. Parents and education systems provide children with cultural capital by transmitting the attitudes, learning habits, and knowledge needed to succeed in the current society.

Cultural capital exists in three forms: *embodied state*, *objectified state*, and *institutionalized state*. Social capital is described as “a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (p. 241-248). The definitions of social and cultural *capital* and *asset* seemed to be used interchangeably in many social sciences and education literature. The *Cultural Capital Theory* serves as complementary to IFT. Influenced by the Confucian culture of seeking higher education as the “noblest pathway” to enter the society, Cultural Capital Theory applies to Asian American children without college educated parents from Taiwan, Hong Kong, Korea, Japan, and later from China. Confucius stated over two thousand years ago: “万般皆下品，唯有读书高” --among all walks of life, people seeking higher education will have the noblest career path. Throughout Chinese history, the social stratification system put scholars at the top of the ladder, well above businessmen or entertainment and sports professionals. Scholars who passed national civil service examinations were awarded government posts such as
mayors of small cities, to county executives, governors of provinces, and statesmen in central government.

As for human capital, Adam Smith defines it as one of four fixed, identified categories of capitals after machines, buildings, and land (1979, p. 265). For the purpose of this study, the author modifies the definition of human capital as *the accumulated value of years of formal education, degrees, certificates, credentials, publications, membership in professional associations, and years of experience in a particular profession*. The following examples help to distinguish among cultural, social, and human capital. A doctoral degree in educational leadership is human capital that enhances a resume; the cohort of doctoral students and their professors form a social capital with extensive networks in the educational field; the willingness “to live and learn” at the doctoral level for many working professionals shows cultural capital. For many EDD cohort students, including the author of this study, cultural capital provides the initial drive to pursue a doctoral degree after years of working as professionals in the educational field. Social capital helps to inspire, motivate and maintain the momentum to complete the degree.

Cultural, social, and human capital theory provides a framework to address most of the achievement gap problem and it will be examined in this study of underrepresentation of AAPI chief librarians. The fact of very high human capital, the strong Asian cultural value of pursuing education as the noblest career, and over 2000 years of study of 关系 (Guanxi) for all managers and administrators in Asian societies
could not explain the problem statement of this study. The existing capital theory has to be modified. *Guanxi* is a Chinese word without an exact corresponding term in English. *Guanxi* theory studies networking with people in power, expanding one’s sphere of influence, and increasing professional, family and tribal, and regional and language dialect connections beyond one’s official responsibility. *Guanxi* is often interpreted as the opposite of meritocracy and thus had more negative meaning in China’s current politics. However, *Guanxi* is still being taught and studied in academics and business, especially for future leaders in many countries, including in the United States and in China.

Most studies using capital theory as a framework in social sciences and education focus on individuals—cultural, social, and human capital of an individual person. The author is proposing to add a fourth capital that influences the whole racial or ethnic group instead of individuals—*Political Capital*. It is defined as the group’s political influence over public opinions and public policies. The internment of Japanese Americans during World War II reveals lack of political capital of Asian Americans in the 1940s during a targeted discrimination in the society. But the redress and reparation movement of Japanese Americans from 1978 to 1990, demanding financial compensation for each surviving internee and an official apology from the U.S. President for its wrongful treatment of Japanese Americans during World War II, is a clear sign of increased political capital of Asian Americans. Strategic participation in the process of voting and other political involvement have enabled Asian
Americans to have their voice heard. The U.S. Commission on Civil Rights in 1992 stated that formal barriers to Asian Americans political participation still exist:

1. Apportionment policies that dilute the voting strength of Asian American voting blocs;
2. The unavailability of Asian-language ballots and other election materials;
3. Problems with the implementation of the Census of Population; and

Overcoming the political participation barrier and having Asian American’s concerns heard in the United States will increase the political capital for all Asian Americans.

Limitations and Delimitations

Limitations

This study will survey members of Chinese American Librarians Association (CALA) and Asian and Pacific American Librarians Association (APALA). These are the only AAPI librarians groups registered with American Library Association (ALA). The total membership is over 1,000 for CALA in the 2010 print member directory and about 220 for APALA online member directory. Total Asian Pacific credentialed librarians’ population is estimated at 3,500 out of total 110,000 librarians (American Library Association, 2007, p. 7.) If any of the findings from this study are going to be generalized to the entire population of AAPI librarians, they have to be done with
logic and caution.

**Delimitations**

The author chose to conduct the study using an online survey from limeservice.com. The invitation letter to participate in the study will be distributed to CALA and APALA members through e-mail. CALA and APALA Members without a valid e-mail address listed in the directory will not be included. The e-mail invitation may exclude or discourage certain groups of AAPI librarians and reduce the response rate.

**Significance of the Study**

The author of this study devised a method of quantifying the representation disparity using a set of ratios—α & β, Representation Disparity (RD) ratios, and γ & δ, Advancement ratios. One of the purposes of this study is to show the status between AAPI chief librarians using RD and Advancement ratios compared with other librarian groups. The low representation of AAPI among leadership positions is not widely known even among education scholars. There has been no previous study on lack of AAPI in librarian leadership positions; therefore this study of the status of AAPI chief librarians will fill a gap in the existing literature.

The RD ratios and Advancement ratios used in this study are the *first* attempt to quantify a wide phenomenon in education and social sciences – representation disparity. The ratios developed in this study are not limited to AAPI librarians or
AAPI faculty leadership achievement gap. They can be used to measure many representation or advancement ratio disparities based on race, ethnicity and socioeconomic status--high school graduation rates vs. school population ratios, college enrollment rates vs. high school graduation ratios, remedial success rates vs. remedial student population ratios, persistence rates of freshman or transfer students vs. matriculated students ratios, and college graduation achievement gap.

The RD and Advancement ratios can also be used to measure over-representation in a negative environment, such as school dropout rate, population ratios in prisons and in mental health institutions. The RD ratios developed here compare an ethnic group’s representation percentage at a higher level with the percentage of available pool level, and RD ratios will help identify and isolate problems where they occur. For example, 6.5% AAPI full time tenured faculty seems to be high compared to 5% AAPI among general population; but 6.5% is considered very low under the RD ratios because over 12% of doctoral degree holders are AAPI in the U.S. (National Center for Education Statistics, 2010, pp. 26-27). There is an achievement gap for AAPI doctoral degree holders in getting full time faculty positions. Similarly, if 12% of matriculated colleges students are in low socioeconomic status, but only 6.5% college graduates are in low socioeconomic status, that would be a serious problem for policy makers to consider a policy change to narrow the graduation achievement gap.

The other purpose of this study is to explore factors behind the AAPI librarians’ leadership achievement gap among large libraries, and to recommend policy changes
to narrow the leadership achievement gap and increase the top leadership positions—deans, university librarians, and directors.

Conclusion

United States higher education and academic librarianship is regarded as an even playing field for ALL based on written hiring, tenure, and promotion policies in most institutions. With meritocracy, equal opportunity, and diversity all incorporated into most universities’ hiring and tenure/promotion manual, the discrepancies between percentage of tenured AAPI faculty (6.5%) and the AAPI college presidents (0.9%), between percentage of AAPI librarians 6.6% in large academic libraries and AAPI chief librarians (1%) nationwide are significant and cannot be explained by statistics. This study explores the representation disparity among AAPI librarianship through both quantitative and qualitative research.

First, this study will disseminate RD and Advancement ratios method and knowledge gained through publication. This study will apply RD ratios and Advancement ratios in higher education and in library leadership positions. Although some data is available to the general public and the evidence is clear, most people in the United States are not aware of this AAPI leadership achievement gap due to the model minority myth portrayed by media regarding Asian Americans and lack of a quantifying tool to measure the representation disparity. The author will compile data from U.S. census, American Library Association, Association of Research Libraries, other higher education institutions and ethnic librarian associations, and will present
the problem statement with well-organized information to more people in education and society at large. A problem needs to be documented and well recognized before a change can be made in a democratic society.

Next, this study attempts to find out positive and negative factors that influenced the under-representation of AAPI at leadership positions. Since the phenomenon of AAPI leadership under-representation is wide-spread in business, government employment, judicial and medical fields, the understanding of AAPI under-representation in higher education and in librarianship may help to stimulate similar research in other sectors of society. Equal opportunity, diversity and meritocracy are taught in all higher education and used in all university hiring and promotions statement. Yet the data shows a glass ceiling which limited upward mobility of AAPI in higher education and of librarians in particular.

Finally, this study seeks recommendations to change policies and practices to increase the number of AAPI leadership positions in higher education. White women, African Americans and Latinos have all improved their representation at the top leadership levels in higher education since the Civil Rights movement of the 1960s. AAPI’s improvement has not experienced the same progress when compared to other gender and minority groups. Highly educated Asian Americans should learn from the experience of women and other minority groups in their battle for equal opportunity at the top leadership levels.
Operational Definitions, Glossaries and Acronyms

The Advancement Ratio: \( \gamma(x) = \frac{\text{(percentage of group X at advanced level within X population)}}{\text{(percentage of group X at available pool level within X population)}} \).

Asian Americans’ leadership achievement gap: The phenomenon of low Asian American representation in leadership positions in disproportion to their high educational attainment.

Comparative Advancement (CA) Ratio: \( \delta(x/y) = \frac{\gamma(x)}{\gamma(y)} \), where \( \gamma \) is the advancement ratio. When \( \delta(x/y) < 1 \) and Y is the majority group, the achievement gap exists for group X. CA ratio \( \delta(x/y) \) measures the advancement ratio of group X compared with that of the majority group Y.

Comparative Representation Ratio: \( \beta(x/y) = \frac{\alpha(x)}{\alpha(y)} \), where \( \alpha \) is the representation ratio. When Y is the majority group and \( \beta(x/y) < 1 \), the Achievement Gap exists; when \( \beta(x/y) > 1 \), over-representation exists for group X with attribute x.

Credentialed Librarians: Librarians with an ALA-accredited Master’s Degree in library and information science.

Four Capitals Theory: Human, Cultural, Social, and Political Capitals are important resources for individuals and groups to be successful in the society.

Immigration Filtering Theory (IFT): Zhou’s proposed theory that immigrants came through the professional and special skill categories of Immigration and Nationality Act of 1965 will have better education attainment than U.S. average population for up to three generations.
**Information Literacy:** a skill set to identify the need for, locate, retrieve, evaluate, analyze and organize, and present information.

**Political Capital:** A group’s political influence over public opinions and public policies.

**Representation Ratio:** \( \alpha(x) = \frac{\text{population percentage of group X at the advanced level}}{\text{population percentage of group X at the qualified pool’s level}} \). Group X is identified by attribute x, which can be race, ethnicity, gender, or any population characteristics. When \( \alpha > 1 \), group X has more than average representation at the advanced level, and when \( \alpha < 1 \), group X has less than average representation.
Chapter 2

REVIEW OF LITERATURE

This chapter will begin with a brief history of Asian Americans as depicted from the perspective of immigration laws and policies, followed by a formal introduction of the representation disparity (RD) ratios and advancement ratios. These two sections will precede a discussion on literature related to the Asian American and Pacific Islanders (AAPI) leadership achievement gap in higher education and in librarianship. U.S. immigration laws and policies are the most important factors affecting the Asian American community in the last 150 years. Immigration policies control not only the number of Asian immigrants, but also the number of native-born Asian Americans by excluding Asian women immigrants since 1875. The most important immigration policy for the last half century—the Immigration and Nationality Act of 1965 specified preference for particular types of immigrants differentiated by education and skill level.

The author will deviate from providing a traditional literature review in which previous studies are only summarized. Rather, the author will apply RD ratios and advancement ratios to the previous studies and produce a quantifying lens to view a common problem of representation disparity in college admission, college graduation, and dropout rate. The process of conducting a relevant literature review will be a three-stage approach – (a) keyword, (b) reference, and (c) citation search as an alternative way of searching existing studies from the traditional “funnel” method—a broad to narrow literature search. Recent library and information technology
developments made the keyword-reference-citation literature review method possible. The three-stage method is especially effective for tracking down very narrow and hard to find information.

Under the main body of literature review, the first section covers some seminal works related to the under-representation of AAPI in leadership roles in the U.S. The second section focuses on AAPI under-representation in higher education leadership positions. In the last section, the author will examine studies related to AAPI under-representation among chief librarians, especially among academic librarians. The theoretical framework of Critical Race Theory, Glass Ceiling Theory, Immigration Filtering Theory (which includes Model Minority theory and Forever Foreigners theory), and Four Capital Theory will be discussed in the literature review to address the following research questions:

- What is the probability that AAPI credentialed librarians will reach chief librarian positions in large libraries, compared with the majority, and with other minority groups, using the Representation Disparity (RD) Ratios developed in this?
- What factors contributed to successful pathways toward leadership positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions?
A Brief History of Asian Americans and Related Immigration Policies

Asian Immigrants Before and After 1965

Based on U.S. Census report in 2007 (p. 4), 67.32% of Asian Americans were foreign-born immigrants. Immigration policies and laws dictated the ebb and flow of Asian American population in the last 150 years. Professor Bill Ong Hing’s 1993 book Making and Remaking Asian America through Immigration Policy 1850-1990 provided a history of Asian Americans through an immigration policy perspective. Asian American immigrants experienced cycles of rejection (fueled by racial prejudice and fear of economic competition) and acceptance (motivated by the desire for cheap and dependable labor). In the 19th century, Chinese were the first to enter the U.S. in significant numbers among Asian immigrants who searched for gold and built the inter-continental railroad. According to Hing, 50,000 Chinese in the state of California paid $14 million annually in taxes and licenses in 1850s and 1860s, a huge number considering the United States nominal GDP was around $2.556 billion in 1850 (Chantrill, 2011; Rhode, 2002; Termin, April 1972). Fourteen million in 1850 is equivalent to $80 billion in 2010 as measured by relative share of GDP, a method used in national finance and economics to compare income and expenditures over time. Under the relative share of GDP, the percentage of $14 million to a $2.556 billion GDP in 1850 is the same of $80 billion to a $14.5 trillion GDP in 2010(National Economic Accounts, 2011). The increase of U.S. GDP is about 5673 times from $2.556 billion in 1850 to $14.5 trillion in 2010. The relative share method converts $14 million taxes paid in 1850 to $80 billion in 2010 by the multiplier 5673. The
concept of *relative share* is the foundation of the RD and advancement ratios that will be introduced later in this chapter, and used throughout the study as a measurement of representation disparity.

Despite the huge financial contribution, Chinese were the first Asian immigrant group to be barred from immigration through national exclusionary policy. In the *Naturalization Act of 1870*, Congress extended the naturalization right to “white persons and persons of African descent,” but it deliberately denied Chinese that right because of their “undesirable qualities.” Following the 1870 denial of opportunity to naturalize Chinese, Congress in 1875 passed legislation prohibiting the immigration of Chinese women for “immoral purposes.” With Chinese women excluded from immigration, the Chinese population in the United States was guaranteed not to multiply. On May 6, 1882, the 47th Congress enacted the Chinese Exclusion Act and the law excluded Chinese laborers for 10 years. The Chinese Exclusion Act was extended several times and in 1904, Congress extended the ban on Chinese immigration indefinitely (Hing, 1993, pp. 20-26).

Following the pattern of Chinese immigrants, Japanese and Filipinos experienced their own cycle of acceptance and rejection. A series of anti-Asian immigration laws from the Chinese Exclusion Act of 1882, the Gentlemen’s Agreement of 1907 with Japan, the 1917 Asiatic Barred Zone Act, 1924 National Origins Act and Asian Exclusion Act, to the Philippine Independence Act in 1934, the U.S. immigration door closed to almost all Asian immigrants by 1934.
During World War II, the United States and China became allies against Japan and the 1882 Chinese Exclusion Act was repealed by the Congress in 1943 (Chinese Repealer). However, the 1924 National Origins Act set the annual quota of any nationality at 2% of the number of foreign-born persons of such nationality resident in the United States in 1890 (Hutchinson, 1981, p. 194; Wang, 1975, p. 99), and the quota of immigrants for Chinese or person of Chinese descent was set at just over 100 after the 1943 Chinese Repealer. The national origin quota system based on 1890 U.S. census was finally abolished by the Immigration and Nationality Act of 1965, which allowed 20,000 immigrant visas for every country not in the Western Hemisphere. In addition to 75% allotment for relatives of citizens and lawful permanent residents for family reunification, the new immigration law of 1965 established occupational preference categories. As a result of the very low Asian immigration rate before 1965, the occupational categories helped a new generation of Asian professionals to enter the U.S. and to be followed by their families and relatives after 1965. The percentage of Asian among total immigrants increased from 2.75% in 1930s to 40% in 2010 (Department of Homeland Security, 2010). The overall effect of 1965 immigration law on Asian immigrants can be illustrated in the following figure.
Sources: The author compiled the figure based on *Yearbook of Immigration Statistics: 2010*, Table 2.

**Figure 7.** Legal Immigrants from 1930s to 2000s.

The large increase of new Asian immigrants since the 1960s changed the demographics of Asian Americans. In a 2007 U.S. Census report, two of every three Asian Americans are foreign-born. For example, the largest Asian American population has been Chinese and their population declined from over 107,500 thousand in 1890 to less than 106,500 in 1940, but increased significantly to 1,645,500 in 1990 (Statistical Yearbook of the Immigration and Naturalization Service, 1982-2000; Gardner, 1985.) The growth rate of AAPI population was considered the fastest at 204% from 1980 to 2000 (Hobbs and Stoops 2001), and another 34% from 2000 to 2010 (U.S. Census Bureau, March 24, 2011).

Fong (2008) provided a picture of Asian American history not only through the lenses of U.S. immigration policies, but also from examples of local anti-Asian laws
and legal cases. Asians in the U.S. did not possess sufficient political capital to have Asians voice heard during elections because many Asians were unable to obtain citizenship before the Immigration and Nationality Act of 1965. However, individual Asians and local Asian groups fought legal battles against anti-Asian laws and policies in courts. Some individual Asians won, such as Yick Wo v. Hopkins (1886 Supreme Court case) and Roldan v. Los Angeles County (1933 California Court of Appeals case). However, without political capital, Asians in America as a racial minority group had no control or leverage on national policies that would have positive bearing on their lives and their children’s lives.

In addition to addressing the experiences of Asian Americans from China, Japan, Korea, Philippines, and India, Fong’s book (2008) covers post-1965 Asian immigrants and refugees from Southeast Asia after the Vietnam War. It also provides readers with a unique perspective of Asian immigrants from a global economics restructuring point of view. Since the 1970s, many Asian countries experienced fast economic growth and have become newly industrialized nations. The United States, on the other hand, is demanding less low-skilled manufacturing labors because those jobs are moving abroad. Instead, the U.S. needs to import individuals with advanced education and specialized skills that are difficult to outsource.

According to National Science Foundation data, since 2000, more doctoral degrees in the physical science and engineering fields were awarded to foreign students than to American citizens or permanent residents. Students from China and Taiwan accounted for one third of all foreign doctorate recipients, and the top five
foreign countries/economies “exporting” students to the U.S. are all in Asia—China, India, South Korea, Taiwan and Turkey. These top five countries accounted for 62.78% of all foreign student recipients of doctoral degrees (National Science Foundation, December 2010, Table 16, 20, 23.) Because many of those highly educated foreign students retained U.S. residency under the Immigration Act of 1965, and became new immigrants with more education than average U.S. citizens, Zhou’s Immigration Filtering Theory (IFT) can be applied to higher education achievement of Asian Americans and their children and grandchildren.

Black Immigrants After 1965

It is interesting to point out that Zhou’s IFT could apply to Black immigrants after 1965 as well. Before 1965, there were very few new Black immigrants through immediate family members and relatives categories under the previous U.S. immigration policies, and very few slave-descendent African Americans in 1965 still had immediate family members outside the United States. After 1965, most new Black immigrants voluntarily went through the filtering system under the professional/market shortage categories of the Immigration Act of 1965. Not widely known is the fact that Black immigrants as a sub-group are the only ones that match Asian Americans’ education attainment. According to Chicago Tribune March 18, 2007’s article “Black Immigrants Collect Most Degrees”, the Pulitzer winner and Chicago Tribune editorial board member Clarence Page wrote:

In a side-by-side comparison of 2000 census data by sociologist including John R. Logan at the Mumford Center, State University of
New York at Albany, black immigrants from Africa averaged the highest educational attainment of any population group in the country, including White and Asians. . . 43.8 percent of African immigrants had achieved a college degree, compared with 42.5 of Asian-Americans, 28.9 percent for immigrants from Europe, Russia and Canada and 23.1 percent of the U.S. population as a whole.

The author was unable to independently verify numbers cited by Clarence Page other than a Web site at: http://www.asian-nation.org/immigrant-stats.shtml. Based on U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, (2009), Black immigrants were in the category of “others” and listed after Asians, Europeans, South Americans, and Mexicans due to their small numbers. Within the “others” category, percentages of immigrants with a 4-year college degree and a master’s degree were indeed close to those of Asian Americans. John Logan, the original author cited by Page, had two publications based on 2000 Census data that related to Black diversity and American immigrants (Logan, June 18, 2003; Logan and Deane April 15, 2003). Both Logan’s publications indicated that Black immigrants had higher education attainment, higher income, and lower unemployment rate compared with native-born African Americans, who were most likely descendants of slaves. Based on Zhou’s IFT, the higher education attainment is due to the filtering effect of two professional/market shortage categories in the Immigration and Nationality Act of 1965. High education attainment will apply to any new immigrant
groups who could not enter the U.S. in large numbers based on family sponsorship, 
due to previous exclusive immigration policies before 1965.

In 2008, 90% to 98% of Asian American college students and graduate 
students were either first or second generation immigrants (U.S. Census Bureau, 2011, 
p. 148). According to Zhou’s IFT, up to three generations of Asian immigrants should 
have cultural, social and human capitals that would enable them to complete more 
education than average. However, for Hispanic and Asian Americans, the new 
immigrants had less education than native-born population according to the 2000 
Census data. One explanation is that family sponsored immigrants filed by first 
generation Asian Americans increased since 1990. Under the influence of Asian 
family culture, first generation Asian Americans traditionally would file for their 
parents and siblings to immigrate to the U.S. under the immediate family and relatives 
categories. College educated first generation Asian Americans may not have college 
educated parents and siblings, and family sponsored Asian immigrants may not have 
the ability or time to complete college education after entering the U.S.

Ogbu (1998) classified minorities in the U.S. and their descendants as 
voluntary (immigrant) and involuntary (non-immigrant) minorities; and the school 
performance of minorities differ based on voluntary and involuntary status. The 
voluntary minority students, such as Chinese, Japanese, Korean, Asian Indians do 
better in school than involuntary minority students, such as African Americans and 
Hispanic. However, Ogbu applied his voluntary and involuntary minority 
classification system to new immigrants who share affinity with established minorities
in the U.S. Ogbu stated that White dominant society’s perceptions of recent Black immigrants from Africa and the Caribbean placed them into the involuntary minority group due to their affinity with the pre-established African Americans. This section of Ogbu’s minority classification may need further study under the influence of *Immigration and Nationality Act of 1965*. Census data since 1980 show that new Black immigrants had a significant difference in education attainment, income, employment, and crime rate compared with slave-descendant African Americans.

President Obama, a second generation Black immigrant, is an example of recent Black immigrant success in the U.S. According to Zhou’s *Immigration Filtering Theory*, Black immigrants after 1965 should have better performance in education than U.S. average for up to three generations. Better education came with better jobs and higher income. One unique benefit to recent African immigrants and Black immigrants from other regions is that Black immigrants are considered “under-represented” under Affirmative Action and other equal opportunity programs while new Asian immigrants are not. As Page stated in the Chicago Tribune article (March 18, 2007), first generation Black immigrants and their children (second generation Black immigrants) who make up only 13% of the U.S. college-age Black population, account for more than 20% of Black students at 23 Ivy League and other selective universities, and one-half to two-thirds of Harvard’s black undergraduate population.

**Asian Americans as Model Minorities and Forever Foreigners**

A few historical articles that coined the term “model minority” for Asian Americans are worth mentioning. The earliest one cited by many articles was by
William Petersen titled “Success Story, Japanese-American Style” published on January 09, 1966 in the New York Times. Petersen described Japanese-Americans as being subjected to the most discrimination and injustice in 20th century American history. Japanese-Americans were hated, distrusted, and held in internment as agents of oversea enemies during World War II. Japanese Americans encountered and overcame great odds without any public assistance, achieved high levels of education and income within 20 years after World War II. Petersen compared Japanese Americans with African Americans, and suggested the “Negro problem,” coined by Nobel Economics Laureate Karl Gunnar Myrdal, would be solved if African Americans had behaved like Japanese Americans. Myrdal’s book An American Dilemma: the Negro problem and modern democracy (1944) was cited in the 1954 U.S. Supreme Court Decision Brown v. Board of Education and evidently had a positive influence in this Supreme Court landmark decision. On December 26, 1966, U.S. News and World Report had another “Success story of one minority group in U.S.” This time, it was the 300,000 Chinese-Americans who are “winning wealth and respect by dint of its own hard work.” Similar to Japanese Americans, “few Chinese-Americans are getting welfare handouts—or even want them.” The crime rate is the lowest in China town despite the highest density in housing. The article stated that Chinese “are moving ahead” after being discriminated against and experiencing extreme injustice for 80+ years before 1966 through “hard work, thrift and morality” (U.S. News and World Report, December 26, 1966).
Next, in the centennial year of the Chinese Exclusion Act of 1882, *Newsweek* published an article “Asian-Americans: A Model Minority” (Kasindorf & Chin, December 6, 1982). The article described the Asian Americans as having 10% higher family income than Whites, a higher percentage of college graduates, a higher proportion of doctors and engineers, and a higher representation in elite universities. Even though the article also discussed the problem of Asian gangs and extremely long and harsh working conditions of Asian immigrants in order to get ahead, the term “model minority” in the title of the article was the only thing most people associated with Asian Americans ever since the article was published. A close examination by the author of weekly and hourly earnings by race and educational level shows that individual Asians earn less than Whites at the high school only level and at the bachelor degree only level (Bureau of Labor Statistics, 2011). However, it has been observed that individual Asians weekly earnings are higher than Blacks and Hispanics at both the high school and bachelor degree level. The overall higher Asian family income came from the result of larger percentage of higher education attainment of Asian Americans, and with the same level of education, Asians still earn less than Whites.
Table 1

*Weekly Earnings for Population 25 years or older, High School Graduates Only*

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>518</td>
<td>462</td>
<td>427</td>
<td>435</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>541</td>
<td>462</td>
<td>451</td>
<td>456</td>
<td>520</td>
</tr>
<tr>
<td>2002</td>
<td>562</td>
<td>481</td>
<td>460</td>
<td>461</td>
<td>535</td>
</tr>
<tr>
<td>2003</td>
<td>576</td>
<td>491</td>
<td>476</td>
<td>485</td>
<td>554</td>
</tr>
<tr>
<td>2004</td>
<td>591</td>
<td>493</td>
<td>492</td>
<td>491</td>
<td>574</td>
</tr>
<tr>
<td>2005</td>
<td>600</td>
<td>535</td>
<td>488</td>
<td>499</td>
<td>583</td>
</tr>
<tr>
<td>2006</td>
<td>615</td>
<td>554</td>
<td>497</td>
<td>509</td>
<td>595</td>
</tr>
<tr>
<td>2007</td>
<td>624</td>
<td>538</td>
<td>504</td>
<td>524</td>
<td>604</td>
</tr>
<tr>
<td>2008</td>
<td>643</td>
<td>568</td>
<td>515</td>
<td>553</td>
<td>618</td>
</tr>
<tr>
<td>2009</td>
<td>651</td>
<td>592</td>
<td>533</td>
<td>555</td>
<td>626</td>
</tr>
<tr>
<td>2010</td>
<td>649</td>
<td>579</td>
<td>532</td>
<td>543</td>
<td>626</td>
</tr>
</tbody>
</table>

Table 2

*Weekly Earnings for Population 25 years or older, Bachelor Degrees Only*

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>848</td>
<td>770</td>
<td>702</td>
<td>695</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>878</td>
<td>834</td>
<td>728</td>
<td>728</td>
<td>858</td>
</tr>
<tr>
<td>2002</td>
<td>901</td>
<td>838</td>
<td>745</td>
<td>743</td>
<td>877</td>
</tr>
<tr>
<td>2003</td>
<td>925</td>
<td>847</td>
<td>762</td>
<td>747</td>
<td>900</td>
</tr>
<tr>
<td>2004</td>
<td>937</td>
<td>882</td>
<td>782</td>
<td>808</td>
<td>916</td>
</tr>
<tr>
<td>2005</td>
<td>960</td>
<td>917</td>
<td>763</td>
<td>799</td>
<td>937</td>
</tr>
<tr>
<td>2006</td>
<td>980</td>
<td>975</td>
<td>803</td>
<td>788</td>
<td>962</td>
</tr>
<tr>
<td>2007</td>
<td>1010</td>
<td>1006</td>
<td>815</td>
<td>858</td>
<td>987</td>
</tr>
<tr>
<td>2008</td>
<td>1035</td>
<td>1027</td>
<td>842</td>
<td>872</td>
<td>1012</td>
</tr>
<tr>
<td>2009</td>
<td>1051</td>
<td>1017</td>
<td>853</td>
<td>892</td>
<td>1025</td>
</tr>
<tr>
<td>2010</td>
<td>1065</td>
<td>1062</td>
<td>874</td>
<td>860</td>
<td>1038</td>
</tr>
</tbody>
</table>

For professional degrees, a salary survey of M.D. and Ph.D. holders in biological science, including several thousand Asian Americans, was published by http://www.the-scientist.com/2008/9/1/45/1/ and also published in *The Scientist* print issue (Zielinska September 1, 2008). The survey showed Asians with MD degrees
earned $63K less per year compared with Whites, $47K less compared with Blacks, and $32K less compared with Hispanics. Asian biological and life science doctoral degree holders are also at the bottom of the pay scale. Also reported by the survey, life scientists median compensation was $85,000 in 2008, specialists with more years of special training had from $101,000 to as high as $159,000 as median compensation. On the other hand, life scientists who supervise 50+ people had a median compensation from $220,000 to $510,000, much higher than specialists’ incomes. One explanation was that Asians were less likely to be promoted to the top leadership positions with supervisory responsibilities when compared to other ethnic groups with the same credentials and thus make less than their colleagues.

The unintended consequences of the model minority stereotype projected onto Asian Americans fall mainly in the following two areas—concealing the problems related to certain segments of AAPI, especially South-East Asian Americans who came as refugees after Vietnam War, and distracting society’s focus on racial discrimination and un-equal opportunity faced by many AAPI, including the glass ceiling and leadership achievement gap issues.

Asian Americans are labeled as *Model Minorities* on one hand and *Forever Foreigners* on the other. Because the large percent of Asian Americans are first or second generation immigrants who came after the Immigration and Nationality Act of 1965, plus the majority of foreign students in colleges are from Asia, Asian Americans are somehow related to foreigners in the United States. The *Forever Foreigners Theory* marginalized Asian Americans from being fully accepted as “True Americans,”
despite their generations as immigrants, and their educational and economic success. According to Tuan (1999), most third plus generation White or Black immigrants in the U.S. have few ties, either by language or by culture, with their countries of origins. Also the society in general rarely identify White or Black immigrants with their countries of original after a few generation. But for third plus generation Asian Americans, their perceived foreignness caused them to be regarded as untrustworthy and their leadership positions questionable. Mia Tuan (1999) interviewed 95 Asian Americans from age 20 to 70+, all U.S. born third-plus generation Asian Americans. The self perception of White Americans and public perception of Asian Americans as forever foreigners is the constant conflict among those third-plus generation Asian Americans. Tuan chose to title the book *Forever Foreigners or Honorary Whites* and began the introduction of the book with the Ito-D’Amato incident in 1995. D’Amato, Senator from New York and a third-generation Italian American, expressed his impatience with the pace of the high-profile O.J. Simpson murder trial by mocking the Asian accent and ridiculing the presiding Judge Ito, who is a third-generation Japanese American. D’Amato later apologized to Judge Ito on the Senate floor, but the perception of the media on multi-generation Asian Americans as forever foreigners is unique, neither White nor Black multi-generation descendants of immigrants had been labeled foreigners in the U.S.

A study of attitudes toward Chinese Americans conducted by Yankelovich Partners in collaboration and consultation with The Marttila Communications Group and the Anti-Defamation League found the following:
- Are more loyal to China than the US - 32%
- Have too much influence in US high technology - 34%
- Are passing secret information to the Chinese government - 46%

In this 2001 survey, 34% said they would not want a Chinese American to be
President of the United States. Thirty-four percent was the highest compared to 15%
not wanting an African American President, 14% not wanting a woman President, and
11% not wanting a Jewish President (Landmark National Survey on American
Attitudes toward Chinese Americans and Asian Americans, April 25, 2001).
Particularly disturbing data from the survey conveys that Chinese Americans are much
less trustworthy than any other minorities and women to be national leaders. The
forever foreigners’ perception is a social barrier for Asian Americans to become
leaders in the U.S. society.

**Critical Race Theory (CRT) and Academic Writing**

The CRT stated that racism is ordinary, not aberrational, under the dominant
society’s laws and rules . . ., and minority status brings with it a presumed competence
to speak about race and racism, based on their own unique perspectives to society.
(Delgado & Stefancic, 2001, pp. 6-9). The CRT also applies to the academic writing
standard used in this study that the author must follow. The current standard for
dissertations and most peer reviewed journals in education and social sciences
discriminates against non-European authors in general, and Asian authors in particular.
Racism in writing is so ordinary that dominant groups with European family names do
not even see this discrimination, unless Asian authors point out the fact as illustrated in the following paragraph.

During the search for existing studies, the author encountered many Asian authors in the “References” section but the current standard of academic writing made it very hard to identify Asian authors and non-Asian authors could not even see the problem. *The Publication Manual of the American Psychological Association (APA Manual)* is required for college students, including dissertation writing and most academic journal submissions in education, social sciences and interdisciplinary areas. The *APA Manual* requires using the form of author’s full surname, first and middle initials, to identify an author in the “References” section. Using surname, first and middle initials to identify very common English names in the “References” section may be somewhat difficult, but the same method to identify even uncommon Chinese names will be much harder. For example, *The Complete Work of John Smith 1580-1631* published in 1986 is cited as (Smith, 1986) in a paper, and listed as Smith J. 1986 in the “References” section of the paper. The common surname “Smith” may require readers to spend extra effort to identify the author—Smith J. and link to his other publications. However, because most Asian surnames are much more common than “Smith,” the *APA Manual* makes it extremely difficult to identify Asian authors under surname, first and middle initials standard. For example, each of the most popular 6 family names in China accounts for 5% to 10% of the 1.5 billion Chinese populations. In addition, there are no middle names in Chinese, and all people from the same village typically have the same family name. To complicate the matter
further in regard to identifying a Chinese author, all first names of the descendents from the same generation under the same family tree have the same first syllables. Thus a regular Chinese author’s name identified by “Zhou, J” generated about 1,000 authors in the American Mathematical Society’s database from 1990 to 2011, while a very popular English name “Smith, J” only generated 330 authors in the same time period. Because Asian names have dominated the literature in Science, Technology, Engineering, and Mathematics (STEM) and more recently in Business, Law and Medicine (BLM), identifying Asian author’s name has been a challenge even for professional librarians.

The author of this study has recommended in the last few years, that all publications use the author’s full name--surname, first name and middle name instead of any initials. The current academic writing standard discriminates and alienates non-European authors due to language and cultural difference. Based on CRT theory, this discrimination is ordinary, not intentional, and hard to detect unless the discriminated minorities speak up and bring it out. Even more astonishing, discrimination against Asian authors continues despite the large percentage of contributing authors who are Asians. In an article published in the journal Science, Mervis (2005) stated that 15% of American life scientists were Asian Americans. But Asian Americans had no representation among 26 council members of the American Society for Biology and Molecular Biology (ASBMB), and no representation among 193 standing committee members of ASBMB. There have been no Asian Americans among 21 associate editors with decision-making authority for the top-tier publication—Journal of
Biological Chemistry (JBC), despite the large percentage of Asian American authors contributing to JBC. AAPI represented a large percentage of authors in STEM and BLM publications. But because AAPI had very little or no representation in the professional associations’ governing boards, the policies and decisions made by professional associations had a negative impact on AAPI authors and scholars.

**Representation Disparity (RD) Ratios and Advancement Ratios**

In order to measure the career achievement gap and to compare AAPI representations with that of White, women, and other minority groups at the leadership level, the author is introducing a set of ratios to help quantify representation disparity phenomena in education and in social sciences.

- **Representation Ratio**: \( \alpha(x) = \frac{\text{population percentage of group X at the advanced level}}{\text{population percentage of group X at the qualified pool’s level}} \). Group X is identified by attribute x, which can be race, ethnicity, gender, or any population characteristics. When \( \alpha > 1 \), group X has more than average representation at the advanced level, and when \( \alpha < 1 \), group X has less than average representation.

- **Comparative Representation Ratio**: \( \beta(x/y) = \frac{\alpha(x)}{\alpha(y)} \). When Y is the majority group and \( \beta(x/y) < 1 \), the Achievement Gap exists; when \( \beta(x/y) > 1 \), over-representation exists for group X with attribute x.

Using data from Figure 3 and Figure 5 to illustrate the concept of \( \alpha \) and \( \beta \), the representation ratios from tenured faculty to college president can be shown in table below.
Table 3

Minority Representation Ratios from Tenured Faculty to College President 2005/06

<table>
<thead>
<tr>
<th>Percentage \ Race</th>
<th>African American</th>
<th>Hispanic</th>
<th>AAPI</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured Faculty</td>
<td>4.5%</td>
<td>3.1%</td>
<td>6.5%</td>
<td>84.0%</td>
</tr>
<tr>
<td>President</td>
<td>5.8%</td>
<td>4.6%</td>
<td>0.9%</td>
<td>86.5%</td>
</tr>
<tr>
<td>$\alpha$</td>
<td>5.8/4.5=1.13</td>
<td>4.6/3.1=1.48</td>
<td>0.9/6.5=0.14</td>
<td>86.5/84=1.03</td>
</tr>
<tr>
<td>$\beta$</td>
<td>1.13/1.03=1.10</td>
<td>1.48/1.03=1.44</td>
<td>0.14/1.03=0.14</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Table 3 was compiled and computed by author based on *Minorities in higher education 2008: Twenty-third status report*. Washington DC, American Council on Education (Ryu, 2008)

The percentages of college and university presidents for African Americans (AA), Hispanics, and Whites are all higher than their percentages of tenured faculty. AAPI and non-resident aliens (not shown in the table) are the two groups with a significantly lower percentage at the president level than their percentage of tenured faculty. The *alphas* greater than 1 show that AA and Hispanic faculty over-represented at the leadership post of President based on their eligible pool of tenured faculty from which the President is selected. The *betas* greater than 1 show that AA and Hispanic faculty are over-represented at the leadership post of President compared with the majority group—White. In another way to express the facts, both AA and Hispanic tenured faculty had a better than average probability of being represented at the college president level, while AAPI tenured faculty had a much smaller chance (0.14 or 1/7) of being represented. Compared with the majority group—White, AA tenured faculty had a better chance ($\beta=1.10$ or 10% more) and Hispanic tenured faculty had a much better chance ($\beta=1.44$, or almost 50% more chance) than White
faculty of being represented at the president level, while AAPI tenured faculty had a much worse chance, ($\beta=0.14$ or $1/7$ chance) compared with White faculty of being represented at the president level. It is fair to say that compared to all faculty of different race/ethnicity, AAPI has the largest leadership achievement gap. The RD ratios $\alpha$ and $\beta$ quantify the leadership achievement gap and changes in $\alpha$ and $\beta$ over time can be used to track the achievement gap, whether widened or narrowed and the rate of changes.

Please note that $\alpha$ uses percentage of population X among total populations at the advanced level as the numerator and at available pool’s level as the denominator, and $\alpha(x)$ can be greater or less than 1. The next two ratios are called advancement ratio $\gamma$ and comparative advancement ratio $\delta$. The advancement ratio $\gamma$ measures the percentage within a particular group X that advanced to the higher level. The $\gamma$ is always less than 1 because not all 100% of the group X population can advance. The Advancement Ratio $\gamma$ measures the probability of advancement of group X from lower level n to higher level (n+1). In mathematical terms, $\gamma$ measures percentage of group X advanced from n level to (n+1) level.

- **The Advancement Ratio**: $\gamma(x)= (\text{percentage of group X at advanced level within X population})/ (\text{percentage of group X at available pool level within X population})$.

- **Comparative Advancement (CA) Ratio**: $\delta(x/y)= \gamma(x)/ \gamma(y)$. When $\delta(x/y)<1$ and Y is the majority group, the achievement gap exists for group X. CA ratio
\(\delta(x/y)\) measures the advancement ratio of group X compared with the majority group Y.

Using percentage of AAPI college degrees and graduate degrees as an example, from Figure 1 and Figure 2 in Chapter One, about 50% of AAPI have at least a college degree and only 20% obtain graduate degrees, therefore from 4-year college degree to graduate degree, \(\gamma\text{(AAPI)}=(0.20)/(0.50)=0.40\), so among every 100 AAPI college graduate, an average of 40 will advance and get a graduate degree. Unlike RD ratio \(\alpha\), \(\gamma\) itself cannot determine difference in advancement disparity. The comparative advancement ratio must be used to find the difference between groups. By using \(\alpha\), \(\beta\), or \(\gamma\), \(\delta\), the wide-spread phenomenon of representation disparity throughout the society can be quantified during the study, which is a much wider application than the AAPI leadership achievement gap. The RD ratios and Advancement ratios should greatly improve studies on lack of achievement, for example in high school graduation, education attainment, and college graduation rate. The ratios can also be used to calculate over-representation in a disadvantaged environment, i.e. remediation, special education, student dropout. Depending on what kind of statistics are available, most of the time RD ratios will be used when AAPI as a percentage of overall population is given at different levels. However, sometimes statistics are given only for a percentage of a group advanced to the next level, such as graduation rate for different race/ethnicity college students; then CA ratios will be used. Both RD ratios and CA ratios will be used in the literature reviews below.
Methods for Conducting Literature Review

Instead of using the traditional funnel method for the literature review to explore existing literature from very broad to more focused, this study explores a different three-stage research method for literature review. The advancement of library information technology made the three-stage literature review approach possible in the networked environment.

Stage One: Combined Keyword Search

Stage one is to identify previous research relevant to problem statement of this study. Most authors of doctoral dissertations had background knowledge of their research topics from previous course work and professional experience, and this knowledge needed to be translated into a few keywords in order to do a literature search. For this study, databases such as Dissertation Abstract International, ERIC, JStor, Sage Journals online and Wilson Education Fulltext were searched with combined keywords. The keywords to search for literature related to this study were as follows:

- Asian Americans, AND
- (Colleges OR Universities), AND
- (Administrators OR executives OR Deans OR Directors)

Please note the “AND” and “OR” here are Boolean logic operators that were used in most databases search. The Venn diagram below shows different relationships between “AND” and “OR”: 
The total shaded area of two ovals (A, B) combined is A OR B, and the overlapping area with both vertical and horizontal grids is A AND B.

Figure 8. Venn Diagram for Boolean Logic.

**Stage Two: References Search--Searching Literature Backward Chronologically**

After the initial combined subject and keyword searches, several key studies in the form of articles, dissertations, government reports with statistics, and books were selected and reviewed. The second stage of the literature review will be conducted based on bibliographies/references listed from those selected items. Since almost all references in a study had earlier publishing dates, this search can only go backward on a chronological line. However, many studies tend to cite the same important resources, and the backward search helps to identify some converging points – important studies that were cited by many sources. Those converging-point studies will be pulled out and reviewed as seminal work.
Stage Three: Citation Search--Searching Forward Chronologically

This study also introduces the third stage of literature review based on citation searching. Calling the Stage One search results group A and Stage Two group B, the citation search will result in group C, with studies from A or B cited in the references of group C. An example of a citation search is illustrated here -- for a selected seminal work X identified in the first or second stage literature review, a citation search will be conducted in the Social Sciences Citation database (part of Web of Science databases by Thomson Scientific), and more recent articles which used seminal work X in their bibliography/reference will be retrieved. Since the citation search always yields studies more recent than the cited source, it is searching forward on a chronological line.

The Stage Two and Three searches can be used repeatedly to generate more literature on the same topic. Eventually, most of studies generated by this method will point to the same group of core articles with very few new ones. Then the 3-stage literature search is completed with a high confidence level that almost all relevant studies related to this study have been generated and reviewed.

Under-representation of AAPI in Leadership Positions

The phenomenon of very few Asian Americans at the top executive levels is a broad phenomenon in the United States, and many major newspapers have covered the AAPI leadership achievement gap since 2000. The Wall Street Journal published an article “Study Finds Asians Occupying Few Corner Offices” on July 25, 2011 (Stock). The article was based on a survey of 3000 respondents, and follow-up interviews with
some respondents and a number of companies. The survey showed less than 2% of AAPI executives at Fortune 500 companies despite 16% AAPI Ivy League graduates and 35% AAPI graduates from the University of California, Berkeley. Twenty to thirty percent of the graduates from MIT and Stanford are AAPI. Applying RD ratios to the data revealed in this article shows the following: based on *Educational Attainment in the United States 2003--a Census population report*, about 8% of the population age 25 and up, with a college or higher degrees are AAPI (Stoops, June 2004). It is reasonable to assume that group with a college degree or higher is the pool for Fortune 500 companies’ executives. Therefore the Representation ratio from college graduate to Fortune 500 companies executives:

- \( \alpha_{(AAPI)} = \frac{0.02}{0.08} = 0.25 \)

It means AAPI college graduates age 25 or up only have a **one-quarter chance of** reaching the executive level compared with all college graduates. The *Wall Street Journal* survey also found that very few companies have career development programs for AAPI employees because they are seen as a “model minority,” and only 4% of Caucasians believe AAPI are treated unfairly on the job. On the other side, 25% of Asian respondents said they face work-place discrimination.

The *Washington Post* on June 25, 2004 had an article titled “Breaking the Glass Ceiling: Asian-American Workplace Issues.” The article reported Asians with the highest college and graduate educational attainment as an ethnic group could not break the glass ceiling to move up in all three sectors in the U.S. – government, education, and private corporations (Borja). The report cited statistics from the U.S.
Equal Employment Opportunity Commission that 18 percent of White Americans had managerial or executive-level positions in 2000, compared with only 8 percent of Asian Americans, despite AAPI’s higher level of education attainment and years of work experience. Here is an example of using the Comparative Advancement ratios with data from Figure 1.1 in Chapter One. Whites and AAPI population had 29% and 55% college graduates respectively. Assuming college graduate is the qualified pool for managerial positions, the Advancement Ratio and the Comparative Advancement (CA) Ratio from college graduates to managerial positions are:

- $\gamma_{\text{AAPI}} = \frac{0.08}{0.55} = 0.14$
- $\gamma_{\text{White}} = \frac{0.18}{0.29} = 0.62$
- CA ratio $\delta_{\text{AAPI/White}} = \frac{0.14}{0.62} = 0.23$

Based on EEOC employment data, an AAPI has less than a 25% of the chance compared with a White college graduate to advance to the managerial positions. The AAPI chance of advancement based on EEOC data was consistent with the Wall Street Journal survey mentioned above. The two major factors cited by the Washington Post article are: (1) Asians are not perceived as senior management material; (2) Asians are often not even seen as being interested in moving into leadership positions. Glass ceiling refers to “those artificial barriers based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management-level positions” (U.S. Department of Labor, 1992, p. 1).

Several government reports from the early 1990s revealed the lack of Asians in leadership positions in almost all sectors of U.S. employment based on federal
employment data. The most significant one was the United States Department of Labor--Glass Ceiling Commission’s report authored by Deborah Woo, which found that:

When factors such as age or educational level are controlled for, Asian Americans have been found to earn less than non-Hispanic whites in comparable circumstance. . . . Asian Americans bringing lower returns in terms of high ranking executive jobs. While this is most apparent in corporate arenas of work, studies have found evidence of blocked mobility in other areas, such as law, journalism, government, and academia. (U.S. Department of Labor--Glass Ceiling Commission, 1994, pp. 5-6)

Asian American scientists and engineers were less likely to be in managerial jobs than African and Hispanic Americans, and when promoted to middle or upper-levels of management more likely to receive lower economic returns relative to whites occupying similar positions, even though they are also likely to be more qualified in terms of education and work experience. (U.S. Department of Labor--Glass Ceiling Commission, 1994, p. 6)

Since its publication in 1994 this Federal Government report has been widely cited in literature focused on AAPI leadership issues. It was referred to as the “Glass Ceiling Report.”
The National Institutes of Health (NIH) is the U.S. national medical research agency, with funding of $30-$40 billion dollars every year. In the journal *Science*, Mervis (2005) drew the following glass ceiling pictures about Asian Americans working for the NIH: 21.5% of NIH tenure-track investigators were AAPI, but AAPI comprised only 9.2% of senior investigators (tenured researchers) at NIH, and 4.5% of lab or branch chiefs. Using RD ratios for AAPI advancement from tenure track, to tenured, to lab/branch chiefs:

- \( \alpha(\text{AAPI tenured vs. tenure track}) = \frac{9.2}{21.5} = 0.43 \)
- \( \alpha(\text{AAPI lab/branch chief vs. tenured}) = \frac{4.5}{9.2} = 0.49 \)

AAPI scientists at NIH had less than half the chance compared to all scientists to be promoted from tenure track to tenured scientists and from tenured to lab/branch chiefs. According to the 2000 census data, Asians comprised 14.7% of United States life scientists, and roughly 12% of the eligible pool from which lab chiefs were drawn within NIH. But Asians made up only less than 2% of lab chiefs in the National Cancer Institute (NCI); none of the 22 lab chiefs at the National Institute of Allergy and Infectious Diseases (NIAID) were Asian. Calculating RD ratios from scientists in the eligible pool to lab chiefs in the NCI and NIAID:

- NCI \( \alpha(\text{AAPI}) = \frac{0.02}{0.12} = 0.167 \)
- NISID \( \alpha(\text{AAPI}) = 0 \)

Asian scientists in NCI only had a 17% chance to attain lab chief positions compared with all scientists in the eligible pool, and NIAID had no Asian lab chiefs at all despite the 12% Asian scientists in the eligible pool. Interestingly, NIH is aware of the glass
ceiling phenomenon with regard to women scientists, and has a dedicated section at NIH’s Web site for women scientists:
Many women scientists with leadership positions at NIH were listed individually with their biographical information. But the glass ceiling issue facing Asian Americans is still under the radar at NIH.

Joyce Tang (1993) conducted a quantitative longitudinal study based on 1980 census data and follow-up surveys in 1982, 1984 and 1986 administered by the Bureau of the Census on behalf of the National Science Foundation (NSF). These surveys followed 12,200 Caucasian and Asian engineers for six years and provided information on education, professional training, work experience, income, employment status, duration of employment, occupational field, work activities, industry, sectors, and organizations. The study focused on change of primary job responsibility from technical to managerial work within the study period and found that “Asians, regardless of nativity status, are heavily underrepresented in authority positions compared to Caucasians. They also have a lower tendency than their Caucasian counterparts to move into management from technical positions.” Adding the nativity as a dummy variable, the study found that more career attainment disparity existed between foreign-born Asian engineers and Caucasian engineers.

In private sectors, almost all senior executive level employees were promoted from professional categories. According to a U.S. EEOC (2003) report of minorities in the workforce by categories, AAPI employees in executive level and management
level of 3.2% were significantly below their representation in professional level at 8.3%. Table 2.4 summarized the representation of women and minorities at the executive and management level vs. professional level.

Table 4.

*Percentage of Women and Minority as Officials and Managers vs. Professionals*

<table>
<thead>
<tr>
<th>Positions/Gender &amp; Race</th>
<th>Women</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off&amp;Mgr</td>
<td>35.9</td>
<td>3.2</td>
<td>6.8</td>
<td>3.1</td>
<td>64.1</td>
</tr>
<tr>
<td>Professional</td>
<td>51.1</td>
<td>8.3</td>
<td>7.0</td>
<td>4.0</td>
<td>48.9</td>
</tr>
<tr>
<td>α</td>
<td>0.70</td>
<td>0.39</td>
<td>0.97</td>
<td>0.77</td>
<td>1.31</td>
</tr>
<tr>
<td>β(x/men)</td>
<td>53.59%</td>
<td>29.24%</td>
<td>74.11%</td>
<td>59.12%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Based on $\alpha$ and $\beta$, AAPI professionals had *the lowest chance of promotion to management categories*—29.24% compared with women at 53.59%, Blacks at 74.11%, and Hispanics at 59.12%.

A later U.S. EEOC report (December 21, 2008) revealed AAPI professionals employment data within the Federal Government from 1997 to 2006, AAPI representation at the senior grade levels for management (GS-15 or above) in all government agencies was significantly below AAPI workforce representation in professional grades (GS-12 to GS-15), and almost all senior management grades were
promoted from professional grades GS-12 to GS-15. The report suggested a glass ceiling existed for AAPI Federal Government employees. See table below.

Table 5

Ten-Year Trends of AAPI Participation in the Federal Workforce by Grades

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>4.71</td>
<td>4.95</td>
<td>5.11</td>
<td>5.22</td>
<td>5.32</td>
<td>5.45</td>
<td>5.54</td>
<td>5.79</td>
<td>5.94</td>
<td>6.06</td>
</tr>
<tr>
<td>GS-15+</td>
<td>1.98</td>
<td>2.10</td>
<td>2.14</td>
<td>2.25</td>
<td>2.49</td>
<td>2.70</td>
<td>2.96</td>
<td>3.18</td>
<td>3.39</td>
<td>3.73</td>
</tr>
<tr>
<td>GSR*</td>
<td>3.97</td>
<td>4.01</td>
<td>4.08</td>
<td>4.14</td>
<td>4.24</td>
<td>4.39</td>
<td>4.43</td>
<td>4.60</td>
<td>4.90</td>
<td>5.03</td>
</tr>
<tr>
<td>α</td>
<td>0.50</td>
<td>0.52</td>
<td>0.52</td>
<td>0.54</td>
<td>0.59</td>
<td>0.62</td>
<td>0.67</td>
<td>0.69</td>
<td>0.69</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Note: * General Schedule and Related Pay System. All senior pay GS-15 and above are promoted within the GSR.

The federal workforce employment data from 1997-2006 show that AAPI professionals’ chances of being promoted were at half to three quarters of average chance of professionals in the Federal Government. However, the chance has been improving over the 10-year period from 50% in 1997 to 74% in 2006.

AAPI Faculty and Administrators in Higher Education

Journal Articles on AAPI Leadership in Higher Education

Sharon Lee’s quantitative study (Autumn, 2002) of AAPI faculty salary compared with Whites using data from 1993 National Study of Post-Secondary Faculty provided a comprehensive picture of AAPI faculty working in U.S. higher
education. Lee’s data came from 817 institutions and 29,764 individuals. Only full-time instructional faculty were studied. Among individual faculty, base salary as the dependent variable of 1019 AAPI faculty was compared to that of 14,381 Whites. Independent Variables included: demographics, human capital, publications and grants, field of specialization, family (gender and dependents), institutional type and regions. The finding from Lee was that no overall statistically significant salary difference existed for AAPI faculty. However, in private universities, Whites had higher earnings (5%) than average while AAPI had 11% lower earnings. Among all universities, AAPI faculty members were less likely to be tenured or to be at the rank of full professors. More than 80% of AAPI faculty had doctorates or professional degrees compared to less than 2/3 of Whites. More AAPI faculty worked in doctoral and research universities, but less in 2-year colleges or private 4-year colleges compared to Whites. More AAPI faculty lived in the West tended to concentrate in Science, Engineering, and Medical Science while more Whites lived in the South. In addition, AAPI faculty were more productive as to publications and grants. Based on her study, Lee was unable to conclude that the AAPI faculty experienced discrimination in tenure and promotion in U.S. higher education overall. However, Lee did not study the promotion from faculty to administrator’s rank for AAPI vs. Whites or other minorities.

president emeritus published another article in *The Chronicle* and discussed the slow improvement of Asian-Pacific Americans’ representation in top academic leadership positions. One example Saigo used was the California State University System, the largest 4-year higher education system in the nation with 14% Asian faculty but no Asian President, nor Asian Provost or academic vice president.

Yet none of the system's 23 presidents fell into that category as of August 2008. (There was one such president back in 1999.) There are three African-American and four Hispanic/Latino presidents. Asian groups are likewise underrepresented in the upper academic posts that typically lead to presidencies -- there are no academic vice presidents from their ranks, although there are three nonacademic vice presidents.

(Saigo 2008)

Lum (2007) interviewed Dr. Gregory Chan, Provost and Chief Academic Officer at St. Thomas University in Miami, and discussed risk taking as administrators. Chan stated that not taking a risk as university administrators for AAPI faculty has “the risk being forever insignificant if we don't put ourselves into different situations.” Lum’s article illustrated Provost Chan’s progression from a refugee to an immigrant student, to a faculty member who went through the American Council on Education (ACE) Fellow program, and ultimately advanced to college provost. Another of Lum’s articles (2008) listed five sitting Asian American presidents among U.S. public universities in 2005 and emphasized the importance of formal mentoring programs, such as the ACE Fellow program. The first Asian American faculty who headed a
major research university was the late University of California, Berkeley Chancellor Chang-lin Tien. Tien (1998, pp. 44-46) recalled his challenge to break the model minority stereotype of Asian Americans as “nerds” by his success in fundraising campaigns and his support for UC Berkeley’s sports. When Tien was appointed Berkeley chancellor in 1990, a few friends and alumni offered to pay for coaching to eliminate Tien’s Chinese accent. But Tien preferred to lead Berkeley with a “Chinese accent,” which not only showed his first generation immigrant background, but also changed the perception that “British, German and French accents are acceptable or even prestigious in academic circles; Asian and Latino inflections are problematic” (Tien, 1998, p. 34).

Glass Ceiling for Women and Minorities in Higher Education

There is a growing body of literature on the glass ceiling and its effect on women, mainly White woman in higher education. Long, Allison, and McGinnis (1993) studied the tenure and promotion of female science faculty. Women were promoted at a lower rate to the associate professor rank and fewer women were promoted to the full professor rank compared with the total eligible female faculty pool. Among a dozen studies published later that cited this 1993 publication, a significant one was from Mason and Goulden (2004), which studied 85,000 faculty across all disciplines through their lifespan at nine campuses of the University of California system. The study examined gender equity not only in professional outcomes, but also in terms of family development, such as marriage, child birth, and divorce. Among many references in the Mason and Goulden 2004 article, there was a
quantitative study of lower representation of women among tenured and full professors using data from the 1993 National Study of Postsecondary Faculty (Perna 2001). The three articles mentioned in this paragraph illustrated the 3-stage literature review process used throughout this dissertation study.

Cotter et al. (2001) conducted a quantitative study of the glass ceiling effect on gender and race based on longitudinal data from 1976-1993 on 4,278 persons from the Panel Study of Income Dynamics. Hourly earnings were the dependent variables, and three earning dummy variables marked White male’s 25th, 50th, and 75th earnings percentiles. The four dummy variables were White men, White women, African American men, and African American women. The primary independent variable was work experience, plus some other controlled variables. The study found evidence of a glass ceiling for women, but not for African American men. The income difference between White and African American men relative to experience was not significant at any level. Cotter’s study did not include Asian Americans or Hispanics.

Turner (April 1, 2007) studies the phenomenon of low representation of minority women college presidents. She interviewed the first Mexican American, Native American, and Asian Pacific Islander women college presidents in the United States. The article is a qualitative study based on interviews and personal stories. Turner’s introduction and background information provided demographic context -- only 3% of minority women college presidents vs. 21.6% of all women presidents. In Turner’s “Woman and Leadership in Academe” section, the author believes that adding the percentage of women faculty and minority women faculty to the data will
help readers to comprehend the extent of under-representation of women minority presidents in U.S. higher education. The following tables will illustrate the percentage of full time tenured faculty and college presidents by race, ethnicity, and gender. In Table 2.6, women comprised 32.8% of fulltime tenured faculty. Minority fulltime tenured faculty, men and women combined, were at 14.5%, but minority women fulltime tenured faculty were only at 5.0% in 2005. The women college presidents at 21% were below fulltime tenured faculty at 32.8% and minority women college presidents at 3% were also below the 5% of minority women who were fulltime tenured faculty. The $\alpha$(presidents vs. faculty) for women and for minority women were at 66% and 60% respectively. Therefore, the lack of representation of minority female presidents was not significant compared to lack of female presidents in general, based on their available faculty pools. In another words, it is more effective to increase minority female faculty in order to increase the percentage of minority female college presidents.
Table 6

*Full-time Tenured Faculty by Race/Ethnicity Selected Years 1995-2005*

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1997</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Total</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td>TOTAL</td>
<td>284,870</td>
<td>100.0</td>
<td>284,107</td>
<td>100.0</td>
<td>277,023</td>
</tr>
<tr>
<td>Men</td>
<td>210,825</td>
<td>74.0</td>
<td>205,573</td>
<td>72.4</td>
<td>192,404</td>
</tr>
<tr>
<td>Women</td>
<td>74,045</td>
<td>26.0</td>
<td>78,534</td>
<td>27.6</td>
<td>84,619</td>
</tr>
<tr>
<td>WHITE</td>
<td>252,766</td>
<td>88.7</td>
<td>248,724</td>
<td>87.5</td>
<td>238,239</td>
</tr>
<tr>
<td>Men</td>
<td>188,081</td>
<td>66.0</td>
<td>181,039</td>
<td>63.7</td>
<td>166,215</td>
</tr>
<tr>
<td>Women</td>
<td>64,685</td>
<td>22.7</td>
<td>67,685</td>
<td>23.8</td>
<td>72,024</td>
</tr>
<tr>
<td>TOTAL MINORITY</td>
<td>30,193</td>
<td>10.6</td>
<td>32,801</td>
<td>11.5</td>
<td>36,713</td>
</tr>
<tr>
<td>Men</td>
<td>21,174</td>
<td>7.4</td>
<td>22,554</td>
<td>7.9</td>
<td>24,565</td>
</tr>
<tr>
<td>Women</td>
<td>9,019</td>
<td>3.2</td>
<td>10,247</td>
<td>3.6</td>
<td>12,148</td>
</tr>
<tr>
<td>African American</td>
<td>10,749</td>
<td>3.8</td>
<td>11,248</td>
<td>4.0</td>
<td>12,322</td>
</tr>
<tr>
<td>Men</td>
<td>6,128</td>
<td>2.2</td>
<td>6,328</td>
<td>2.2</td>
<td>6,916</td>
</tr>
<tr>
<td>Women</td>
<td>4,621</td>
<td>1.6</td>
<td>4,920</td>
<td>1.7</td>
<td>5,406</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5,790</td>
<td>2.0</td>
<td>6,489</td>
<td>2.3</td>
<td>7,538</td>
</tr>
<tr>
<td>Men</td>
<td>3,934</td>
<td>1.4</td>
<td>4,262</td>
<td>1.5</td>
<td>4,775</td>
</tr>
<tr>
<td>Women</td>
<td>1,856</td>
<td>0.7</td>
<td>2,227</td>
<td>0.8</td>
<td>2,763</td>
</tr>
<tr>
<td>Asian American</td>
<td>12,760</td>
<td>4.5</td>
<td>14,142</td>
<td>5.0</td>
<td>15,764</td>
</tr>
<tr>
<td>Men</td>
<td>10,476</td>
<td>3.7</td>
<td>11,330</td>
<td>4.0</td>
<td>12,179</td>
</tr>
<tr>
<td>Women</td>
<td>2,284</td>
<td>0.8</td>
<td>2,812</td>
<td>1.0</td>
<td>3,585</td>
</tr>
<tr>
<td>American Indian</td>
<td>894</td>
<td>0.3</td>
<td>922</td>
<td>0.3</td>
<td>1,089</td>
</tr>
<tr>
<td>Men</td>
<td>636</td>
<td>0.2</td>
<td>634</td>
<td>0.2</td>
<td>695</td>
</tr>
<tr>
<td>Women</td>
<td>258</td>
<td>0.1</td>
<td>288</td>
<td>0.1</td>
<td>394</td>
</tr>
</tbody>
</table>

Note: Table 6 was compiled by author based on American Council of Education. (2008). *The American College President.* Washington, D.C.: Table 29.
Table 7

*College Presidents by Race/Ethnicity, 1986 and 2006*

<table>
<thead>
<tr>
<th></th>
<th>1986 (N=2,464)</th>
<th></th>
<th>2006 (N=2,021)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
<td>Total</td>
<td>Public</td>
<td>Private*</td>
<td>Total**</td>
</tr>
<tr>
<td>White</td>
<td>90.4%</td>
<td>93.7%</td>
<td>91.9%</td>
<td>82.9%</td>
<td>90.7%</td>
<td>86.5%</td>
</tr>
<tr>
<td>African American</td>
<td>6.0%</td>
<td>3.6%</td>
<td>5.0%</td>
<td>7.2%</td>
<td>4.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.4%</td>
<td>2.0%</td>
<td>2.2%</td>
<td>6.1%</td>
<td>2.3%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Asian American</td>
<td>0.7%</td>
<td>0.1%</td>
<td>0.4%</td>
<td>1.0%</td>
<td>0.7%</td>
<td>0.9%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>1.0%</td>
<td>0.4%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.7%</td>
<td>1.2%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Note: Table 7 was compiled by author from the American Council of Education. (2008). *The American College President.* Washington, D.C.: Table 31.

Table 8

*2005 Full-Time Tenured Faculty vs. 2006 Presidents by Race/Gender*

<table>
<thead>
<tr>
<th>Race &amp; Gender</th>
<th>Faculty</th>
<th>President</th>
<th>α(Pres/Faculty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>84.0%</td>
<td>86.5%</td>
<td>1.03</td>
</tr>
<tr>
<td>African American</td>
<td>4.5%</td>
<td>5.8%</td>
<td>1.29</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.1%</td>
<td>4.6%</td>
<td>1.48</td>
</tr>
<tr>
<td>Asian American</td>
<td>6.5%</td>
<td>0.9%</td>
<td>0.14</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.4%</td>
<td>0.7%</td>
<td>1.75</td>
</tr>
<tr>
<td>All Women</td>
<td>32.8%</td>
<td>21.6%</td>
<td>0.66</td>
</tr>
<tr>
<td>Minority Women</td>
<td>5.0%</td>
<td>3.0%</td>
<td>0.60</td>
</tr>
</tbody>
</table>
Note: Table 8 compiled and $\alpha$ calculated by author based on two previous tables, and Turner’s 2007 study of women minority presidents in the United States.

From the tables above, all racial and ethnic groups, except Asian Americans, have their $\alpha$ greater than 1, which means an over-representation at the college president level based on the full-time tenured faculty pool. Asian American faculty and all women, including minority women faculty have lower representation at the president level compared with their faculty pool. In another words, all minority male faculty, except Asian Americans, have a better than average chance to be represented at the president level. Female faculty and minority female faculty have a 66% and a 60% chance respectively to be represented at the president level. But Asian American faculty members have the most severe under-representation at the top leadership level with only a 14% chance to be represented at president level compared to average faculty.

Unlike Asian Americans, African Americans and Hispanics have higher percentages among college and university presidents compared with their percentages of tenured faculty pool, as evidenced by numbers and RD ratio $\alpha$ in tables above. It is worth noting that some studies noticed the successful minority leaders in higher education. One example is Kravitz’ (2006) qualitative, descriptive study which provides an in-depth analysis of multiple factors that help the success of 25 Chicana/o and Latina/o administrators working predominantly in the California State University (CSU) System. The major factors that strongly facilitated the success of Latina/o administrators include parental support, spousal support, a strong desire to excel and
succeed, effective job performance, a strong personal desire to make a difference, a commitment to social justice, having a Ph.D., the influence of the Chicano Movement, formal management training programs, being in the right place at the right time, experiencing strong leadership from the top, and working in Academic Affairs. On the other side, factors strongly impeded the careers of the administrators: balancing institutional requirements with family needs, the lack of a Ph.D., administrators maintaining the status quo, lack of effective and supportive leadership, institutional racism, encountering racist attitudes among individuals, and working in Student Affairs.

**Dissertations on AAPI Leadership in Higher Education**

Research studies of the AAPI leadership achievement gap started to appear after 1990 in dissertations more than other formats, and were conducted mainly by Asian American doctoral students. A search in the database *Dissertations and Theses* by ProQuest using the following keyword search limited to the citation and abstract only:

- (Asian Americans or Pacific) AND (Colleges OR Universities) AND (Presidents OR Executives)

returned 41 hits. Below is an image of the first screen of the dissertation search result.
Among the 41 hits, only a dozen dissertations are highly relevant to the AAPI top leadership achievement gap among colleges and universities; a few will be discussed in detail (Adrian, 2004; Hu, 2008; Lam, 2002). Others will be covered selectively and readers who are interested in related topics can explore further. Other dissertations related to AAPI leadership include several studies at the community college level (Ali, 1994; Chong, 2003; Kobayashi, 2009; Li-Bugg, 2011), some on female AAPI college administrators (Chung, 2008; Ideta, 1996; Somer, 2007; Williams, 2001), one on Chinese American school district superintendents (Chee, 2004), and on qualitative

Figure 9. Dissertation Search Result for AAPI College Presidents.
study based on surveys of 24 university presidential partners, including AAPI partners (Vargas, 2008).

Lam’s (2002) multi-case qualitative research studied six California AAPI college and university presidents. The research questions in Lam’s study focused on factors, major events, and inhibitors along the pathway to presidency. Instead of live interviews, Lam mailed a structured questionnaire with many open-ended questions to seven sitting AAPI college and university presidents in 2000-2001, and received six responses. Using the grounded theory framework viewed through the six presidents own lens, Lam identified four themes that had enabled them to attain their executive positions:

1. positive family influence on self confidence and self-esteem,
2. a clear understanding of the value of a college education promoted early in their lives by the respondent's parents,
3. positive self-esteem and self-confidence promoted respondents success, opened additional opportunities, and ultimately led to their selection as a president,
4. despite the existence of cultural stereotypes and myths, the respondents worked relentlessly to demonstrate their capabilities and potential to serve as an effective leader and administrator.

Adrian (2004) studied 33 sitting Asian American presidents in the 1990s among over 3,000 universities and colleges across the country and examined the “pluses” instead of “minuses” of the Asian American leadership role in higher
education through a different framework. Glass ceiling was discussed in Adrian’s research as institutional racism and discrimination against Asian Americans. When recruiting for higher education faculty and administrators, institutions often ignore Asian Americans because they “look different and talk differently.” Adrian’s research pointed out the under-representation of AAPI faculty compared to AAPI college graduates and of AAPI college presidents compared to AAPI faculty. Despite many barriers facing AAPI in higher education, a few reached the top leadership positions. Based on information from American Council of Education (ACE), Asian Pacific Americans in Higher Education (APAHE), and Leadership in Education for Asian Pacifics, Inc. (Leap), Adrian identified 19 AAPI presidents, eight from community colleges and eleven from 4-year colleges/universities, among over 3000 colleges and universities. Fifteen AAPI presidents agreed to participate in her study, including an interview for each participant between September 1 and October 30, 2003. Adrian’s study found that Asian American college and university presidents construct leadership based on multiple interpretive frames, including ethnicity, multiple identities (bicultural and academic identities), values (cultural, personal, religious, and family), organizational structure and culture, and leadership characteristics and styles. This study paves the way for examining Asian American leadership using a different paradigm and for reframing the discussion to explore the "pluses," instead "minuses" of Asian American leadership.

A similar dissertation using mixed methods by Hu (2008) looked at the perceptions, motivations and aspirations of AAPI faculty and administrators in seven
Los Angeles community colleges, as they were “potential pipeline candidates to executive leadership” The study found that respondents: (a) placed high importance on the role of mentors and role models, (b) expressed reluctance to engage in perceived risk, (c) prioritized particular personal values in career decisions, and (d) found executive administration to have an insufficient reward structure. AAPI faculty and administrators sought role models as sources of inspiration, but benefited from mentor relationships with leaders of all ethnic backgrounds.

Kobayashi’s qualitative research study (2009) uses collective case study method to explore the career experiences of eleven Asian American Deans and Vice Presidents at California community colleges. In order to increase the number of AAPI presidents among community colleges Kobayashi logically suggested having more AAPI deans and vice presidents as the first step. The two dominant themes that emerged in Kobayashi’s study were the accidental nature of their administrative careers, and knowledge about the Asian American network among administrators. The themes that emerged when focusing solely on the female administrators were entrepreneurship, the complex interaction between race and gender, self perception, and the Plexiglas ceiling. Critical Race Theory was used to analyze data.

Chung (2008) and Ideta (1996) analyzed the lack of Asian American women among higher education administrators through in-depth personal interviews. Education administrators such as deans and vice presidents are milestones on the pathway to becoming a college president. In addition to all the issues faced by Asian American men in higher education, Asian American women administrators had some
unique experiences. Among 15 administrators Chung interviewed, nine were not married and this is unusual for Asian American women. In addition to racism, several Asian American women in Chung’s study listed sexism and ageism as two other unique barriers to advancement. Ideta interviewed ten Asian American women administrators from different college and university settings, and the research revealed three themes which interact simultaneously to shape organizational views and philosophies. The three themes are: Strength through Adversity—overcome negative experiences, No Ownership for Success—credit their success to others, and Pursuit of Excellence. Salleh-Barone (2004) examined the career paths of Asian American women educational leaders and their perceived leadership roles in education in both higher education and K-12 settings. Ten of the twelve women administrators Salleh-Barone interviewed “integrated into the administrative role as an unplanned incident in their lives.” Salleh-Barone provided statistics on lack of Asian American school principals—0.8% based on a 2000 ERIC document.

A few other dissertations related to AAPI in higher education leadership positions include Chin’s (2001) examination of factors that affect higher education vs. non-education career choices of Asian Pacific Americans. Chong (2003) conducted in-depth interviews with thirteen Asian Pacific American Community College Trustees in California and suggested the idea that the lack of representation of Asian Americans among trustees may contribute directly to under-representation of AAPI among college presidents. Shintaku conducted a study in 1996 to identify the representation and characteristics of Asian American faculty who participate in academic
administration, to document the pathways to academic administration, and to explore the barriers that affect the representation and development of Asian Americans in academic administration. Wong (2002) revealed the career aspirations of thirty-six Asian Americans who hold administrative positions in student affairs divisions and identified their perceptions about why there are so few Asian Americans in senior leadership positions, while a large percentage of the student population are Asian Americans.

To illustrate further the three-stage method of conducting a literature review, each of the initial 2-3 dissertations has 50 to 150 references, and a second round of literature review has been conducted by exploring several hundred studies listed in the references section. In addition to sources in the references, “cited reference search” retrieved newer studies which cited any of these 2-3 dissertations in their references. The assumption is that earlier studies cited by any of these dissertations and later studies that cite any of these dissertations may be related to the research topic -- Asian American’s leadership achievement gap in higher education.

Books and Other Monographs on AAPI Leadership in Higher Education

Valverde (2003) published a book based on studies of all four federal classified minority groups in higher education leadership positions through multiple case studies. The conclusion for Asian Americans was a paradox: the so-called “model minority still begets exclusion from top executive positions” despite the overwhelming percentage of Asian students in colleges and higher percentage of Asian faculty compared to the percentage of general Asian population in the nation. Leung edited a
book on the career development of minorities and he authored the chapter related to Asian Americans (1995, pp. 67-102). In 1987, among doctoral scientists and engineers in 4-year colleges and universities, Leung found that compared to White faculty, Asian Americans had a higher proportion in non tenure-track positions (12% vs. 9%), fewer held tenure (43% v. 57%), and fewer were at the rank of full professor (35% vs. 42%), despite AAPI faculty’s higher GPA in graduate schools and SAT/GRE scores. Using the Advancement ratios developed in this study, the comparative advancement ratio δ (Asian/Whites) is at 43/57 = 0.75 for tenure and 35/42 = 0.83 at full professor rank. This indicates that Asian faculty had only a 75% and a 83% chance compared to Whites of being tenured and being promoted to full professor rank respectively. In the book No Longer Separate, Not Yet Equal, Princeton professor Thomas J. Espenshade published freshmen SAT/ACT data from top 50 U.S. universities by race and social-economic status and the research was cited at the beginning paragraph of this study. The result is astonishing-- Asian freshmen’s SAT scores were 140 points higher out of a possible 1600 points than Whites and 440 points higher than Blacks. ACT scores were 3.4 points higher out of a possible 36 points than Whites, and 7.2 point higher than Blacks (Espenshade and Radford, 2009, p. 62-129). According to the book, even with the lowest acceptance rate for Asian American college applicants and highest entrance barrier as evidenced by the highest SAT/ACT and school GPA scores, Asian Americans students account for a much higher percentage in highly selective universities compared to their population percentage in the nation.
One way to eliminate the AAPI achievement gap is to reduce the available pool as the base for the advancement, i.e. to reduce AAPI college graduates. A book which focuses on policy issues related to Asian Pacific Americans warned of the possible admission policy change in order to reduce “overrepresentation” of Asian Pacific students in top public universities, such as UC Berkeley and UCLA (Wang, 1993). When AAPI student over-representation at the college level is solved, then the under-representation of AAPI at the faculty level, college president level, and other leadership levels will be a non-issue. Indeed, the University of California (UC) Regents adopted a new freshmen admissions policy on February 4, 2009. The new admission policy will take effect for 2012 UC enrollment, which would reduce the weight of SAT and GPA and increase the weight of leadership achievement, and relative ranking in students’ local high schools. The new admission policy will reduce Asian students from 40 to 29 percent and increase Caucasian students from 34 percent to 44 percent based on two of UC’s own separate calculations. For other groups the new admissions policy will have minimal impact (Po, March 31, 2009). Despite complaints from a few Asian community organizations, the impact on Asian students due to the UC admission policy change was not covered by major media. There was no AAPI representation among 30+ UC Regents, including student, staff, and faculty representatives in 2011 based on UC’s Website, despite the fact that AAPI are the largest minority group among UC students and faculty.
Policy and Legal Cases Related to Under-representation in Higher Education

In 1961, John F. Kennedy issued Executive Order 10925 (E.O. 10925), which creates the Committee on Equal Employment Opportunity and mandates that projects financed with federal funds "take affirmative action" to ensure that hiring and employment practices are free of racial bias. Executive Order 11246 (E.O 11246) issued by President Lyndon Johnson prohibits federal contractors and subcontractors, and federally-assisted construction contractors and subcontractors that generally have contracts that exceed $10,000, from discriminating in employment decisions on the basis of race, color, religion, sex, or national origin. It also requires covered contractors to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. E.O. 11246 is administered by the Office of Federal Contract Compliance Programs (OFCCP) within the U.S. Department of Labor. The Civil Rights Act of 1964 signed by President Lyndon Johnson outlawed discrimination in education, housing, public accommodations, and employment based on race, color, religion, or national origin. In the next half century, these equal employment laws greatly helped Blacks, Hispanics and women to attain greater equality at the workplace. Sadly and incredibly, these equal employment laws were never considered to apply for Asian Americans because “model minorities” are doing fine by themselves. In 2008, on behalf of Asian American voters, the 80-20 Educational Foundation sent then Presidential candidate Obama an open letter with six questions and Obama answered “Yes” to all:
1. If elected, will you direct the Labor Secretary to hold public hearings regarding
the validity of the huge amount of statistical data strongly suggesting
discriminatory practice against Asian Americans in workplaces today?

2. If the data were shown valid, will you issue a directive to the Labor
Department asking it to focus on enforcing the Executive Order 11246 on
behalf of Asian Americans, since in the past similar efforts have already been
made on behalf of women and other minorities?

3. Two years after you have issued the directive described in item 2, will you
meet with a group of Asian American national organizations, put together by
80-20 and the Labor Department, to review the progress in extending equal
opportunity to Asian Americans?

4. If elected, will you made it a top priority of your Administration to nominate
qualified Asian Americans to serve as Article III life-tenured District Court
Federal judges, whenever such vacancies are available?

5. If elected, will you make it a top priority of your Administration to nominate
qualified Asian Americans to serve as Circuit Judges, whenever there are
vacancies in those positions?

6. If elected, will you consider nominating a qualified Asian American to the
Supreme Court, when a vacancy occurs? Two years upon your taking the
office, will you meet with a group of Asian American leaders, put together
jointly by 80-20 and other Asian American national organizations to review the
The letter with Obama’s signature was sent to more than a million Asian American voters, and Asian Americans in both democratic and republican parties were encouraged to vote for Obama because of his willingness to enforce equal employment laws on behalf of Asian Americans. This is the first promise signed by an U.S. President to look into discriminatory practice against Asian Americans in workplaces.

**Political Capital of Asian Americans**

By close examination of E.O. 10925, E.O. 11246, and the Civil Rights Act of 1964, the author found that none of the documents specify that employers need to hire with a written job descriptions, or need to have new hiring document approved by an equal employment officer, or to have diversity training programs, or to have sexual harassment grievance procedures and many more practices that helped women and minorities in getting equal employment. It is the civil rights activists, the politicians, and even more important, the professionals – lawyers and personnel managers who set the ground rules of today’s diversity policy and practice in every organization in the United States. Until 2008, AAPI simply did not have the political capital for equal employment laws to be enforced on their behalf, which women, Blacks, and Hispanics have had over the last half-century. AAPI voters showed their political capital for the first time during the Presidential campaign in 2008, and the impact of AAPI voter’s involvement in 2008 was also significant in higher education. Since Obama took
office in 2009, eight Asian Americans were named as either Chief Executive Officers or Provosts of large U.S. universities, more than any 3-year period in the U.S. history:

- Jim Yong Kim, a Korean American, was appointed in 2009 as the President of Dartmouth College, PA. Kim is the first Asian American college president of an Ivy School
- Wallace D. Loh, a Chinese American, was appointed in 2010 as the President, University of Maryland main campus. Loh is the 2nd Asian Am president of a large public university.
- Phyllis Wise, a Chinese American, was appointed in 2010 as the Chancellor, University of Illinois main campus. Wise is the 3rd Asian Am president of a large state university
- Satish K. Tripathi, an Indian American, was appointed in 2011 as the President, State University of New York at Buffalo
- In 2011, Mohammad H. Qayoumi was appointed as president of San José State University, the oldest and one of the largest universities in the 23-campus CSU system.
- Leroy M. Morishita was named in 2011 as interim president of California State University (CSU), East Bay
- Conrado Gempesaw, a Filipino American, appointed in 2010 as the Provost, Miami University, Ohio
• Jacqueline Mok, a Chinese American, was appointed in 2011 as the Interim Provost, University of Arizona, main campus

Legal Cases Related to Under-representation, Structural Barriers, and Higher Education

In 1971, the Supreme Court defined discrimination to include employer practices that were not explicitly discriminatory, but had a disparate impact on women or minorities. In Griggs v. Duke Power Company, Chief Justice Burger delivered the opinion of the Supreme Court on Duke Power Company’s requirement of a high school diploma or passing an intelligence test:

(a) neither standard is shown to be significantly related to successful job performance, (b) both requirements operate to disqualify Negroes at a substantially higher rate than white applicants, and (c) the jobs in question formerly had been filled only by white employees as part of a longstanding practice of giving preference to whites. [401 U.S. 424 (1971)]

As for using race as part of the criteria for college admission, the 1978 University of California Regents v. Bakke, [438 U.S. 265] was a significant Supreme Court case. According to the professional version of www.findlaw.com, the Medical School of the University of California at Davis (hereinafter Davis) had two admissions programs for the entering class of 100 students - the regular admissions program and the special admissions program. Under the regular procedure, candidates whose overall under-graduate grade point averages fell below 2.5 on a scale of 4.0 were
summarily rejected. About one out of six applicants was then given an interview, following which he was rated on a scale of 1 to 100 by each of the committee members (five in 1973 and six in 1974), his rating being based on the interviewers' summaries, his overall grade point average, his science courses grade point average, his Medical College Admissions Test (MCAT) scores, letters of recommendation, extracurricular activities, and other biographical data, all of which resulted in a total "benchmark score." The full admissions committee then made offers of admission on the basis of their review of the applicant's file and his score, considering and acting upon applications as they were received. The committee chairman was responsible for placing names on the waiting list and had discretion to include persons with "special skills." A separate committee, whose members were mostly from minority groups, operated the special admissions program. The 1973 and 1974 application forms asked candidates whether they wished to be considered as "economically and/or educationally disadvantaged" applicants and as “members of a minority group" (Blacks, Hispanics, Asians, and American Indians). If an applicant from a minority group was found to be "disadvantaged," he would be rated in a manner similar to the one employed by the general admissions committee. However, “disadvantaged” candidates did not have to meet the 2.5 grade point cutoff and were not ranked against candidates in the general admissions process. About one-fifth of the special applicants were invited for interviews in 1973 and 1974, following which they were given benchmark scores, and the top choices were then given to the general admissions committee, which could reject special candidates for failure to meet course
requirements or other specific deficiencies. The special committee continued to recommend candidates until 16 special admission selections had been made. During a four-year period 63 minority students were admitted to Davis under the special program and 44 minority students under the general program. No disadvantaged Whites were admitted under the special program, though many applied. Respondent Bakke, a White male, applied to Davis in 1973 and 1974, in both years being considered only under the general admissions program. Though Bakke had a 468 out of 500 score in 1973, he was rejected since no general applicants with scores less than 470 were being accepted after respondent's application, which was filed late in the year, had been processed and completed. At that time four special admission slots were still unfilled. In 1974 respondent applied early, and though he had a total score of 549 out of 600, he was again rejected. In neither year was his name placed on the discretionary waiting list. In both years special applicants were admitted with significantly lower scores than respondent's. After his second rejection, respondent filed this action in state court for mandatory, injunctive, and declaratory relief to compel his admission to Davis, alleging that the special admissions program operated to exclude him on the basis of his race in violation of the Equal Protection Clause of the Fourteenth Amendment, a provision of the California Constitution, and 601 of Title VI of the Civil Rights Act of 1964, which provides, inter alia, that no person shall on the ground of race or color be excluded from participating in any program receiving federal financial assistance. UC Davis cross-claimed for a declaration that its special admissions program was lawful. The trial court found that the special program
operated as a racial quota, because minority applicants in that program were rated only against one another, and 16 places in the class of 100 were reserved for them.

Declaring that Davis could not take race into account in making admissions decisions, the program was held to violate the Federal and State Constitutions and Title VI. Bakke’s admission was not ordered, however, for lack of proof that he would have been admitted but for the special program. The California Supreme Court, applying a strict-scrutiny standard, concluded that the special admissions program was not the least intrusive means of achieving the goals of the admittedly compelling state interests of integrating the medical profession and increasing the number of doctors willing to serve minority patients. Without passing on the state constitutional or federal statutory grounds, the court held that Davis’ special admissions program violated the Equal Protection Clause. Since Davis could not satisfy its burden of demonstrating that respondent, absent the special program, would not have been admitted, the court ordered Bakke’s admission to Davis. The Supreme Court held the lower court decision. The judgment is affirmed insofar as it orders Bakke’s admission to Davis Medical School and invalidates Davis special admissions program, [438 U.S. 265, 267] but the Supreme Court reversed insofar as it prohibits petitioner from taking race into account as a factor in its future admissions decisions.

Two other Supreme Court cases related to University of Michigan using race as a criterion for undergraduate and law school admission are 2003 Gratz v. Bollinger [539 U.S. 244] and 2003 Grutter v. Bollinger, [539 U.S. 306]. Readers can find more detailed information from the free legal Web site at www.findlaw.com, or from the
fee-based database Lexis-Nexis, which is available at most research university libraries.

**Role of Libraries and Librarians in Higher Education**

Equal access to libraries is a characteristic of any democratic society. Libraries in America are cornerstones of communities they serve. According to the American Library Association (ALA), free access to the books, ideas, resources and information in America's libraries is imperative for education, employment, enjoyment and self-government (1999). In addition to the free access of information, the author believes information literacy, intellectual freedom, and individual life-long learning and community education are other core functions of American libraries. Information literacy has several definitions and the author defines it as a skill set to identify, locate, retrieve, evaluate, analyze, organize, and present information. Intellectual freedom is a basic right in a democratic society and a core value of the library profession. ALA actively defends the intellectual freedom of library users to read, seek and exchange information, and to speak and write freely as guaranteed by the First Amendment of the United States Constitution. A library also serves as a place for community education by providing lectures, workshops and other learning activities related to the community served by the library. Based on the author’s experience of over 20-years in academic librarianship and the author’s research in the library and information science field, major roles of professional librarians can be summarized as follows:
• Information Service—help interpret, locate, retrieve, evaluate and analyze information based on users’ need

• Collection Development—Select, organize, preserve and provide access of information

• Community Outreach—Promote free access to information, information literacy, intellectual freedom, life-long learning and community education

• Teaching and Advancement of Human Knowledge (for academic librarians, especially librarians with faculty rank in tenure-track systems)—teach information literacy classes in academic disciplines and publish in peer reviewed journals through research in library and information science field

**Literature on Minority Librarian Leadership Issues**

The author was unable to locate any research articles directly related to Asian/Pacific librarian leadership issues. Several dissertations and journal articles are related to librarians and diversity in general. Downing’s dissertation (2009) studied the salience of race/ethnicity, gender, and age identities and the work roles of academic librarians. Downing’s qualitative study analyzes the ways in which diverse librarians draw on their perspectives, experiences, cultural and professional knowledge, and skills to provide robust services and collections for their diverse campus communities.

Hussey (2006) interviewed thirty-three African American librarians and asked questions related to a central theme—why they chose library and information science as their career. Hussey’s study discussed issues deep within the concept of diversity, such as identity and acculturation, which are not often considered or discussed by the
majorities outside of ethnic minority groups. For the first 100 years after ALA was established in 1876, there has been no single research article in the library field on leadership (Johnson, 1977). Only in the last 30 years has leadership research been brought into library science field. The Dean of the University of Idaho Library Lynn Baird completed her doctoral dissertation on “academic library leadership through a lens of complexity.” Baird summarized the history of academic libraries and academic librarians from Harvard College Library to land grant research university libraries, from the birth of American Library Association (ALA) in 1876, to Google Scholars in the 21st century. Baird’s study was trying to answer the following two questions:

- What are the perceptions of academic deans about successful behaviors required to respond to times of turbulent change?

- What are the perceptions of academic deans about successful behaviors of academic library deans in meeting the demands presented by a changing environment?

The unique feature of Baird’s research is her method of studying library leadership from academic deans’ perspective and from library deans’ perspective, using the Delphi Method. Dalkey and Helmer (1963) describe the intent of the Delphi method as "its object is to obtain the most reliable consensus of opinion of a group of experts" (p. 458). The Delphi process intentionally seeks to provide anonymity for the panel of experts, permit asynchronous communication, and to assist in the information-building process by correcting misconceptions or opening new avenues of thinking in the iterative process (p. 459). The American Library Association president of 2009/10, Dr.
Alire published an article “Diversity and Leadership: The Color of Leadership” (2001) as her own reflection of a successful minority library leader in the United States. Dr. Alire stated that minority library leaders provide the necessary linkages to minority communities the library intended to serve. The minority library leaders brought cultural competencies to their positions. In addition to leading a majority workforce different from their own race/ethnicity, the minority leaders also had added responsibility to develop other minority leaders because there were so few of them. Dr. Alire discussed the “marginalized leadership” for emerging minority leaders. When minority leaders find themselves with lesser spheres of influence than their White counterpart, they need to develop a support base that empowers them and produces the perception of respect. One strategy for marginalized minority leaders is to focus hard on “one issue.” Because formal leaders in higher authority do not have enough time for “one issue,” they have to listen and negotiate with marginalized leaders. However, the marginalized leaders need to play the “one issue” strategy skillfully according to the organizational barometers and not become the focus for attacks. Dr. Alire’s article is very practical for future minority library leaders; it listed five leadership categories and ten leadership realities. Winston and Li (2007) conducted a survey of diversity programs at 120+ of the largest public libraries in the U.S. in terms of staffing, collection, services, and diversity awareness. The study focused on library diversity programs--library diversity committees and library diversity officers in some of the largest public libraries in the United States. The study did not explore diversity representation of chief librarians in these public libraries. It is an important study
because the diversity programs and staffing reflected the diversity awareness of top library administrators. Winston and Li’s survey had a return rate of 30% out of 120+ of the largest public libraries in the Urban Libraries Council.

Several studies provided basic profiles of Chinese American librarians (Li, 1979; Liu, 2000; Yang, 1996; Zhou, 2004). CALA librarians have been mostly foreign-born first generation immigrants at 85% to 95%, and female dominated from 75% to 82%. Close to half of CALA librarians belong to age group of 50+, followed by 40-49 age group at 34%, 30-39 age group at 17%, and only 5% were age 20-29. In the most recent study of CALA members by Ruan and Xiong (June 1, 2008A & B), Chinese American librarians are profiled as highly educated with over 82% holding Master of Library Science (MLS) degrees, 67% with a second master degree and 6% with a doctoral degree. These three numbers are considerably higher than librarians in all other racial and ethnic groups, including Caucasians. As the result of higher educational attainment, the majority (51%) of CALA member librarians work full time in higher education, which correlates to the fact that AAPI librarians had the highest education attainment among all minority groups. According to Ruan and Xiong’s first report, 71% of CALA librarians supervise or manage other people. Twenty percent were at supervisor category and 25% at manager/director category. Yet, none of the CALA librarians supervise more than 99 employees, a measure used to signal chief librarians in large libraries in their study. Despite the highest education attainment and large percentage of CALA librarians at supervisor and manager/director level, there is an under-representation of CALA librarians at chief librarian positions among large
libraries. Looking at the organizational reporting structure, 90% of CALA librarians reported to another librarian in the organization; 1% reported to a contracting officer, and the rest had reporting relations marked N/A. Based on Association of Research Libraries (ARL) annual statistics, most 120+ ARL member libraries had over 100 employees in 2008. None of chief librarians report to another librarian, but either to a council, a governing board, a Vice President for Academic Affairs, or to city/county executive manager or their designees. More information about ARL libraries can be obtained from www.arl.org. In the second report of Ruan and Xiong, the career and career advancement of CALA librarians were studied. Close to half of CALA librarians stated that they would likely stay at their current organization for the next 5 years. Only 8% would move to a different organization for a new position. Almost two thirds of CALA librarians have been promoted during their careers, and 3% declined a promotion. The majority of CALA librarians had significant increase in their job responsibilities while the job title remained the same; only 21% ever sought official job title change to reflect the responsibility change. Ruan and Xiong’s two reports of CALA librarians are the most useful to this dissertation study. The author designed a survey with questionnaires to explore CALA librarians’ leadership experience and their perception of factors that may help more AAPI to become library leaders. CALA is an affiliated professional association of ALA. In 2010, CALA has over 1500 members mainly in the U.S., but also in Canada and other parts of the world. CALA and ALA Web can be accessed for more background information at http://www.ala.org/ala/mgrps/affiliates/affiliates/current/index.cfm.
Because the author could not find any research directly related to the AAPI librarian leadership achievement gap, this study may well be the first one.

**Summary**

The Asian American and Pacific Islander (AAPI) population has the highest educational attainment compared with all other racial and ethnic groups in the United States; yet the AAPI population has the lowest representation at the top leadership level in higher education and in academic librarianship. The AAPI librarians’ leadership achievement gap is measured by the *difference* in representation ratios of AAPI chief librarians vs. AAPI fulltime credentialed librarians compared with the same ratios of other race/ethnicity. This study collects data on credentialed librarians and chief librarians by race/ethnicity, and develops for the first time the Representation Disparity ratios and the Advancement ratios in order to compare the probability of reaching chief librarian positions by race/ethnicity and gender.

The author of this study designs a quantitative (Q1) survey that was sent to several hundred AAPI librarians based on available membership e-mail accounts from Chinese American Librarians Association (CALA) and Asian Pacific American Librarians Association (APALA). Q1 solicits demographics data and perceived factors that help or hinder librarians on their pathway to top leadership positions. Furthermore, the author develops a qualitative survey (Q2) that was sent to 10-12 AAPI chief librarians. The purpose of the qualitative survey is to find out why there have been so few AAPI library leaders despite the large population of AAPI librarians with higher than average education attainment among all professional librarians.
Chapter 3

RESEARCH METHODOLOGY

This is a mixed method study involving three population profiles with descriptive statistics, a newly designed qualitative survey sent to 600 Asian/Pacific librarians and a newly designed qualitative survey sent to 12 chief librarians. Both surveys were designed by the researcher using California State University Sacramento (CSUS) licensed survey software Skylight initially, but migrated to Limesurvey commercial survey hosting service in November 2011. CSUS discontinued the Skylight software license effective December 31, 2011 and new survey software was licensed, but not deployed until February 2012. SPSS version 18 licensed by California State University system was used to run correlation and ANOVA for the quantitative survey. The qualitative survey was manually coded and themes were developed during the coding process under the Grounded Theory.

Research Design and Approach

In order to answer the research questions, two population analyses were conducted on existing data – membership information of Chinese American Librarian Association (CALA) and memberships of African American Library Directors maintained by the Black Caucus of the American Library Association (BCALA). Over 1,000 CALA librarians were grouped into several categories: administrative, public and collection development, technical service, and others. African American chief librarians were grouped as either academic or others, and their career paths were
explored by collecting data on years of service as chief librarians, previous positions, and additional degrees.

In addition to collecting statistics on the two existing data files, three endeavors, utilizing mixed quantitative and qualitative approaches were undertaken. The first endeavor explored the demographic information of current Association of Research Libraries (ARL) directors and deans. ARL is a non-profit membership organization of the largest and richest 120+ libraries in North America http://www.arl.org/arl/membership/members.shtml. The annual membership dues are roughly $20,000 per library and certain criteria, including the size of library collection, budget, number of employees, etc. need to be met. The ARL membership list includes the largest libraries in the U.S. and Canada as measured by annual budget and collection size. Stanford University Library is the only institution that has withdrawn from ARL membership. The ARL library directors’ demographics were collected and placed on a spreadsheet with the name of the institution, director’s name and current title, years in current job, previous two position titles and years in each position, gender, race, contact information, and resume if available to the public. Research on ARL directors started at the beginning of fall semester 2011 and was designed to answer the first research question:

- What is the probability that AAPI credentialed librarians will reach chief librarian positions in large libraries, compared with White and other minority groups, using the *Representation Disparity (RD) Ratios* developed in this study?
The second endeavor was an online quantitative survey (Q1) of CALA and APALA members through their listserv. CALA and APALA members with an e-mail account first received a message introducing the survey with supporting letters from the CALA and APALA presidents, followed one week later by an e-mail containing a link to the online survey. In order to improve the return rate, reminder e-mail messages were sent twice in the 10-day survey period in November 2011. Q1 includes mostly multiple choice questions related to the theories outlined in Chapter One, which include Critical Race Theory, Glass Ceiling Theory, Immigration Filtering Theory, and Four Capitals Theory. Q1 sought to answer the second and third research questions through correlation:

- What factors contributed to successful pathways toward leadership positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions?

Q1 comment section included this solicitation “Please write the names and contact information of any current or retired AAPI chief librarians whom you consider to be role models.” After the initial data harvesting from Q1, ten AAPI chief librarians were identified for the qualitative survey and a letter of invitation was sent to those ten AAPI chief librarians.

The third endeavor of the study was a qualitative survey (Q2) with structured open-ended questionnaires. The qualitative survey to be further described was sent by
e-mail to 12 AAPI chief librarians. Two chief librarians indicated that they would not be able to participate due to their temporary role as acting chief librarians. The researcher made one phone call and sent one e-mail during the survey week in early December 2011 to the remaining AAPI chief librarians after the survey was delivered. A “token” management system was activated in the Q2 survey to ensure that only the invited participants could take the survey once. Each chief librarian was given a random computer generated alphanumerical string (a token) in the invitation letter. The Q2 survey could only be activated with the correct token and each token could only be used once. Seven of the eight chief librarians used their tokens and six completed the Q2 survey during the first week. Two additional AAPI chief librarians completed Q2 after the survey period was extended for an additional week.

The Q2 survey was analyzed through keywords and four themes based on theoretical frameworks discussed in Chapter One: Critical Race Theory, Glass Ceiling Theory, Immigration Filtering Theory, and Four Capitals Theory. In addition, the grounded theory was used to capture any new frameworks that emerged from the data. Using cataloging and classification skills unique to librarianship, data were grouped into classes and subclasses; each class was identified as a major field or a minor field that influenced the AAPI librarians toward leadership positions.

Both quantitative and qualitative survey instruments, both invitation letters and data collection procedures were pre-approved by the California State University, Sacramento Institutional Review Board in October 2011. The approval letter is in the Appendices.
Setting and Sample Population

Chinese American Librarians Association (CALA) started in 1973 as Mid-West Chinese American Librarians Association, a regional organization in Illinois. A year later, Chinese Librarians Association was formed in California. In 1976, Mid-West Chinese American Librarians Association was expanded to a national organization as Chinese American Librarians Association. By 1979, CALA had five chapters in Northeast, Mid-West, Atlantic, Southwest and California respectively. CALA’s Web site is available at http://www.cala-web.org/. There are over 1,500 CALA members in the print 2010 CALA membership directory. However, only about 450 CALA members registered their e-mail addresses with CALA. The quantitative survey is sent to these 400 of 450 CALA members who are AAPI librarians. An endorsement e-mail was received from both the CALA President and the Executive Director in early October, 2011.

Founded in 1980, the Asian Pacific American Librarians Association (APALA) was incorporated in Illinois in 1981 and formally affiliated with the American Library Association (ALA) in 1982. A predecessor of APALA, the Asian American Librarians Caucus (AALC) was organized in 1975 as a discussion group of the ALA Office for Library Outreach Services, reflecting the interest in library services to minority communities and professional support of librarians of minority ancestry during the 1960s and 1970s. APALA, and AALC before it, were organized and founded by librarians of diverse Asian and Pacific ancestries committed to working together toward a common goal: to create an organization that would address the needs of
Asian Pacific American librarians and those who serve Asian Pacific American communities. The quantitative survey was sent to about 200 APALA members with an active e-mail address registered with APALA and was accompanied by an endorsement letter from the APALA President. Both CALA and APALA endorsement letters are in Appendices.

Although these two Asian librarian associations comprise over half of all the Asian American and Pacific Islanders (AAPI) librarian population based on census data, members who registered their e-mail with CALA and APALA are about a quarter of the total memberships. The survey was sent to approximately 10% of total AAPI librarian population in America.

Instrumentation, Materials, and Data Collection Procedures

The researcher designed two surveys to collect both quantitative data from AAPI librarians and qualitative data from AAPI chief librarians.

Quantitative Survey (Q1): Asian/Pacific Librarians Survey

The research subjects who participated in this survey consisted of members of the Chinese American Librarians Association (CALA) and members of the Asian Pacific American Librarians Association (APALA). A letter of endorsement was secured from the President of each association. The first section of the quantitative survey focuses on demographic data of AAPI librarians: how many generations of residency in the United States since family first immigrated, years of k-12 education received in North American, geographic regions of current work places, graduate degrees received in addition to Masters Degree of Library Science (MLS), number of
years worked as professional librarians, number of professional publications, service in national professional associations, government and school board memberships, involvement in local and national elections, and the highest professional library positions ever held (the last one is the dependent variable). The researcher ran correlation and regression analysis based on independent and dependent variables in Q1. The second section of the quantitative survey focuses on AAPI librarians’ perceptions of important factors on the pathway to leadership positions. The researcher ran ANOVA test to determine if there were any differences in perception between AAPI chief librarians and non-chief librarians.

**Qualitative Survey (Q2): Asian/Pacific Chief Librarians Survey**

The research subjects were current or retired AAPI chief librarians in medium to large libraries—library directors, deans, or university librarians. There were six individuals who met the desired criteria and were known to the researcher before this study. Subsequently, the researcher asked for more AAPI chief librarian names and contact information from participants in Q1 survey. The first section of the Q2 survey collects different demographic data about AAPI chief librarians: their parents’ education attainment, city/urban/rural environment where they spent most of their K-12 years, their college majors and more detailed information about their degrees, leadership development programs they have attended, and job titles from the most recent three positions they have held. The second section of the qualitative survey contains open-ended questions on different perspectives of the leadership achievement gap of AAPI librarians. An invitation/consent letter was sent to AAPI chief librarians
before they were provided the Q2 survey. Both the invitation/permission letter and the qualitative survey are in the appendices.

**Measurements to Protect Participants’ Rights**

The primary software used for both Q1 and Q2 was CSUS licensed survey tool Skylight with https protocols. Unfortunately, the CSUS survey software ended its license on 12/31/2011 and new survey software was purchased starting January 1, 2012. The researcher purchased commercial software *Lime Survey* sanctioned by CALA as the backup in case CSUS did not have the new software ready at the beginning of January 2012. In November 2012, Q1 and Q2 were ready to be sent out, however the new CSUS survey software was not ready to be deployed until at least February 2012. The researcher moved both Q1 and Q2 to Lime Survey with security license in order to continue the research. Lime Survey was specified as the backup software in the application letter to the CSUS Institutional Review Boards and it satisfied guidelines to protect human subjects. If the backup software had not been identified at the beginning of the research process, the whole study would have been postponed by one or two semesters. The funding to purchase Lime Survey with the security license came from the American Library Association.

The research is considered “minimal risk” based on the level of risk guideline. The survey tool allowed for respondents to submit their survey anonymously. All participants were assigned an ID number and access to survey data was limited to the researcher and his research assistant who held a password.
Mixed Methods Research

This study employed a mixed-methods approach to answer research questions. Creswell and Plano Clark (2011) describe the nature of mixed methods research as the “third methodological movement” following the development of first quantitative and then qualitative research. The following are some advantages of using mixed methods, as opposed to a solely qualitative or quantitative design:

- provides strengths that offset the weakness of both quantitative and qualitative research
- provides more evidence for studying a research problem than either quantitative or qualitative research alone
- helps answer questions that cannot be answered by quantitative or qualitative approaches alone
- encourages the use of multiple worldviews, or paradigms and builds bridges across the adversarial divide
- is practical and open to use all methods possible to address a research problem

(p. 12-13)

There are some challenges in using mixed methods as well; the researcher needs the requisite skills and it may take more time and resources and other researchers may not be convinced of or understand the value of mixed methods (Creswell & Plano Clark, 2011, pp. 13-15.) Even though mixed methods research is relatively new in the social sciences and education, it has been used in decision making at the highest level
in the United States. Congress routinely calls for individual testimonies and listens to personal stories, in addition to all the statistics available to law makers. Greene, Caracelli, and Graham (1989) offered simple typologies of reasons for mixed methods:

- **Triangulation** seeks convergence, corroboration, and correspondence of results from the different methods
- **Complementarity** seeks elaboration, enhancement, illustration, and clarification of the results from one method with the results from the other method
- **Development** seeks to use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions
- **Initiation** seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method
- **Expansion** seeks to extend the breadth and range of inquiry by using different methods for different inquiry components (p. 259)

Because this research is the combination of exploring the chance of AAPI librarians to be represented at the chief librarian level, computing the correlating factors that positively or negatively affect AAPI librarian’s leadership achievement gap, and seeking possible causes for the lack of leadership achievement among AAPI librarians,
the mixed methods design provided the best approach for capturing the complexity of this research endeavor.

There are six types of mixed method designs, depending on the level of interaction between quantitative and qualitative strands, the priority, the timing, and where and how to mix the quantitative and qualitative strands: (a) convergent parallel, (b) explanatory sequential, (c) exploratory sequential, (d) embedded, (e) transformative, and (f) multiphase design (Creswell & Plano Clark, 2011, p. 53-100). This study used the transformative design. The purpose of transformative design is to conduct research that is change oriented and seeks to advance social justice caused by identifying power imbalances and empowering individuals and communities—that is, the purpose of mixed methods in transformative design is for value-based and ideological reasons . . . The purpose is to use the methods that are best suited for advancing the transformative goals (e.g. challenging the status quo and developing solutions) of the study. (Creswell & Plano Clark, 2011, p. 96-97.)

In the library research field, Basic Research Methods for Librarians is widely used for Library and Information Science doctoral students (Connaway & Powell, 2010). The book emphasizes quantitative research as the traditional research method in library and information science, including survey and experimental studies. But the 5th edition also gives attention to qualitative research and mixed method.
Role of the Researcher

No incentives were offered for participation in this survey. The researcher is a life member of CALA and ALA. The researcher is not seeking CALA or ALA elected office positions in 2011/12 or 2012/13. The researcher is not a member of APALA, but has contacted APALA officials for assistance to distribute the survey. In 2012, the researcher applied to join the APALA as a life member in order to have direct access to their membership e-mail listings. The research was partially funded by the ALA Diversity Office and the researcher presented the results at the 2012 ALA Annual Conference in Anaheim, California.

Conclusion

The study contains two population profile analyses that drew from existing data; then three new methods were designed to collect data. The first population profile analyzes CALA librarians by their job titles and gains knowledge of job function distributions of CALA librarians. The first profile also helped the researcher to identify more AAPI chief librarians. The second profile analyzes African American chief librarians by their career path and education based on existing data. The first new research collected demographic information on ARL library directors which was used to calculate the Representation Disparity ratios for librarians by gender, race/ethnicity. The second, a quantitative survey (Q1) designed by the researcher, was sent to 600 AAPI librarians. Q1 collected AAPI librarian demographic data and professional experience and perceptions of factors helping or hindering AAPI in reaching chief librarian positions. Q1 provided correlation and prediction of AAPI librarians’ highest
professional positions with their education attainment, publications, training and mentoring experiences, professional, governmental and community involvement, and immigration experiences. The third, a qualitative survey (Q2) designed by the researcher, was sent to current or retired AAPI chief librarians in medium to large libraries. Q2 collected AAPI chief librarian personal data and personal stories of their pathways to chief librarian positions.

The two population profile analyses involve 1200+ personal data. The new population profile data collected and analyzed 120+ chief librarians’ data. The researcher also designed an original quantitative survey and an original qualitative survey. Five research projects may seem to be over-kill for a dissertation study. However, the researcher wanted to have enough data to conduct the dissertation research when one or two research projects were not successful. Thanks to the support of ARL Executive Director, CALA President and APALA President, all three new research projects were completed by December 2011. Without the support of leaders in those organizations, the data collection would have been more difficult and taken a much longer time.

Another caution for designing dissertation study is to have a backup plan for the software. The researcher submitted both backup software Limesurvey and the primary software Skylight as possible survey instruments to the Institutional Review Board in September 2011. It took the researcher 2-3 weeks to move surveys from the original software to the backup one and to learn how to run different survey software when Skylight was discontinued by the University during the study. But there was no
need to resubmit an application to conduct surveys involving human subject, which
would likely take more than 2-3 weeks in most institutions.
Chapter 4
DATA ANALYSIS AND FINDINGS

This chapter opens with a brief description of the data collection procedures and findings. The first population data collection (P1) profiles all librarians in the 2008/2009 Chinese American Librarians Association (CALA) Member Directory by their job titles. CALA is the largest AAPI librarians association affiliated with American Library Association (ALA). The second population data collection (P2) profiles all chief librarians listed in the African American Library Directors Web site maintained by Black Caucus of the American Library Association (BCALA), plus 68 chief librarians in the Historical Black Colleges and Universities (HBCU) libraries. The third population data collection (P3) profiles all Association of Research Libraries (ARL) chief librarians’ career paths and demographics as of 2011. This includes three Asian American and Pacific Islanders (AAPI) chief librarians and four African American chief librarians. Descriptive statistics are provided on three population data profiles.

The first sampling data collection is derived from a quantitative survey (Q1) of AAPI librarians who are associated with CALA and the Asian Pacific Americans Librarians Association (APALA). The second sampling data collection is a qualitative survey (Q2) of AAPI chief librarians in libraries or library systems based on P1, P3, and Q1 data. These chief librarians include current or retired ARL AAPI directors for large libraries and other AAPI directors in medium size libraries.
The first population study (P1) was conducted to categorize one group of AAPI librarians by job functions. The study compiles and analyzes information for each member listed in 2008/2009 Chinese American Librarians Association (CALA) membership directory based on their titles. The study excludes student members, library assistant’s members, and members residing outside of North America. The remaining total member count is 828. The percentages of 828 CALA librarians who belong to the major categories created by the author are as follows:

- Public service and collection development – 30.68%
- Cataloging, Acquisition, Serials, Special Collection and Archive – 16.30%
- Systems and Library Computing – 11.59%
- Administration – 6.52%
- Asian and Chinese Studies – 4.83%
- Librarian (not specified) -- 6.16%
- No title – 6.28%
- Retired librarians– 6.67%
- Library School Faculty – 2.29%

To be consistent with classification standards of library professionals, the administration category includes titles such as library managers, assistant/associate directors, and chief librarians as defined in Chapter One of this study. The eight chief
librarians identified in the 2008/2009 CALA membership directory are listed in Table 9.

Table 9

Chief Librarians among CALA Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hwa-Wei Lee</td>
<td>Dean of Libraries Emeritus</td>
<td>Ohio University</td>
</tr>
<tr>
<td>Patrick Kuoheng Hsu</td>
<td>University Librarian Emeritus</td>
<td>Texas Lutheran University, TX</td>
</tr>
<tr>
<td>Bessie King Hahn</td>
<td>University Librarian, Retired</td>
<td>Brandeis University, MA</td>
</tr>
<tr>
<td>Chang C. Lee</td>
<td>University Librarian &amp; Archivist, Retired</td>
<td>University of Central Florida, FL</td>
</tr>
<tr>
<td>Nancy Fong</td>
<td>City Librarian</td>
<td>San Leandro Public Library, CA</td>
</tr>
<tr>
<td>Patty Wong</td>
<td>County Librarian</td>
<td>Yolo County, CA</td>
</tr>
<tr>
<td>Ling-yuh “Miko” Pattie</td>
<td>Chief Information Officer</td>
<td>Kentucky Virtual University, KY</td>
</tr>
<tr>
<td>Tze-chung Li</td>
<td>Dean Emeritus, Graduate School of LIS</td>
<td>Dominican University, IL</td>
</tr>
</tbody>
</table>

Both CALA chief librarians and those accounted for in the 6.52% CALA administrative librarians include retired librarians. The advancement ratio of 6.52% defined in Chapter Two measures the percentage of CALA professional librarians who advanced to chief or associate/assistant chief positions. It is a different measure from the percentage of AAPI among all ARL chief librarians. Ruan and Xiong’s 2008 survey of CALA members revealed that 7% of participants supervise 25 or more people. Their data is consistent with the findings of this study.
Profile of African American Library Directors – P2

The African American chief librarian’s profile, P2, consists of 148 chief librarians. This includes 70 academic chief librarians and the list is accessible from the ALA Office of Diversity Web site http://www.ala.org/research/librystaffstats/diversity and on BCALA Web site. In addition, the contact information for 68 library deans and directors from Historical Black Colleges and Universities (HBCU) are available from the following Web site http://www.hbculibraries.org/index.html/. There are 18 duplicate names in the BCALA and HBCU chief librarians list but the author also verified that at least 33 African Americans of the 68 HBCU chief librarians are unique and not on BCALA listing. More important, all 68 HBCU academic chief librarians, whether they are Black or not, are committed to providing leadership training and mentoring for future HBCU library leaders who will be serving HBCU students and faculty. P2 promotes close to 200 Black chief librarians, with over 100 in academic libraries. The names and contact information of these individuals are readily available. Although there are more AAPI academic librarians, the author could not identify more than 10 AAPI chief librarians. Unlike the readily available information pertaining to African American librarians in leadership positions, there is no open access list for AAPI chief librarians.

Profile of ARL Chief Librarians – P3

Based on available information from the ARL Web site at http://www.arl.org/arl/membership/members.shtml, the author collected ARL chief
librarian names, titles, and current institutions. The chief librarians in academic libraries are called Deans, Vice Provosts, Directors, or University Librarians. In large public libraries, the title is mainly Director and for public library systems, the titles are County Librarian, City Librarian or manager. Google searches were conducted for each of the 126 ARL chief librarians to collect demographic information in order to answer the first research question:

- What is the probability that AAPI credentialed librarians will reach chief librarian positions in large libraries, compared with the majority, and with other minority groups, using the Representation Disparity (RD) Ratios developed in this study?

An Excel workbook was created for ARL chief librarians under the following column titles:

- Chief librarian’s name
- Current position title
- Name of current institution
- Years at current position
- Job title of immediate prior position
- Name of the immediate prior institution
- Years at immediate prior position
- Title of second prior position
- Name of the second prior institution
- Years at second prior position,
- Race/ethnicity,
- Gender,
- Year receiving Master of Library Science (MLS) degree
- Additional advanced degrees
- Membership in professional associations
- Board/council member of government or other civic involvement
- Fulltime management training programs attended, and notes.

The author collected name, institution name, current position title, years at current position, title of immediate prior position for all ARL chief librarians. The author also collected many ARL chief librarians second prior position and advanced degrees beyond MLS (Ph.D, Ed.D, MBA, or second master degrees). The author identified ten minority ARL chief librarians among 126 ARL chief librarians. The percentage of minority ARL chief librarians is at \( \frac{10}{126} = 7.9\% \) while White ARL chief librarians accounts for 92.1%. The result was sent to the ARL Executive Director for verification by e-mail, and the nine minority academic chief librarians in 2011 match the author’s finding (Lowry, 2011). The author personally verified the tenth and the only non-academic AAPI chief librarian in Federal Government by retrieving the appointment announcement. The table below summarizes the findings.
Table 10

**ARL Minority Chief Librarians**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Yrs</th>
<th>Immediate Prior Position &amp; Title</th>
<th>Race Ethnicity</th>
<th>Advanced Degrees</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susan Gibbons</td>
<td>Yale Univ.</td>
<td>&lt;1</td>
<td>Dean, Univ. of Rochester Lib.</td>
<td>AAPI</td>
<td>MLS MBA EdD</td>
<td>Minority Ivy League chief librarian</td>
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<td>Sul H. Lee</td>
<td>Univ. of Oklahoma</td>
<td>30+</td>
<td>Dean, Indiana State Univ.</td>
<td>AAPI</td>
<td>MLS, MA Political Science</td>
<td>Retires June 2012</td>
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<td>*Paula Mochida</td>
<td>University of Hawaii</td>
<td>5</td>
<td>Distance Ed. Lib. Univ. of Hawaii</td>
<td>AAPI</td>
<td>MLS, MA Education, DPA</td>
<td>Interim Univ. Librarian</td>
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<td>Denise Stephens</td>
<td>UC Santa Barbara</td>
<td>&lt;1</td>
<td>Strategic and Organizational Research Librarian University of Kansas</td>
<td>African American</td>
<td>MLS</td>
<td>Vice Provost Information Services and CIO till 2010</td>
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<td>James Williams</td>
<td>University of CO at Boulder</td>
<td>22</td>
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<td>Howard Univ.</td>
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<td>Howard Univ. Associate Director for Information, Research, and Resource Services</td>
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<td>Ruth Jackson</td>
<td>UC Riverside</td>
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<td>Dean of Libraries Witcha State University</td>
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<td>*Lorelei Tanji</td>
<td>UC Irvine</td>
<td>&lt;1</td>
<td>Associate Dean, UC Irvine</td>
<td>AAPI</td>
<td>MLS, MA</td>
<td>Interim</td>
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<tr>
<td>Simon Liu</td>
<td>National Ag. Library</td>
<td>1</td>
<td>Associate Director of National Library of Medicine</td>
<td>AAPI</td>
<td>PhD EdD MBA, MS Comp Sci &amp; Gov.</td>
<td>Not part of U.S. academic libraries</td>
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</table>

Note: * denotes interim chief librarians.
Among ten minority ARL chief librarians, five were appointed in 2010 or 2011, which indicates that they have one year or less of tenure in their current positions. There are a total of seven interim chief librarians among 126 ARL libraries. Three of those are minority chief librarians, a relatively higher proportion of minority interim chief librarians than that of White interim chief librarians among ARL libraries. All three minority interim chief librarians were promoted within their libraries. Among five AAPI chief librarians, three were recently appointed with one year or less of tenure, and one announced retirement after 30 years of tenure. Two AAPI chief librarians are serving on an interim basis; and one has served in an interim capacity since 2007. The large percentage of newly appointed minority chief librarians reflects a transition period among ARL library top leadership positions on one hand, and the rise of minorities in library top leadership positions on the other.

As for the advanced education levels for minority ARL chief librarians, eight out of ten minority librarians have either a second master’s or a doctorate degree. All five AAPI chief librarians, including two holding interim posts, have additional advanced degrees. Three out of the five AAPI chief librarians have doctoral degrees. Among the three permanent AAPI chief librarians, Lee has a second master’s degree in political science and has served as the Dean for over 30 years. The two recently appointed permanent AAPI chief librarians have multiple advanced degrees. Gibbons at Yale University has a second master’s degree in history, a MBA and an Ed.D in higher education. Liu has master’s degree in computer science, in government, a Ph.D in computer science, plus a MBA and an Ed.D in higher education. Among all 126
ARL chief librarians, 36 have doctoral degrees and 37 have additional master’s degrees. This accounts for 58% of total ARL chief librarians holding additional advanced degrees. In comparison, the AAPI ARL chief librarians hold more advanced degrees than any other ethnic groups. Gibbons and Liu are the only two ARL chief librarians with both a MBA and doctoral degrees among all ARL chief librarians.

ARL chief librarians come from two pathways; new hires from outside the institution or promotion from within the institution. P3 data indicates that 40 of the 126 ARL chief librarians were serving as chief librarians in other institutions before being hired by ARL libraries and 35 of the 126 were also hired from outside their current institution. This means that sixty percent of ARL chief librarians were hired from outside the institution in which they are currently serving. In contrast, all AAPI chief librarians were hired from outside the institution in which they are currently employed. Prior to her appointment as chief librarian at Yale University, Indian American librarian Gibbons rose, within 13 years, from a position of digital initiatives librarian to an Associate University Librarian and eventually to the position of University Librarian. This is a very uncommon career path for ARL chief librarians. Based on professional experience of the 110 out of the 126 ARL library directors, the average professional experience is 34 years and the average tenure as ARL chief librarians is 8 years. On average, it took 26 years for ARL chief librarians to reach their current positions after receiving the terminal degree for library science – MLS degree. Chinese American librarian Liu was the associate director at the National Library of Medicine before being appointed to the director position of the National
Agricultural Library. By 2011, Liu had spent over 15 years working as managers for various federal government agencies and had a rich portfolio of professional credentials and strong technology and management skills. All four African American ARL chief librarians were also hired from outside their current institution. All interim chief librarians were promoted from within their institutions.

Based on ARL ethnicity/race of professional librarians historical statistics at http://www.arl.org/stats/annualsurveys/salary/annualedssal.shtml and a spreadsheet the author received from ARL staff for 2010/2011 statistics not yet available on its Website, Caucasians account for 85.8% of ARL professional librarians, AAPI 6.6%, Black 4.4%, Hispanic 2.8% and American Indian 0.4%. The ARL librarians’ demographics match the profile of academic librarians in general, with Whites accounting for the vast majority, followed by AAPI, African Americans, and Hispanics (American Library Association, January 2007.) For ARL chief librarians, the percentage of Caucasians is at 116/126=92.1%. AAPI and Black each accounts for 5/126=3.9%. For this study, interim chief librarians will not be counted due to their temporary status and the absence of a national search for chief librarian positions. There are 119 permanent ARL chief librarians, three are AAPI and four are African Americans. The recalculated percentages of White, AAPI, and African American chief librarians are 94.12%, 2.52%, and 3.36% respectively. Using the representation disparity ratios developed in Chapter Two:

- $\alpha$(White): the percentage of White chief librarians divided by the percentage of White professional librarians. $\alpha$(White) = 94.12/85.8 = 1.10
- $\alpha$(Black): the percentage of Black chief librarians divided by the percentage of Black professional librarians in ARL libraries. $\alpha$(Black) = $3.36/4.4$ = 0.76
- $\beta$(Black/White) = $\alpha$(Black)/$\alpha$(White) = 0.76/1.10 = 0.69
- $\alpha$(AAPI) = $2.52/6.6$ = 0.38,
- $\beta$(AAPI/White) = $\alpha$(AAPI)/$\alpha$(White) = 0.38/1.10 = 0.35
- $\beta$(AAPI/Black) = $\alpha$(AAPI)/$\alpha$(Black) = 0.38/0.76 = 0.50

Since both $\alpha$(Black) and $\alpha$(AAPI) are smaller than 1, Black and AAPI librarians are under-represented at ARL chief librarian’s rank based on numbers of Black and AAPI professional librarians. AAPI librarians have only slightly more than one third of the chance (35%) compared to White librarians to be represented at chief librarian level, while Black librarians have 69% of chance compared to those in the White racial group. It is worth noting that there are no Hispanic ARL chief librarians after Dr. Alire’s retirement. Dr. Alire was a prominent Hispanic chief librarian and American Library Association (ALA) President in 2009-2010.

The Web based quantitative survey (Q1) returned by ninety-one AAPI librarians and the qualitative survey (Q2) returned by nine AAPI chief librarians provide us related data to answer the second and third research questions:
- What factors contributed to successful pathways toward leadership positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions?
Quantitative Data Analysis—Q1

Q1 is titled *AAPI Librarians Leadership Survey* and consists of two groups of questions. Group one has 12 questions related to current status of AAPI librarians. Group two asks perceptions of different factors that may help or hinder AAPI librarians’ capacity to reach leadership positions. Q1 was sent electronically to over 400 members in CALA and over 200 members in APALA. The collective body of over 600 members represents AAPI librarians residing in all regions in the United States. There were 91 AAPI librarians who completed the survey. The definition of “a completed survey” is that a participant viewed all pages with questions on Limesurvey.com survey software, but not necessarily answered all questions. If a participant exited the survey before viewing ALL pages, it is marked as “incomplete.” The limesurvey.com software provides users with descriptive statistics and an option to download the survey data to both .sav file for SPSS and .xls file for MS Excel. The descriptive statistics, the Chi-square cross-tabulation with Gamma analysis and the ANOVA with Test of Homogeneity of Variances (THV) analysis are deployed to yield Q1 findings.

Q1: Descriptive Statistic

- I-1. Choose your generation as an AAPI immigrant. If you are a foreign-born citizen or legal resident of the U.S., you are a first generation immigrant.
  - First Generation = 57.14%
  - Second generation = 25.27%
  - Third generation = 7.69%
o More than three generations = 8.79%

o Not a citizen or legal resident = 1.10%

(Numbers of responses are in parenthesis)

Figure 10. Immigration Status.

The majority of AAPI librarian participants are first generation immigrants at 57.14%. The author received several phone calls and one e-mail comment from participants indicating that though they were foreign-born immigrants, they chose second generation because they came as dependent children with their first generation immigrant parents. *The first two generation immigrants are at 83.41% percent and comprise the vast majority of CALA and APALA librarians.*

- I-2. Please choose the **first** diploma or degree you have received in the United States or Canada.
- High school diploma = 28.57%
- Associate or 4-year college degree = 6.60%
- Graduate degree = 62.64%

![Pie chart showing educational attainment]

Figure 11. First Diploma received in North America.

The first degree received in North America is another way to find out immigration status among AAPI librarians. It is more reliable to state that those who did not receive high school diploma as their first degree in North America are the true first generation immigrants. About 70% of AAPI librarians received their first degree above high school diploma, and 63% received a graduate degree as their first. This would indicate that about 70% of AAPI librarians are first generation immigrants who came after the age of 18.

- I-3. What is the total population of the city/county/metropolitan area where you work?
- Less than 10,000 = 0
- 10,001 to 50,000 = 8.79%
- 50,001 to 500,000 = 32.97%
- 500,001 to 1 million = 10%
- More than 1 million = 43%

![Pie chart showing distribution of population sizes.]

Figure 12. Places of Residence.

Most AAPI librarians work in a metropolitan area with more than half a million population. Many of them (33%) also work in urban setting or mid-sized cities with population between 50,000 to 500,000. No one works in rural area with population less than 10,000 and only 9% work in small cities with a population of less than 50,000.
I-4. Please select your highest education attainment

- ALA-MLS only = 47%
- ALA-MLS plus a second master degree = 41%
- ALA-MLS plus a doctoral degree = 7%
- A graduate degree outside ALA-MLS = 0
- No graduate degree = 2%

*Figure 13. Highest Education Attainment.*

Almost half of AAPI librarians have additional advanced degrees, including second master’s degrees and doctoral degrees. Only 2% do not have at least a graduate degree.

I-5. Number of years you worked as a professional librarian, IT professional or other information professional.

- 0-4 = 33%
- 5-9 = 12%
○ 10-14 = 14%
○ 15-19 = 15%
○ 20 or more = 22%

*Figure 14. Years as Professional Librarians.*

The largest segment of the AAPI librarians who represent 33% of all AAPI librarians have less than 5 years working experience. This group also includes those who do not have jobs, but are active as either CALA or APALA members. The second largest group, at 22% of all AAPI librarians has over 20 years of working experience. The phenomenon of the two largest groups being concentrated at the beginning of their career life (less than 5 years) and in the maturing phase of their career life (over 20 years) is called the *dumb bell* effect and will be discussed later.
• I-6. Number of SCHOLARLY publications, including but not limited to journal articles, books, book chapters, book reviews, annotated bibliographies, of which you are an author or a co-author.
  - 1-2 = 25%
  - 3-5 = 12%
  - 6-9 = 12%
  - 10-15 = 7%
  - 16 or more = 11%

*Figure 15. Number of Scholarly Publications.*

Most academic librarians need to have scholarly publications in order to continue employment and more AAPI librarians are in academic libraries than public or school libraries as illustrated in Chapter One. Over two thirds of AAPI librarians have published. Eighteen percent of AAPI librarians have six or more publications. However, more than 30% of participants did not answer this question. The original
version of the survey had an option of “no publications yet” as a choice, but it was lost when the survey was transferred from California State University Skylight software to the Limesurvey software. If the option of “no publications yet” been kept we should have had a better indication of participant achievement in this area.

- I-7. How many times have you made VOLUNTARY professional job changes?

Please note, a move-up in rank, i.e. from Assistant Librarian to Associate Librarian on the same position is NOT a job change. But a position change within the same institution should be considered a job change.

  o Never =20%
  o 1 or 2 times =43%
  o 3 or 4 times =26%
  o 5-6 times =2%
  o More than 6 times =3%

*Figure 16. Number of Voluntary Job Changes.*
Almost 70% of AAPI librarians made voluntary job changes 1 to 4 times in their career life while 20% did not make any job changes.

- I-8. What is the highest position you have held in national library/information science organizations, such as IFLA, ALA, or its divisions, PLA, ACRL, LITA etc. Please do not include CALA, APALA or regional community organizations here.
  - None =10%
  - Membership only =21%
  - Committee member =33%
  - Committee chair =16% + 4% from other = 20%
  - Elected Board/Council member =10% +1% from others = 11%
  - Other -- four are section chairs, and one is an officer

*Figure 17. Professional Association Involvement.*
Only 10% of AAPI librarians are not involved in any national/international professional organizations. Over 50% are or have been involved in committees and 20% are serving or have served as committee chairs. Over 10% of AAPI librarians have experience as elected library board/council members.

- I-9. What is the highest professional position you have held in North America?
  - Non-supervisor Professional (does not supervise other full time staff)
    \[=34\% + 2\% \text{ from Others} = 36\%\]
  - Supervisor Professional, i.e. department, section head or associate director \[=35\% + 5\% \text{ from Others} = 40\%\]
  -Chief librarian supervises less than 10 FTE staff \[=7\%\]
  -Chief librarian supervises 10-49 FTE staff \[=2\%\]
  - Chief librarian supervises 50+ FTE staff \[=7\%\]
  - Others \[=5\% \text{ are supervisor librarians} + 2 \% \text{ are LIS school faculty} \]

*Figure 18. Highest Job Title Ever Held.*
Among AAPI librarian, supervisor professionals are the largest group at 40%. The second largest group consists of non-supervisor professionals at 36%. Seven percent of AAPI librarians who are chief librarians supervise 50 or more staff members. AAPI chief librarians who supervise 10-29 staff are at 2%. The category of chief librarians who don’t report to another librarian and supervise less than 1-10 staff raised some questions during the survey. Almost all school librarians are in this category; they do not report to another librarian and they supervise either some part-time library technicians or student assistants. Very small special libraries may fall into this category as well. For the purpose of this study, AAPI chief librarians who supervise 10+ people and 50+ will be grouped into one category. Question I-9 has four groups for statistical purpose, 1) non-supervisor librarians, 2) supervisor librarians, 3) chief librarian with less than 10 staff, and 4) chief librarians overseeing 10+ staff. Then, the cross tabulation analysis of four groups in question I-9 with questions I-1 to I-8 provides the significant test using Chi-square. The Gamma test is also performed to predict strong/weak and direct/inverse relationships between dependent and independent variables.

- I-10. What is your level of involvement within your library and the parent institution, i.e. an academic library's parent organization will be the university.

Choose ALL that apply!

- Served on library committees = 63%
- Served as library committee chair = 40%
- Served on parent institution's committees = 41% + 3% from Others = 44%
- Served as parent institution's committee chair =9%
- Served on Asian/Pacific employees association =15%
- Other: 2% served on union/guild board and 1% served on statewide library committee, both will be put into parent institution’s committees. 4% served on other community board, which will be count in question I-12.

![Bar chart showing institutional involvement]

Figure 19. Institutional Involvement.

Questions I-10, I-11 and I-12 allow participants to choose all categories that apply so that the total percentage from sub-categories can be more than 100%. A very active academic AAPI librarian may serve on library committees, as library committee chairs, campus committees, as campus committee chairs, and also be involved with Asian American employees associations. In this case, all five sub-categories would be checked. Almost two out of three AAPI librarians participate in library committees, 40%
served as chairs and 44% served on parent institution’s committees. But less than 10% served as parent institution’s committee chairs. There are differences as quoted in this paragraph and percentages shown in Figure 4.10 because all responses in the “other” categories were manually examined by the author and some were assigned to appropriate categories. For academic librarians, parent institution’s committees include campus wide committees and the campus committees are not necessarily related to the library.

- I-11. What is your level of involvement with the local government and school district? Choose ALL that apply!

  - Regularly participate in general elections =55%
  - Regularly participate in primary election and other local elections =42%
  - Attended, at least once, school district/college board meetings =13%
  - Attended, at least once, city/county/local government council/board meetings =16%
  - Appointed or elected to serve on local government or school district council/board =2%
  - Non-citizen and not eligible to vote=11%

More than 50% of AAPI librarians are regular voters and 42% of them regularly participate in primary and local elections. Only 13% of AAPI librarians have attended, at least once, school district or college board meetings and 16% have ever attended, at least once, a local government meeting. Two percent of AAPI librarians
have served or currently serve as either elected or appointed government board members. Eleven percent of AAPI librarians are legal residents, but not U.S. citizens.

![Bar chart showing political involvement.](chart.png)

**Figure 20.** Political Involvement.

- I-12. What is your involvement with the regional or local communities?

Choose ALL that apply!

- Board/Council member of local Asian community organizations, i.e. Chinese school = 13%

- Board/Council member of a community organization, i.e. Homeowners association, local church = 10%

- Board/Council member of Asian professional organizations, i.e. CLA, CALA, APALA = 27%

- Board/Council member of professional organizations, i.e. Toastmasters International, Friends of the library = 9%
- Board/Council member of a hobby club, sports, music, cooking = 2%
- Others, 7% members of ping-pong, dance, chess, bridge clubs, no board.

*Figure 21. Community Involvement.*

Twenty seven percent (27%) of AAPI librarians serve on Asian professional organization boards, such as CALA and APALA boards; 13% serve on local Asian community organization boards, such as Chinese schools or Asian churches; 9% serve on other local community boards; and 2% on hobby clubs.

Question I-10, I-11, and I-12 are manually assigned Likert scale 1 to 5 with 5 being the most important based on author's perspective. The ANOVA analysis will be used to measure whether means between groups I-1 to 4 categorized in I-9 are significantly different in answering question I-10 to I-12.

The second group of questions explores *perceived factors* that influence AAPI librarians' pathways toward top leadership positions. Again, a Likert scale from 1 to 5
is used and numbers for question II-1 to II-3 were automatically assigned to survey choices. In the following paragraph, the first percentage is the sum of the two categorical responses of “least important” and “not important” with Likert scale of 1 and 2. The second percentage is the sum of categorical responses of “important” and “most important” with the Likert scale of 4 and 5. The percentage of those who ascribed to the category of “neutral” with Likert scale of 3 is the difference between100% and the sum of Likert scale 1, 2, and 4, 5. See II-1c below as an example.

- II-1. From your perception, how important are these factors in achieving top library leadership positions? The least important is 1 and the most important is 5.
  - a. In addition to MLS, a second master or a doctoral degree -- 27% vs. 45%
  - b. More scholarly publications and professional presentations –20% vs. 46%
  - c. Active involvement in ALA and other national professional organizations – 15% not important vs. 58% important, and neutral is 100% -15% -58% = 27%
  - d. Service on library's committees, especially as chairs – 15% vs. 59%
  - e. Service on parent institution's committees, especially as chairs – 13% vs. 62%
  - f. Active involvement in local government – 41% vs. 12%
o g. Active involvement in local Asian/Pacific community organizations – 39% not important vs. 15% important

o h. Traditional Asian culture of hard working and no complaining – 54% vs. 12%

o i. During ALA Presidential election, ask each candidate on issues related to AAPI leadership achievement gap – 41% vs. 24%

o j. A national initiative to look at equal opportunities in promotion of minority workers – 22% vs. 36%

A greater percentage of AAPI librarians perceive that additional advanced degrees, more publications, more active involvement in ALA and other professional organizations, more committee work and serving as committee chairs as important to attaining leadership positions. On the other hand, government involvement, local community involvement, the traditional Asian cultural value of working hard and political empowerment of challenging ALA presidential candidates with issues specifically related to AAPI during their campaigns have less perceived importance. Slightly more (36% vs. 22%) people perceive a national initiative to promote minority workers as important related to AAPI leadership issues.

- II-2. Please indicate your level of agreement from "1--Strongly Disagree" to "5--Strongly Agree" with the following statements:

  o a. Native born Asian/Pacific librarians have a better chance than first generation immigrants to enter the leadership rank – 23% vs. 40%. The first percentage is the sum of strongly disagree and
disagree, and the second percentage is the sum of agree and strongly agree. The rest are neutral.

- b. Asian/Pacific librarians are perceived by the hiring authorities as knowledgeable and technical, but not as good leaders – 24% vs. 44%

- c. Asian/Pacific librarians have LESS CHANCE to be promoted to top leadership positions than other minority librarians – 26% vs. 42%

- d. Asian/Pacific librarians lack leadership role models/mentors for achieving top leadership positions – 15% vs. 49%

- e. The lack of AAPI librarians in top leadership roles can't be explained by job-related factors, i.e. education, publication, and years of experience – 16% vs. 43%

- f. The degree of AAPI librarians under-representation is greater at higher leadership levels than at lower levels – 10% vs. 60%

- g. The diversity programs in my institution often exclude AAPI because they are not considered under-represented minorities – 32% vs. 35%

- h. Media attention to AAPI leadership under-representation will improve chance of promotion for ALL minorities – 9% vs. 61%

- i. Increasing AAPI voting power in all levels of elections will improve AAPI leadership achievement gap – 10% vs. 52%
In most cases, more AAPI librarians agree rather than disagree with the statements above. Question II-2g is almost evenly divided by disagree and agree in regard to the impact of diversity program’s on AAPI librarians. Some questions have far more consensus of agree than disagree. For example, 60% of AAPI librarians believe the degree of AAPI librarian’s under-representation is greater at higher leadership levels than at lower levels, while only 10% disagree. Similarly, Question II-2h and II-2i have 5 to 6 times more agreement than disagreement related to the importance of media attention of AAPI leadership under-representation, and increasing AAPI voting power during elections.

- II-3. Assuming you are qualified for a higher leadership position in the next five years, please indicate your likelihood of applying from "1--Very Unlikely" to "5--Very Likely" with the following conditions:
  - a. The leadership position is within your current institution – 24% vs. 45%
  - b. The leadership position is in the same region and you do not have to move – 18% vs. 50%
  - c. The leadership position is outside your region, and you will move to a metropolitan area NO SMALLER than your current location – 38% vs. 24%
  - d. A higher leadership position in any location after my children are independent-- 31% vs. 36%
o e. A higher leadership position in any location after I retire from current position – 45% vs. 22%

o f. A higher leadership position without conditions – 39% vs. 26%

Half of the AAPI librarians are likely to assume a higher leadership position in the same region without relocation, but only 45% are likely to take a leadership position within the same institution. AAPI librarians are not willing to move, even if it is to a bigger city or if it is after retirement. Only slightly more AAPI librarians are likely to take a higher position in any location after their children are independent.

The descriptive statistics provide a general picture of AAPI librarians’ demographics, their education, professional achievement, institutional-political-community involvement and their perceptions and willingness to take leadership roles. However, the descriptive statistics do not yield any data related to differences in survey responses among AAPI chief librarians, supervisor librarians and non-supervisor professional librarians. The descriptive statistics also do not allow us to draw a correlation between highest professional positions ever held and other characteristics and activities, such as education and institutional involvement. More sophisticated statistics have to be deployed to probe more in-depth questions.

Q1: Correlation Tests on I-1 to I-9

In Q1 survey, questions I-1 to I-9 are ordinal variables, I-10 to I-12 are dichotomous nominal variables, and II-1 to II-3 are ordinal variables again. Nominal variables are categorical in nature, such as race and religious affiliation. A special case
of categorical variables are *dichotomous* variables which have only two categories or levels. A subset of nominal variables is the *Ordinal* with all variables in orders. Note that all ordinal variables must be coded so that the values of a variable go from the lowest to the highest. When categorical variables are NOT in order, they are simply *nominal* variables. A subset of ordinal variables is the scale variables in which the ordered variables can be measured and calculated. The author manually codes all variables in Q1 question I-1 to I-9 into scale variables. Questions II-1 to II-3 are also treated as scales, even though group II questions are ordinal. Q1 questions I-10, I-11, and I-12 (each question has 6-10 variables) are dichotomous variables and are manually coded as scale variables for calculation. The Q1 code book is in the Appendix.

Using SPSS version 19, a correlation analysis was conducted among question I-1 to I-9.

Table 11

*Correlation Matrix Questions I-1 to I-9*

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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

As highlighted in the table, the AAPI librarian positions are strongly correlated with education attainment, years worked in the profession, number of publications, number of voluntary job changes, and professional organization involvement with p<0.01. The effect size for number of years worked is large (r>0.50). The effect sizes for number of voluntary job changes and number of publications are close to large, while the effect size with highest education attainment and professional involvement are medium(0.25<r<0.50). The generation as immigrants, the first degree received in North America, and the residential city population variables all have p value greater than 0.05 – the author rejected the null hypothesis that AAPI librarians leadership status is related to their generations as immigrants, whether they received their high school diploma in North America, and whether they live in a big city or a small town.
With the strong correlation and large effect size, a regression analysis is usually recommended. Due to the small sample size and nine variables in questions I-1 to I-9, the N is not large enough for a regression test. The regression test requires:

1. \( N > 50 + 8m \), where \( m \) is the number of variables. For Q1 questions I-1 to I-9, \( m \) equals 9 and \( N \) needs to be greater than 122. The highest \( N \) among all Q1 questions is 91.

Instead of a regression analysis, a cross-tab Chi-square test is used to analyze relationships among variables that are nominal, categorical, ordinal, or scale. In addition to Chi-square test, Gamma is used as a measurement to predict the value of a dependent variable based on the values of independent variables. In statistics, Gamma measures Proportional Reduction in Error (PRE), and PRE is a major criterion to measure associations between dependent variables and independent variables. Gamma varies from a value of 0.0 for the weakest level of association, to a value of +1.0 for the strongest level of association for a direct or positive, or -1.0 for the strongest level of association for a negative or inverse relationship. The result of Chi-square tests and Gamma tests on SPSS version 19 for questions I-1 to I-9 will be discussed below. Only results with both Chi-square p-value and Gamma p-value not exceeding 0.05 are considered statistically significant.

**Q1: Prediction of Association Tests (Cross-tabbing) Analysis for I-1 to I-9**

There were some significant findings based on four categories of AAPI librarians in respond to question I-9, 1) non-supervisory, 2) supervisory, 3) chieftain librarians overseeing less than 10 staff, and 4) chief librarians overseeing 10+ staff.
For some questions, only Chi-square or Gamma is significant, but not both. These will be selectively discussed.

- I-1. Choose your generation as an AAPI immigrant. If you are a foreign-born citizen or legal resident of the U.S., you are a first generation immigrant.

For the purpose of this study, the first generation immigrants are coded 1 and 2nd or more generation immigrants are coded 2. The rows are four groups of AAPI librarians in questions I-9 and the columns are generation of immigrants.

Table 12

*Generation of Immigrants*

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The Pearson Chi-square is significant with $p=0.048 < 0.05$. The Gamma is -0.173, which shows a weak inverse relationship. It means second generation immigrants are LESS LIKELY than the first generation immigrants to move up from librarians (category 1) to chief librarians overseeing 50+ staff (category 4). However, in the Gamma test, $p=0.350 > 0.05$ not significant when $p > .05$; therefore the cross-tabbing of I-1 with I-9 is NOT statistically significant because result fails to satisfy both Pearson and Gamma significant test.

- I-2. Please choose the **first** diploma or degree you have received in the United States or Canada – not significant
- I-3. What is the total population of the city/county/metropolitan area where you work— not significant
- I-4. Please select your highest education attainment– not significant
There were no significant findings during cross-tabbing of I-2, I-3, and I-4 with I-9 under Chi-square and Gamma tests. However, I-4 is very close to significant as Pearson p=0.061 and Gamma p=0.067 are both just over 0.05 which suggested a correlation exists between highest education attainment and library positions. It is worth noting that one third of AAPI chief librarians (in category 4) have doctoral degrees (3.0) and one third chief librarians have additional master’s degrees (2.0). Looking from a different angle of highest education attainment, 50% of AAPI librarians with doctoral degrees are chief librarians overseeing 50+ staff.

Table 13

*Highest Education Attainment*

<table>
<thead>
<tr>
<th>Crosstab I-4 and I-9</th>
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<td>Count</td>
</tr>
<tr>
<td>% within EduRec2</td>
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<tr>
<td>3.00</td>
<td>Count</td>
</tr>
<tr>
<td>% within EduRec2</td>
<td>.1</td>
</tr>
<tr>
<td>4.00</td>
<td>Count</td>
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<tr>
<td>% within EduRec2</td>
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</tr>
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<td>Total</td>
<td>Count</td>
</tr>
<tr>
<td>% within EduRec2</td>
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</tbody>
</table>
Chi-Square Tests

<table>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Likelihood Ratio</td>
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<td>6</td>
<td>.180</td>
</tr>
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<td>Linear-by-Linear Association</td>
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<td>.025</td>
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Symmetric Measures

<table>
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<tbody>
<tr>
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<td>81</td>
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</tr>
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</table>

- I-5. Number of years you worked as a professional librarian, IT professional or other information professional – significant and strong direct correlation.

Both Pearson Chi-square and Gamma p-value are at 0.000 and the Gamma value at 0.654 shows strong direct correlation. The choices in I-5 are categories into three groups, working less than 10 years is 1, 10-14 is 2, and 15 and over is 3, as shown in the Table 4.6. The more years AAPI librarians work, the more likely they will be chief librarians.
Table 14

**Years of Working Experience**

### Crosstab I-5 and I-9

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<td>3.00</td>
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<td>.1</td>
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<td>33</td>
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### Chi-Square Tests

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<tr>
<td>Pearson Chi-Square</td>
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### Symmetric Measures

<table>
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<th>Approx. Sig.</th>
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<td>Ordinal by Gamma</td>
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<td>Ordinal</td>
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</tr>
<tr>
<td>N of Valid Cases</td>
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<td></td>
</tr>
</tbody>
</table>
• I-6. Number of SCHOLARLY publications, including but not limited to journal articles, books, book chapters, book reviews, annotated bibliographies, of which you are an author or a co-author – significant and fairly strong direct correlation.

All AAPI chief librarians who have 6 or more publications and half of all librarians who publish 16 or more are in chief librarian’s category (4). See Table 4.7.

Table 15

Number of Publications

<table>
<thead>
<tr>
<th>PublicationsRecode</th>
<th>1-2</th>
<th>3-5</th>
<th>6-9</th>
<th>10-15</th>
<th>16 or more</th>
<th>Total</th>
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<td>3</td>
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<td>19</td>
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<tr>
<td>% within</td>
<td>.5</td>
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<td>.3</td>
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<td>7</td>
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<td>4</td>
<td>28</td>
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<tr>
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<tr>
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<td>.1</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
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<td>.2</td>
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<td>11</td>
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Chi-Square Tests

<table>
<thead>
<tr>
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<tr>
<td>Pearson Chi-Square</td>
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153

Symmetric Measures

<table>
<thead>
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<th>Approx. Sig</th>
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<tr>
<td>N of Valid Cases</td>
<td>59</td>
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<td></td>
</tr>
</tbody>
</table>

I-7. How many times have you made VOLUNTARY professional job changes?

Please note, a move-up in rank, i.e. from Assistant Librarian to Associate Librarian on the same position is NOT a job change. But a position change within the same institution should be considered a job change – significant and fairly strong direct correlation.

Almost no professional librarians are appointed as a chief librarian at the beginning of their career path. The more times AAPI librarians make voluntary job changes, the more likely they will become chief librarians. Half of librarians who made career choices 5-6 times are chief librarians and two of three librarians who changed jobs more than 6 times are chief librarians. See Table 4.8 below.
Table 16

Number of Voluntary Job Changes

Crosstab I-7 with I-9

<table>
<thead>
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<th>1 or 2 times</th>
<th>3 or 4 times</th>
<th>5-6 times</th>
<th>7+</th>
<th>% within Job_ChangesRecode</th>
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<tr>
<td></td>
<td>% within Job_ChangesRecode</td>
<td>.7</td>
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<td>.3</td>
<td>.0</td>
<td>.3</td>
<td>.4</td>
</tr>
<tr>
<td>2.00</td>
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<td>12</td>
<td>1</td>
<td>0</td>
<td>35</td>
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<td>% within Job_ChangesRecode</td>
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<td>.5</td>
<td>.5</td>
<td>.5</td>
<td>.0</td>
<td>.4</td>
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<tr>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>% within Job_ChangesRecode</td>
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<td>.0</td>
<td>.0</td>
<td>.0</td>
<td>.1</td>
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<tr>
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<td>9</td>
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<td>.5</td>
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<td>.1</td>
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<tr>
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<td>% within Job_ChangesRecode</td>
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<td>1.0</td>
<td>1.0</td>
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Chi-Square Tests

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<thead>
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</thead>
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<td>Linear-by-Linear Association</td>
<td>13.040</td>
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<tr>
<td>N of Valid Cases</td>
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Symmetric Measures

<table>
<thead>
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<th>Approx. Tb</th>
<th>Approx. Sig.</th>
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</thead>
<tbody>
<tr>
<td>Ordinal by Ordinal</td>
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<tr>
<td>N of Valid Cases</td>
<td>82</td>
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<td></td>
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</table>

- I-8. What is the highest position you have held in national library/information science organizations, such IFLA, ALA, or its divisions, PLA, ACRL, LITA etc. Please do not include CALA, APALA or regional community organizations here – significant and fairly direct correlation.
Table 17

**Involvement with Professional Organizations**

### Crosstab 1-8 and 1-9

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<td>.4</td>
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### Chi-Square Tests

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</tr>
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<td>Likelihood Ratio</td>
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<tr>
<td>Linear-by-Linear Association</td>
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<td>.004</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>83</td>
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### Symmetric Measures

<table>
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<th>Approx. Tb</th>
<th>Approx. Sig.</th>
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<td>2.165</td>
<td>.030</td>
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<tr>
<td>N of Valid Cases</td>
<td>83</td>
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<td></td>
</tr>
</tbody>
</table>
Q1: Cross-tabbing and ANOVA Tests for I-10 to I-12

- I-10. What is your level of involvement within your library and the parent institution, i.e. an academic library's parent organization will be the university.

Choose ALL that apply!

- Served on library committees – not significant
- Served as library committee chair – significant and strong correlation.
  - N=83, Pearson Chi-square p = 0.002
  - Gamma = 0.567, p = 0.000
- Served on parent institution's committees – significant and strong correlation.
  - N=83, Pearson Chi-square p=0.002
  - Gamma = 0.567, p=0.000
- Served as parent institution's committee chair – significant and very strong correlation.
  - N=83, Pearson Chi-square p=0.017
  - Gamma = 0.797, p=0.005
- Served on Asian/Pacific employees association = not significant

Serving on a parent institution committee or being a chair, or serving as a library committee chair is strongly correlated to leadership positions. In contrast, serving as a library committee member or participating in Asian/Pacific employee associations are not significantly related to leadership positions.
I-11. What is your level of involvement with the local government and school district? Choose ALL that apply!

- Regularly participate in general elections – significant and close to strong correlation
  - N=83, Pearson Chi-square p=0.045
  - Gamma = 0.449, p=0.009

- Regularly participate in primary election and other local elections – not significant

- Attended, at least once, school district/college board meetings – not significant

- Attended, at least once, city/county/local government council/board meetings – significant and strong correlation.
  - N=83, Pearson Chi-square p=0.042
  - Gamma = 0.584, p=0.007

- Appointed or elected to serve on local government or school district council/board -- n/a

- Non-citizen and not eligible to vote= n/a

Regular participation in general elections and attending local government council/board meetings at least once are significant and strongly correlated to AAPI appointment to leadership positions. The primary election is a measure of active political involvement and it is not significant for librarian leadership positions.
Participation in school board meetings is a measurement of active involvement with local education, however it is not significant in this study.

- I-12. What is your involvement with the regional or local communities?

Choose ALL that apply!

- Board/Council member of local Asian community organizations, i.e. Chinese school – not significant
- Board/Council member of a community organization, i.e. Homeowners association, local church – significant and very strong correlation.
  - N=83, Pearson Chi-square p=0.004
  - Gamma = 0.715, p=0.014
- Board/Council member of Asian professional organizations, i.e. CLA, CALA, APALA – not significant
- Board/Council member of professional organizations, i.e. Toastmasters International, Friends of the library – significant and strong correlation
  - N=83, Pearson Chi-square p=0.000
  - Gamma = 0.788, p=0.014
- Board/Council member of a hobby club, sports, music, cooking – n/a

Active involvement in general community and professional organizations are more strongly correlated to AAPI library leaders. On the other hand, active involvement in just Asian community and Asian professional organization is not significant.
In addition to cross-tabbing analysis, One-way Analysis of Variance (ANOVA) is recommended for questions I-10 to I-12 to seek difference in means among different groups of AAPI librarians—non-supervisor, supervisor and chief librarians. ANOVA tests the differences of more than two means of dependent variables in different categories. The Test of Homogeneity of Variances (THV) is used to check variances in different categories NOT significantly different from each other. This is the assumption for a valid ANOVA test. The THV test has to be NOT statistical significant in order for ANOVA test to be valid, assuming p-value of ANOVA does not exceed 0.05. ANOVA and THV are used for questions I-10 to I-12, the dichotomous variables -- librarians either served on a committee or not. These variables become ordinal only after the author manually assigned numerical values in ranked order. For example, serving on library committees is assigned 1, serving as a library committee chair is assigned 2, serving on parent institution’s committees is 3, and parent institutional committee chair as 4, assuming serving as committee chairs is more important than committee members, and serving on institutional committees is more important than as library committee chairs. The Pearson Chi-square and Gamma tests are performed on ordinal variables only based on author manually assigned numerical values in ranked order. At least one librarian questioned author’s assigned values to serving as library committee chair (2) vs. serving on library parent institution committee member (3).

Considering other researchers may not agree with author’s assigned value as illustrated in the Q1 Code Book in the Appendix, the ANOVA test and the Test of
Homogeneity of Variances (THV) were performed on question I-10 to I-12. For all dichotomous nominal variables, “Yes” is assigned value of 1 and “No” is assigned value of 0, and author received no question on these assigned values. The ANOVA test and THV are performed on question I-10 to I-12 based on three categories of AAPI librarians instead of four used in question I-9. The supervisory and chieftain librarians supervising less than 10 are combined in ANOVA test. The ANOVA test shows significant differences in institutional, government, and community involvement among three groups of AAPI librarians based on survey result of I-10, I-11 and I-12. However, the THV is also found significant on government and community involvement with p=<0.05, which voids ANOVA findings. In statistics, if there is a violation of the assumption of homogeneity of variances which voids the ANOVA test, the alternative way to determine whether there are significant differences between the groups is the Welch test. Like the ANOVA test, if the p value in Welch test is less than 0.05 then there are statistically significant differences between groups. The Welch test is often referred to as Robust Tests of Equality of Means. As seen in Table 4.10, the Welch test shows p<.05 for all three activities--library or institutional involvement, government involvement, and community involvement among three groups of AAPI librarians—non-supervisor, supervisor, and chief librarians.
Table 18

ANOVA, THV and Welch Tests on I-10, I-11, I-12

### Test of Homogeneity of Variances

<table>
<thead>
<tr>
<th></th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution</td>
<td>.452</td>
<td>2</td>
<td>80</td>
<td>.638</td>
</tr>
<tr>
<td>Government</td>
<td>3.112</td>
<td>2</td>
<td>80</td>
<td>.050</td>
</tr>
<tr>
<td>Community</td>
<td>4.827</td>
<td>2</td>
<td>80</td>
<td>.010</td>
</tr>
</tbody>
</table>

### ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>27.526</td>
<td>2</td>
<td>13.763</td>
<td>8.014</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>137.389</td>
<td>80</td>
<td>1.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>164.916</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>13.757</td>
<td>2</td>
<td>6.879</td>
<td>4.459</td>
<td>.015</td>
</tr>
<tr>
<td>Within Groups</td>
<td>123.399</td>
<td>80</td>
<td>1.542</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>137.157</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>13.477</td>
<td>2</td>
<td>6.738</td>
<td>9.393</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>57.391</td>
<td>80</td>
<td>.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70.867</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Robust Tests of Equality of Means

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>libraryinvolve</td>
<td>Welch</td>
<td>8.202</td>
<td>2</td>
<td>22.892</td>
</tr>
<tr>
<td>govinvolve</td>
<td>Welch</td>
<td>4.253</td>
<td>2</td>
<td>20.793</td>
</tr>
<tr>
<td>communityinvolve</td>
<td>Welch</td>
<td>3.863</td>
<td>2</td>
<td>19.931</td>
</tr>
</tbody>
</table>

The THV, the ANOVA test, and the Welch test shows there is a significant difference among three groups of AAPI librarians in their institutional, government, and community involvement. Table 4.11 shows the difference in means of each AAPI librarian group. For example, the means of government involvement for non-
supervisor librarians (0.91), supervisor librarians (1.58), and chief librarians (2.11) are significantly different from one another. In library or institutional involvement and community involvement, the means of chief librarian group are also significantly higher than that of other two groups, but the means of non-supervisor and supervisor groups do not have statistically significant differences.

Table 19.

Post Hoc Tests-- Homogeneous Subsets among Librarian Groups

<table>
<thead>
<tr>
<th></th>
<th>libraryinvolve</th>
<th></th>
<th>govinvolve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student-Newman-Keuls(^a,b)</td>
<td></td>
<td>Student-Newman-Keuls(^a,b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subset for alpha = 0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LibRec4</td>
<td>N</td>
<td>1</td>
</tr>
<tr>
<td>1.00 Non-supervisor professional</td>
<td>34</td>
<td>1.2941</td>
<td></td>
</tr>
<tr>
<td>2.00 Supervisor professional and Chieftain</td>
<td>40</td>
<td>1.9250</td>
<td></td>
</tr>
<tr>
<td>3.00 Chief supervises gt 10</td>
<td>9</td>
<td>3.2222</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.151</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 18.124.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
Q1: ANOVA Test on II-1 to II-3

Q1 variables in Group II questions test the perceptions among different groups of AAPI librarians. The author first ran Chi-square combined with Gamma tests on questions II-1, II-2, II-3 and each question has 6 to 10 variables. Because the n is so small in each of the 6-8 variables with the total N is less than 90, there are very few significant findings under the Chi-square test and even fewer after being filtered by Gamma tests. Therefore, the ANOVA test was used on II-1 to II-3 as well. Due to the small sample size in each variable within Group II questions, the THV test cannot be used. Therefore, the validity of the ANOVA significances needs to be interpreted with caution.

It is interesting to note that the only significant difference between AAPI chief librarians and other groups is on the question of “Asian culture of hardworking.” Chief librarians took a neutral stand with means of 3.00, while non-chief librarian groups have a mean of 2.17; Non chief librarians do not believe that the “Asian culture of
hardworking” helps AAPI to reach library leadership positions. For supervisor librarians, there are two significant differences in means from other groups. Supervisor librarians have a higher belief (3.71 vs. 3.12) that Asian/Pacific librarians are perceived by hiring authorities as knowledgeable and technical, but not as good leaders, and supervisor librarians are less likely (2.15 vs. 3.00) to relocate to bigger cities for library leadership positions. As shown in descriptive statistics section, the supervisor librarians are the largest group among AAPI librarians and they are the pool for future chief librarians, their beliefs and perceptions are important in the battle to narrow AAPI librarian leadership gap. The following table summarizes all significant findings from ANOVA test on questions II-1 to II-3.

Table 20

ANOVA Test on AAPI Librarian Perceptions by Groups

<table>
<thead>
<tr>
<th>Questions for which ANOVA was significant</th>
<th>Question content</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non supervising professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II-1c</td>
<td>[Active involvement in ALA and other national professional organizations]</td>
<td>On average, non supervising professionals (4.15) rate ALA involvement as a more important factor in achieving top positions than do all other respondents (3.45).</td>
</tr>
<tr>
<td>II-3c</td>
<td>[The leadership position is outside your region, and you will move to a metropolitan area NO SMALLER than your current location.]</td>
<td>On average, non-supervising professionals (3.04) rate relation to a bigger city as a more likely factor in applying for a higher leadership position than do all other respondents (2.33).</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Analysis</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Supervising professional</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II-2-b</td>
<td>[Asian/Pacific librarians are perceived by the hiring authorities as knowledgeable and technical, but not as good leaders]</td>
<td>On average, supervising professionals (3.71) <strong>agree at a higher rate</strong> with the statement ‘Asian/Pacific librarians are perceived by the hiring authorities as knowledgeable and technical, but not as good leaders’ than do all other respondents (3.12).</td>
</tr>
<tr>
<td>II-3c</td>
<td>[The leadership position is outside your region, and you will move to a metropolitan area NO SMALLER than your current location.]</td>
<td>On average, supervising professionals (2.15) rate relocation to a bigger city as a <strong>less likely</strong> factor in applying for a higher leadership position than do all other respondents (3.00).</td>
</tr>
<tr>
<td><strong>Chief Librarian Supervises Less Than 10 People</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II-1g</td>
<td>[Active involvement in local Asian/Pacific community organizations]</td>
<td>On average, CLs who supervise less than 10 people (1.40) <strong>Active involvement in local Asian/Pacific community organizations as a less important factor in achieving top positions than do all other respondents (2.65).</strong></td>
</tr>
<tr>
<td>II-1i</td>
<td>[During ALA Presidential election, ask each candidate on issues related to AAPI leaderships achievement gap]</td>
<td>On average, CLs who supervise less than 10 people (1.40) <strong>rate</strong> During ALA Presidential election, ask each candidate on issues related to AAPI leaderships achievement gap as a <strong>less important factor in achieving top positions than do all other respondents (2.79).</strong></td>
</tr>
<tr>
<td>II-2i</td>
<td>[Increasing AAPI voting power in all levels of elections will improve AAPI leadership achievement gap.]</td>
<td>On average, CLs who supervise less than 10 people (2.75) <strong>agree at a lower rate</strong> with the statement “Increasing AAPI voting power in all levels of elections will improve AAPI leadership achievement gap” than do all other respondents (3.91).</td>
</tr>
<tr>
<td>II-3a</td>
<td>[The leadership position is within your current institution.]</td>
<td>On average, CLs who supervise less than 10 people (2.20) rate ‘The leadership position is within your current institution’ as a <strong>less likely factor in applying for a higher leadership position than do all other respondents (3.54).</strong></td>
</tr>
<tr>
<td><strong>Chief Librarian Supervises 11 or more people</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II-1h</td>
<td>[Traditional Asian culture of hard working and no complaining]</td>
<td>On average, CLs who supervise 11 or more people (3.00) <strong>rate</strong> Traditional Asian culture of hard working and no complaining as a <strong>more important factor in achieving top positions than do all other respondents (2.17).</strong></td>
</tr>
</tbody>
</table>
Qualitative Data Analysis—Q1 Comments

Open comments at the end of the Q1 survey provide additional qualitative data that are not available from Q1 quantitative section or Q2. One open ended question asked from Q1 was whether the respondent could recommend AAPI chief librarians or mentors. Unlike Black American librarians, who have access to a list of *African American Library Directors* maintained by the Black Caucus of the American Library Association (BCALA), AAPI librarians do not have a central list of chief librarians readily available. Most AAPI librarians do not know any chief AAPI librarians as a role model or as potential mentors for future leaders. Less than a dozen names surfaced through the Q1 survey and none were the five ARL AAPI chief librarians’ names. The AAPI chief librarians recommended by Q1 participants are listed below:

- Dr. Hwa Wei Li, Dean of Libraries Emeritus, Ohio University and retired Chief of Asian Division, Library of Congress
- Mr. Haipeng Li, University Librarian Hong Kong Baptist University Kowloon, Hong Kong and previous Associate Director, John Cotton Dana Library, Rutgers University, Newark, New Jersey. Mr. Li was previous CALA president and was serving as CALA executive director in 2011/12
- Patty Wong Yolo County Chief Librarian, California
- Nancy Fong, San Leandro City Chief Librarian, California
- Adriene Lim, Oakland University Chief Librarian, Michigan
- Lana Thelen, Relay School of Education Head Librarian, New York City
Dr. Ken Yamashita, retired Stockton-San Joaquin County Public Library chief librarian, California

Dr. Tze-chung Li, Dean Emeritus of Graduate School of Library and Information Science, Dominican University, Illinois

Other names recommended by Q1 participants are graduate library school faculty, public library branch head, and university Asian Studies Branch Library directors. The individuals all serve important leadership roles in librarianship, but they are not within the scope of this study. There is one self-identified current graduate library school dean who did not provide name or contact information, and the author could only identify an interim library school dean at Catholic University of America in Washington D.C.

**Discussion of Themes**

The grounded theory (Glaser & Strauss, 1967) was used in the Q1 comment data analysis. Bogdan and Biklen (2007) describe qualitative data collection and coding development. The author followed some coding systems used in Bogdan and Biklen, particularly the use of *situation* code and *perspectives held by subjects* code. The “situation” code categorizes participants’ view of themselves in relation to library leadership experiences; it is the overall perception of AAPI librarians in relation to library leadership. The major situation themes emerged from the Q1 comments are discussed here with exemplars.
Lack of Unity among AAPI Librarians

Among five associations of ethnic librarians affiliated with ALA, each of four minority groups is represented by one association for each group -- American Indian Library Association (AILA), Black Caucus of the American Library Association (BCALA), and the National Association to Promote Library and Information Services to Latinos and the Spanish Speaking (REFORMA). The Q1 survey was sent to two associations representing AAPI librarians, Chinese American Librarians Association (CALA), the largest AAPI librarians association with mainly Chinese descendent librarians, and Asian Pacific American Librarians Association (APALA). Unlike other ethnic librarians associations, there is no ONE association representing ALL AAPI librarians. As several Q1 participants stated the need “to have ONE strong librarians’ organization to represent ALL AAPI librarians,” or “I think our professional organizations need to be stronger.” Another Pacific Islander stated:

Remember to include Pacific Islanders. They are often lost in the AAPI category . . . My family on my Pacific Islander side are technically not immigrants since they were born in the Territory of Hawaii, but they might as well have been since they were not afforded the same rights as full US citizens.

Another participant commented “AAPI - is so broad; there is a lot of diversity within this group. For example, American-born vs. foreign-born are subpopulations of the Chinese contingent . . .” Yet another respondent stated, “AAPI librarians will be much stronger if all Asian/Pacific and other Asian groups band together. These other
groups include APALA, Indian, Korean associations . . .” There is a unity theme to have one association to represent all AAPI librarians. It is true that Asian Americans and Pacific Islanders came from different countries and regions and have different culture and history. But African Americans, Hispanics, and American Indians all have different culture and history. There is ONE librarian association to represent each minority group, except AAPI who have two related associations.

**Asian Accent and English Language Proficiency**

About two of every three AAPI librarians who participated in the Q1 survey are foreign-born, first generation immigrants. The first diplomas or degrees they received in the United States or Canada were graduate or professional degrees. Almost all AAPI immigrants who came after college speak English with some level of detectable Asian accent, similar to other first generation immigrants who came to the United States in their 20s or 30s. Asian accents are often linked to poor language and presentation skills (Tien, 1998, p32-49). One participant suggested AAPI librarians need to participate in “more speeches and more meaningful writings.” Another stated that all AAPI librarians are perceived as “not native born person and language is not as fluent as the native person . . . we are pigeon-holed, conscious or unconscious by individual or people who hire.” Yet another one stated:

A major challenge for AAPI librarians is communication ability. First generation immigrants are especially challenged in this area. If the language and communication issues are fully addressed, more AAPI will be able to compete more effectively for leadership positions.
English language proficiency is another situation code the author developed based on the grounded theory. Several participants put language skills and Asian culture together as a major obstacle for AAPI librarians to be in leadership positions. Because two-thirds of AAPI librarians completed their PK-20 education overseas, culture is another theme that emerged from the Q1 comments.

Based on Bogdan and Biklen (2007), the “subject perspective” code summarizes participants’ understanding of each other and towards outsiders. The major themes under subject perspectives are Asian culture, mentors and networking, soft skills for strong leaders, and work-life balance.

**Asian Culture**

Asian culture emphasizes individual achievement and being a quiet and productive worker in any field assigned. Asian culture does not encourage successful people to tell their stories. As one participant wrote “Asians were told at very young age to not show off your own good points.” Asian culture also prefers loyalty and longevity. Many leaders in Asian countries are similar to “elders” in other cultures. Young people are discouraged to speak up, especially when it is a different opinion from the majority standpoint or from the elders’ opinions. Two participants stated, “Asians are too docile and quiet to be leaders,” and “We tend not to speak up--at least it's hard for me to do so.” There are statements that provide a contrast to the perceived leadership skills of the American Culture, in which it is an important skill for leaders to tell one’s own successful stories. Not only politicians, from ALA Presidents to the Presidents of the United States, even scholars, such as Eugene Bardach from
University of California Berkeley (2005) listed “tell your story” as the eighth and the last step of any successful task for potential leaders. Some AAPI librarians realized the difference in Asian and American cultures and wrote “It's tough but unless you tout your accomplishments, you are overlooked,” but “we are encouraged not to rock the boat.” Asians are even perceived as having “no desire to be leaders.” More culture related quotes are cited here:

- I write this as an AAPI librarian. Culturally informed frameworks, I know, have shaped the way I act and am perceived by others. I do wonder how much of this cultural framework hinders me and how much is from the framework of others being projected onto me.

- I think it needs cultural change and significant increase in diversity in the library field. Right now, it is just not possible. AAPI librarians tend to be limited to the fields within their subject expertise . . . It is difficult to get leadership roles outside the subject field.

- Asian Pacific Islander Librarians add a cultural dimension that may not be understood by the mainstream culture. Having them in top leadership positions will help us to be better equipped to serve the growing API communities as well as all people.

- . . . not being considered for leadership positions by institutions for whom we currently work -- perceptions of AAPI’s lack of leadership and management skills, not applying for positions.
Mentoring and Networking

Mentoring and networking are important social capitals for leaders. Yet, many AAPI librarians stated “I don't know any Asian/Pacific chief librarians - no model.” No participants cited any one of the three current ARL AAPI chief librarians which indicates a lack of networking among AAPI librarians. The author contacted both CALA and APALA and ascertained no complied information of current or past AAPI chief librarians. Seven participants of the Q1 survey are or were AAPI chief librarians who supervise 50 or more employees as their highest professional positions, but only one AAPI retired chief librarian wrote that s/he served as a mentor to other AAPI librarians. This may indicate isolationism and lack of group promotion within the AAPI librarian groups. In contrast, the online Directory of Black Library Directors is available from the ALA Web site and readily available to anyone. One participant suggested, “learn from other minority groups e.g. African Americans to see how they fight discrimination . . .” The identification with the struggles and upward mobility of other ethnic groups points to a desire to learn from communities who have experienced oppression and discrimination. Another participant said “having more librarians of color in top leadership positions who are willing to support AAPI librarians.” Mentoring and networking are mentioned by many participants in Q1 comments. One stated that it is important to have “mentorship for mid-career or mid-management AAPI librarians.” The Q1 survey shows more than 42% of AAPI librarians are supervisors or mid-level managers. Another 6 % are small library chief librarians supervising less than 10 employees. They are the potential pools for AAPI
chief librarians supervising 10 or more employees. Mentoring and networking is a key for mid-level managers to move up. On the other hand, mid-level AAPI managers are potential mentors for non-supervising AAPI librarians. Several Q1 participants commented:

- I think networking is extremely important. Leadership classes might be good, but really getting AAPI librarians in diverse areas together and helping them get to know each other and helping each other is the best way forward.

- I think there is a perception that AAPI librarians are not as good leaders, and I think that there needs to be more active AAPI librarians in education and leadership. I have not had a single AAPI professor in my MLIS program and have only worked with 1 AAPI librarian.

- Surveys like this, and publication, presentation of survey results like this at ALA annual conferences; AAPI librarians start working together . . . inviting experts such as Jane Hyun, author of *Breaking the Bamboo Ceiling: Career Strategies for Asians* to be keynote speakers at ALA conferences.

**Soft Skills for Strong Leaders**

Leadership soft skills include being a good listener, a consensus builder, a team player, being open to criticism, humorous, and other characteristics that emphasize strength in human relations capacity. Hard skills for librarians are subject knowledge measured by advanced education beyond the MLS as well as scholarly
publications, analytical skills, research skills, strategic planning skills, follow-through skills, and foreign language skills. One participant stated:

Asians are not perceived as leader material. We are constantly criticized as not having soft skills because of how we are educated and our cultural backgrounds. That is just an excuse. They forget that Asian countries are run by leaders who are educated much the same way. What is sad is that Asians buy into the whole "lack of soft skills" idea. Very few people are born leaders. We need opportunities to grow into leadership positions. But often we are not given opportunities to start even at low level leadership positions, to learn through trial and error.

Others commented “The stereotype that an AAPI librarian cannot be a strong leader,” “there is a perception that AAPI librarians are not as good leaders,” and those who “schmoozed the boss and boasted about their achievements were promoted over Asian Americans that were harder working.” As in hard skills, the soft skills can be taught and learned, and there are many existing leadership development programs that will be discussed in Chapter Five.

**Work-life Balance**

Librarianship is a female dominated profession and more than 75% CALA librarians are female based on Ruan and Xiong’s (June 1, 2008A) study. One participant commented “family value (for female, family is more important)” is a major obstacle that hindered AAPI librarians reaching top leadership positions. Q1
survey question II-3 asks the likelihood of AAPI librarians taking a leadership position, assuming they are qualified. Half of AAPI librarians chose “likely” or “very likely” if the position is in the same geographical area and their families do not have to move. When the condition of no move for the family is removed, the percentage of AAPI librarians who would take the leadership positions dropped to 25%. The work-life balance remains as a concern for AAPI librarians’ leadership potential.

As in many quantitative studies, comments provide rich qualitative data that are beyond what quantitative statistical tools can handle. The Q1 comments, together with Q2 survey are the basis of qualitative research. The research findings from Q1 comments made it possible for the author to take a deeper look into the research questions. The Q1 comments from professional librarians also provide a different perspective from Q2 survey-- views of AAPI chief librarians.

**A Qualitative Survey for AAPI Chief Librarians – Q2**

The qualitative survey Q2 was sent to the three permanent AAPI ARL librarians, plus nine additional current and retired AAPI chief librarians in medium to large academic and public libraries. Nine out of twelve chief librarians participated and eight completed the survey. The two acting ARL chief librarians were also invited to participate; but both declined due to the temporary nature of acting positions and the fact that acting chief librarians did not go through a national search, a required process for all ARL chief librarians. Among eight AAPI chief librarians, four are in the public library systems, two at academic libraries, one at federal government libraries, and one served as chief librarians in both academic and federal libraries. Six
are Chinese Americans and two Japanese Americans. Four chief librarians are first generation immigrants, two from mainland China and two from Taiwan. The other four chief librarians are 3\textsuperscript{rd} or more generation immigrants. Four chief librarians have at least a doctoral degree, and five have additional master’s degrees. Two of the eight chief librarians are retired as of December 2011. In addition to completing the qualitative survey, three chief librarians uploaded their curriculum vitae as an option to provide additional information and one chief librarian’s vitae is available on the Internet.

**Profile of AAPI Chief Librarians**

In accordance with the guideline for qualitative research with fewer than 10 participants, a pseudonym is given for each AAPI chief librarian. Here is a brief profile.

Wayne has a bachelor’s from Taiwan, a master’s degree in education, a MLS, plus a Ph.D. in Education and Library Science from the United States. Dr. Wayne worked as the Director of Library and Information Center for the United States Agency for International Development in Thailand for seven years after receiving his doctoral degree. Wayne returned to the U.S. and served over 20 years as the Dean of an ARL library. Retired from the ARL library, Wayne served as the Asian Division Chief at the Library of Congress and retired again in the late 2000s. Wayne is a long time CALA member and served as the CALA president. He is a mentor to many Chinese American librarians and known to many CALA members as Teacher Wayne.
Patrick received his bachelor of art and master’s degree in English and American Literature from a mainland Chinese university. He has a master’s degree in Regional and Ethnic studies and a MLS from the United States. Patrick worked 16 years as a reference and instructional librarian before moving up to an associate director’s position in a large state university library. Two years later, Patrick was recruited by one of the universities in Hong Kong as the University Librarian during an international search. Patrick served as the CALA president and executive director.

Seymour is the only AAPI director among large federal libraries. He received his mathematics undergraduate training in Taiwan. In post graduate training in the United States, Seymour earned master of science degrees in Computer Science, Government, an MBA, and two doctoral degrees in Computer Science and in Education Leadership. Seymour started his career as a software development contractor for NASA information systems and space mission studies before working for the U.S. Departments of Justice and Treasury, serving as an Associate Director for information technology for a large federal library before appointed as the Director of current chief librarian’s position.

Richard received his bachelor of art and master’s degree in English and American studies from a mainland Chinese university. He has a doctoral degree in education and an MLS. Richard worked 14 years as a government document librarian, information service librarian, Chair of Library Information Services, Director of the World Language Program (academic appointment outside the library), then six years
as dean of two university libraries. Richard also served one year as the Dean of an overseas campus for a United States university.

Wayne, Patrick, Seymour, Richard are all first generation immigrants who received their undergraduate education in China and Taiwan. All four chief librarians received multiple post-graduate degrees in the United States, published extensively and served as chief editors for professional journals. All of them received multiple grants as the principal investigators and gave presentations at national and international professional meetings and conferences.

The next four AAPI librarians are all third or beyond generation immigrants. They have different paths to the chief librarian’s position from the first group. Pauleen is a multi-generation Chinese American and a chief librarian in a Northern California County. She grew up in a large Northern California city and went to University of California, Berkeley for her undergraduate training in Women Studies and MLS. Pauleen started her professional career as a children’s librarian, children’s program manager, branch supervising librarian, library director, deputy county librarian and chief county librarians/archivist. Pauleen has been active in local Asian American communities as an active speaker and presenter, and she has served as the co-Chair of ALA President Initiative Planning Committee since 2008. Pauleen chaired or co-chaired five ALA national committees since 2000 and she is very active in children’s librarianship and school librarianships nationwide.

Kaede is a third generation Japanese American. He was born in one of the 10 Japanese Internment Camps during World War II, even though both his parents were
United States born citizens. Kaede earned a bachelor’s degree in English, a master’s degree in art history, an MLS, and a Doctoral degree in Library Science. Dr. Kaede served in several public library systems until he settled in a Northern California county library system in 1981, where he served 17 years as a division manager, one year as the deputy chief and then the chief librarian. Kaede made two significant contributions to AAPI librarianship. Kaede was one of the early founders of the ALA Spectrum Initiative and Scholarship programs to bring people of color into the library profession. Secondly, Kaede pushed for and served as the first co-chair of the Joint Conference of Librarians of Color (JCLC). JCLC united all ethnic librarians organizations affiliated with ALA for the first time in 2006.

Randy is a third generation Japanese American and a library director in a Southern California city with population of over 150,000. Randy received his undergraduate degree in American Studies and an MLS, all from California public universities. Randy worked his way up in California public library systems as a reference librarian, a reference service manager, an assistant director before he became the director. Randy is a graduate of Stanford Institute on 21st Century Librarianship in early 2000s.

Nadine is a third generation Chinese American and a long time library director in a medium size city in the San Francisco Bay area. Nadine majored in English as her undergraduate degree and received an MLS. In over 30 years, Nadine worked her way up the ranks from librarian, senior librarian to library director (15 years) in California public library system.
Among four public library directors, two are Chinese Americans and two Japanese Americans and all four AAPI public library directors are in California, even though the survey Q2 was sent to AAPI librarians nationwide. Three of the four public library directors are Christians while three of four academic chief librarians are non-religious. A degree in English is the most common among all eight AAPI chief librarians, followed by Ethnic Studies or Women Studies, and Education. One AAPI chief librarian’s undergraduate degree is in computer science. There are three doctoral degrees in Education among all AAPI chief librarians, one in Library Administration, and one in Computer Science. Seven of the eight chief librarians also provided family background information. Six chief librarians have children and six were married when they first became chief librarians.

**Perceived English Language Proficiency**

Four chief librarians, including two third generation Asian Americans listed “Perceived English Language Proficiency” as a major obstacle for AAPI librarians to move up to higher level library leadership positions. One multi-generation AAPI chief librarian’s comment on the first generation AAPI librarian’s professional writing:

I have to tell you though that the spelling and grammatical errors throughout this make me think that this was created by someone whose first language is not English. And, I found myself wincing a bit as I refrained from correcting the errors. I think the errors create a cloud in terms of perception as a professional endeavor. I am sorry, but you should have had a second set of eyes screen for those types of things.
The perceived English language proficiency is not limited to the first generation AAPI professionals; it affects ALL AAPI librarians and their potential leadership development. The English proficiency theme in Q2 triangulates the findings from Q1 comments.

**Lack of Unity among AAPI Librarians**

Three chief librarians listed “lack of a national organization to represent all AAPI librarians” as another major obstacle. One chief librarian stated “ALA presidential candidates did not think of ‘small’ ethnic associations such as APALA, CALA, and AILA (American Indian Libraries Association) as viable campaign venues.” Several chief librarians are life members of both CALA and APALA, but still could not reach many AAPI librarians. One chief librarian wrote about two AAPI librarians associations:

I love my colleagues at CALA but felt a little confined and defined by the stronger interest in international affairs and less on the Chinese American experience, so I migrated to the Asian/Pacific American Librarians Association and REFORMA. I have always seen myself as a multicultural advocate.

Again, the lack of unity from AAPI chief librarians echoes the theme from many librarians in Q1 comments. When united, AAPI librarians will become a stronger force in professional librarianship.
Role Models and Mentors

The answers from AAPI chief librarians on role models and mentors, or lack of, are split. Two chief librarians listed good mentors as a major factor which contributed to their professional advancement. One chief librarian felt that good mentors should be an indirect contributing factor, but he did not have any good mentors in his pathway to leadership positions. Two other chief librarians listed “lack of leadership role models” as a major obstacle for AAPI librarians to move up. One chief librarian mentioned experience of being mentored during her high school years that lead her into librarianship as a profession:

I met Sister Margaret Therese, an 82 year old nun who was the school librarian. Her influence on me was profound - she spoke with me about growing up, and was open about issues including dating and sex and her exploits as an under-aged supervisor for the telephone company in SF right about the time of the earthquake. I still have that image in my mind of her skating up and down the platform where the switchboard operators were working. She create a library internship position for me and was just the right caring adult who introduced me to the library world; I was already fond of books and the written world - my mom made sure we visited our local library weekly as younger children. Our local library in SF was more of a reading room but I thought it was everything. I was fascinated with my culture too, going to Chinese language school on the weekends in the local church - I remember
trying to check out Dream of the Red Chamber because of the evocative image of the young Chinese maiden on the cover as a pre-teen - the Librarian was all in favor of letting me take it home but encouraged me to consider asking her about other titles should it not interest me as much. She too was a key influence - I returned the title and relied on her key instincts for fiction and nonfiction titles that I could both read and comprehend as a youth. So my role as both service provider, champion of young people and leader seemed to naturally point to the library. An ASVAB test administered in high school pointed out that librarianship was a career for which I was suited. My women's studies degree and the time I spent in research led me to develop great friendships with key librarians and staff at UC Berkeley and I loved walking by that old building - South Hall - where the MLIS program existed.

**Additional Advanced Degrees and Scholarly Activities**

All chief librarians with a doctoral degree cited that the additional degrees beyond MLS have contributed to professional advancement directly. Chief librarians without doctoral degrees listed work experience, presentations, and professional association involvement as major contributions to their professional advancement. Most chief librarians felt having professional publications is an indirect contribution to library leadership positions. On the other hand, presentation skills, public speaking skills, or even teaching skills are listed as having direct impact to leadership positions.
One public library chief librarian stated the importance of public speaking for library leaders:

Public speaking in a variety of venues - in communities, with politicians and electeds, and business arenas, plus formal teaching experience enabled me to develop the network and acumen to be confident and well recognized locally, regionally and nationally.

**Social and Cultural Influence**

Several AAPI chief librarians stated that family, social, and cultural influence as a major factor to choose librarianship as a profession. One chief librarian said “passion to serve” guided him to the library profession. Another one stated, “Parents and 4 siblings all college graduates” and he was pushed to pursue MLS and a doctoral degree with scholarships. The third one wrote about her Asian cultural influence:

Strong work ethic; strong independence as Asian female in single parent household - resilience. I am fourth generation on one side and third generation on the other side - my longevity in this country with deeper roots and more familiarity with a balance of Asian and American ways contributed to my own decision making and professional development as well as how hiring decisions are made about me. I bring both a strong cultural understanding of Asian and other communities, but I am also well known for my more American acumen when it comes to human resources, coaching and business
dealing. I write very well and am able to articulate in American society.

Summary

The Q1 survey was sent to 600 AAPI librarians in all regions in the United States. California has the most of over 100 AAPI librarians, followed by Midwest, Northeast, Mid-Atlantic, and Southeast, and Pacific Northwest/Hawaii region. The Q2 survey was sent to 12 AAPI chief librarians with three on the East coast, three at Midwest, and six in California. Among eight AAPI chief librarians who completed Q2, six are Chinese Americans and two Japanese Americans. The four AAPI academic chief librarians are all first generation immigrants. They are from East coast, Midwest, and West Coast of the United States. The four AAPI public chief librarians are all third or more generation immigrants. They all grew up in California, and were promoted to chief librarian positions in California, although some of them worked in other places in the United States.

The separate analysis of Q1 quantitative data, Q1 comments, and Q2 qualitative data provides more validity for triangulation and multi-perspectives to examine the issue. For example, the Lack of Unity, English Language Proficiency, Mentoring and Networking are shown in both Q1 comments from professional AAPI librarians and Q2 statements from AAPI chief librarians. As shown in descriptive statistics section, the distribution of working years among AAPI librarians is like a dumb bell—the two largest groups are either less than 5 years or over 20 years. The mentoring and role modeling are more important in the dumb bell distribution
population than a normal distribution population. It is the responsibility of the mature generation of AAPI librarians to pass their experiences to the younger ones before retiring. Hopefully the younger generation librarians can narrow the achievement gap based on taking the advices and learning the experiences of the older generation. AAPI librarians are seeking help from other minority groups and the majority group in their leadership achievement, and AAPI librarians should help each other within their own group first.

The descriptive and correlation matrix are the most common statistical tools for survey-based research method of $N$ greater than 30. The cross-tabbing, Gamma and Welsh tests are the best alternative to regression analysis when the sample size is too small for the number of variables. In addition, the ANOVA test is used to measure the difference in means among non-supervisor librarians, supervisor librarians and chief librarians. Due to the small size of chief librarians group ($n<10$, while the other two groups $n>30$), the ANOVA test result needs to be interpreted with caution.
Chapter 5

INTERPRETATIONS, DISCUSSIONS, AND RECOMMENDATIONS

This chapter provides interpretation and implications of the research findings, as well as recommendations for policy changes in regard to Asian American and Pacific Islander (AAPI) librarians and their professional organizations. The chapter concludes the three-year research endeavor with reflections and suggested future research in the area of AAPI leadership achievement in librarianship and in education in general.

This study profiles 828 librarians (P1) from over 1,000 listed in 2008/09 Directory of Chinese American Library Association (CALA), 148 African American library directors listed at the American Library Association (ALA) Web site, plus 68 library directors listed at the Historically Black Colleges and Universities (HBCU) Library Alliance Web site (P2), and 126 directors from the Association of Research Libraries (ARL), representing the largest libraries in North America (P3). A quantitative survey (Q1) was sent to over 600 AAPI librarians with e-mail addresses; 91 completed the Q1 survey. A qualitative survey (Q2) was sent to the twelve AAPI chief librarians known to the researcher; eight completed the Q2 survey. The three profiles and two surveys are designed to answer the three research questions in Chapter One:

- What is the probability that AAPI credentialed librarians will reach chief librarian positions in large libraries, compared with the majority, and with
other minority groups, using the Representation Disparity (RD) Ratios developed in this study?

- What factors contributed to successful pathways toward leadership positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions?

**Interpretation of Three Librarian Profiles Data**

The third profile (P3) listed career paths and demographics for 126 Association of Research Libraries (ARL) chief librarians as of 2011. ARL includes almost all of the largest and richest libraries in North America. Similar to the composition of higher education faculty, AAPI is the largest minority group among ARL librarians at 6.6% percent, followed by Black 4.4%, Hispanic 2.8% and American Indian 0.4%. The majority of ARL professional librarians are White at 85.8%. The composition of librarians by race and ethnicity closely mirrors that of faculty in higher education as listed in Table 2.3, and again in Table 5.1 -- Minority Representation Ratios from Tenured Faculty to College President.
Table 21

Minority Representation Ratios from Tenured Faculty to College President

<table>
<thead>
<tr>
<th>Percentage \ Race</th>
<th>African American</th>
<th>Hispanic</th>
<th>AAPI</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured Faculty</td>
<td>4.5%</td>
<td>3.1%</td>
<td>6.5%</td>
<td>84.0%</td>
</tr>
<tr>
<td>President</td>
<td>5.8%</td>
<td>4.6%</td>
<td>0.9%</td>
<td>86.5%</td>
</tr>
<tr>
<td>α</td>
<td>5.8/4.5=1.13</td>
<td>4.6/3.1=1.48</td>
<td>0.9/6.5=0.14</td>
<td>86.5/84=1.03</td>
</tr>
<tr>
<td>β</td>
<td>1.13/1.03=1.10</td>
<td>1.48/1.03=1.44</td>
<td>0.14/1.03=0.14</td>
<td>1</td>
</tr>
</tbody>
</table>

The percentage of White chief ARL librarians is at 94.12%, while AAPI and Black chief librarians are at 2.52% and 3.36% respectively. There is a clear leadership achievement gap between AAPI librarians and White librarians and even between AAPI and Black librarians. The Representation Disparity (RD) ratios \( \alpha \) for White, Black and AAPI at the chief librarian’s level and Comparative Representation ratio \( \beta \) are as follows:

- \( \alpha(\text{White}) \): the percentage of White chief librarians divided by the percentage of White professional librarians. \( \alpha(\text{White}) = 94.12/85.8 = 1.10 \)
- \( \alpha(\text{Black}) \): the percentage of Black chief librarians divided by the percentage of Black professional librarians in ARL libraries. \( \alpha(\text{Black}) = 3.36/4.4 = 0.76 \)
- \( \alpha(\text{AAPI}) = 2.52/6.6 = 0.38 \),
- \( \beta(\text{Black/White}) = \alpha(\text{Black})/ \alpha(\text{White}) = 0.76/1.10 = 0.69 \)
- \( \beta(\text{AAPI/White}) = \alpha(\text{AAPI})/ \alpha(\text{White}) = 0.38/1.10 = 0.35 \)
- \( \beta(\text{AAPI/Black}) = \alpha(\text{AAPI})/ \alpha(\text{Black}) = 0.38/0.76 = 0.50 \)
Not only do AAPI librarians have just a 35% chance compared to White librarians of reaching the chief librarian level, but AAPI have only a 50% chance compared to Black librarians of attaining top leadership positions. Compare RD ratios for librarians in this study with Table 5.1 -- Minority Representation Ratios from Tenured Faculty to College President. AAPI librarians and faculty are both under-represented at the top leadership levels. Whites are over-represented at top leadership levels for both faculty and librarians. African Americans are over-represented at the president level with $\alpha = 1.13$, but under-represented at the chief librarian level with $\alpha = 0.76$. The researcher did not have enough data to evaluate the status of Hispanic librarians or American Indians using RD ratios in this study. However, AAPI have a wider achievement gap at the leadership level when compared with either Whites or Blacks.

Based on their immediate prior positions, 60% of ARL chief librarians were recruited from outside their current institution while the rest were promoted from within the same institution. For AAPI and African American chief librarians, 100% were recruited from outside the institution. The willingness to relocate is even more important for minority librarians on their pathway to the top leadership positions. AAPI chief librarians have more doctoral and other advanced degrees, such as the MBA and second master’s degrees beyond the MLS compared with other ethnic/racial groups. However, this can be seen as an impediment for Asian/Pacific Americans in attaining leadership positions on one hand. On the other hand, it can also be explained
by the Immigration Filtering Theory, which posits that new Asian immigrants to the United States typically have higher education than native-born citizens.

For the CALA librarian profile P1, 6.52% of 828 librarians, or roughly 50 of them, are/were in either chief librarian or associate/assistant chief librarian positions. However, the actual names and contact information are only available in the print CALA membership directory. For African American librarians profile P2, 148 chief librarians, including 70 academic chief librarians, are listed on the ALA Office of Diversity and on BCALA Web site at http://www.ala.org/research/librarystaffstats/diversity. In addition, contact information for 68 library deans and directors from HBCU is available from the Web site http://www.hbculibraries.org/index.html/. Although there are more AAPI academic librarians than any other minority groups (American Library Association, January 2007), the researcher can identify fewer than 10 current and retired AAPI academics chief librarians. But the researcher finds over 100 African American chief librarians in academics from either ALA or BCALA, and HBCU Web sites. Lack of information on AAPI chief librarians makes mentoring and social networking harder for AAPI librarians than for African American librarians.

For most minority groups in the United States, narrowing the achievement gap in education, especially in higher education is a dominant theme. For Asian/Pacific Americans, the achievement gap exists in the workplace at the top leadership level despite being the largest minority group in academe. Furthermore, over 50% of minority advanced degrees at master’s, professional, and doctoral level are earned by

Therefore, education alone is not enough to narrow the leadership achievement gap for Asian/Pacific Americans.

**Interpretation of Quantitative Survey Findings**

Q1 is a quantitative survey sent to over 600 AAPI librarians with e-mail addresses and 91 of the surveys were completed and returned. Based upon the chi-square results and gamma statistical tests of the cross-tabulations, there is positive correlation between variables in questions I-4 to I-8, and the highest level of professional achievement in question I-9. The summary from I-1 to I-9 in survey Q1 is provided in the following table, where I-9, the highest library positions ever held, is the dependent variable.

Table 22

*Variables Significance and Correction I-1 to I-9*

<table>
<thead>
<tr>
<th>Question</th>
<th>Chi-square and Gamma Significant?</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-1</td>
<td>No</td>
<td>Not significant. Whether a first generation immigrant has no significant impact to leadership achievement.</td>
</tr>
<tr>
<td>I-2</td>
<td>No</td>
<td>Not significant. Whether completed high school in the U.S. has no significant impact to leadership achievement</td>
</tr>
<tr>
<td>I-3</td>
<td>No</td>
<td>Not significant. Living in small or big cities has no impact to leadership achievement.</td>
</tr>
<tr>
<td>I-4</td>
<td>Yes: both at p&lt;.05</td>
<td>A positive relationship between education and job level. The more advanced degrees a person has, the more he or she is likely to have a higher level job position.</td>
</tr>
<tr>
<td>I-5</td>
<td>Yes: both at p&lt;.05</td>
<td>A positive relationship between years worked and job level. The longer a respondent has worked, the more he or she is likely to have a higher level job position.</td>
</tr>
</tbody>
</table>
I-6 Yes: both at p<.05 A positive relationship between number of publications and job level. The more publications a respondent has, the more he or she is likely to have a higher level job position.

I-7 Yes: both at p<.05 A positive relationship between voluntarily job changes and job level. The more job changes a respondent has made, the more he or she is likely to have a higher level job position.

I-8 Yes: both at p<.05 A positive relationship between library organizations involvement and leadership positions. The more involvement a respondent has in library organizations, the more he or she is likely to have a higher level job position.

There is no significant correlation between each variable in questions I-1 to I-3 and the variable in I-9. Although it is a common belief among AAPI librarians and college faculty as well, the null hypothesis in I-1 that first generation Asian/Pacific American librarians are less likely to reach leadership positions is rejected. Actually, Table 4.3 Correlation Matrix shows a negative correlation between I-1 and I-9, the first generation AAPI are more likely than higher generations of AAPI to reach higher library positions. But it is not significant due to p value greater than 0.10. Also a common belief among AAPI librarians and college faculty, the null hypothesis in I-2 that English proficiency and Asian accent (measured by the first diploma received in North America) is correlated to leadership positions is also rejected. The null hypothesis in I-3 is based on location of AAPI librarians and their leadership positions. According to the Census report, most immigrants live in big cities in California, Texas, New York, Florida and Illinois (Waters & Trevelyan, 2011). Asian/Pacific Islander Americans, tend to live in big cities as well. The null hypothesis in I-3 is testing the correlation between residential population and leadership positions. There is no statistically significant correlation according to this study.
There is a significant correlation between highest library positions ever held and each variable in questions I-4 to I-8. These variables are additional advanced education, years worked as professional librarians, number of publications, number of voluntary job changes, and level of involvement in professional organizations. For example, AAPI librarians with additional doctoral degrees, more publications, more work experience, more willing to change jobs, and involved more in professional organizations are more likely to be in chief librarian positions.

Questions I-10, I-11, and I-12 test correlation between library leadership positions with AAPI librarians’ involvement with their institutions, with government entities, and with local and regional communities. The local communities include AAPI librarian organizations, such as CALA and APALA. In question I-10, there is no significant correlation between serving on library committees or Asian employees associations and library leadership positions. But there is significant correlation between library leadership positions and 1) serving as library committee chairs (strong with Gamma > 0.50), 2) serving on library parent institution committees (strong), and 3) serving as parent institution committee chairs (very strong with Gamma > 0.75). In question I-11, library leadership positions are strongly correlated to participation in general elections, and attending city/county council/board meetings. In questions I-12, library leadership positions are strongly correlated with general community organizations, such as church and home owners associations, and with other professional organizations, such as Toastmasters. However, I-12 shows no significant
correlation between leadership positions and local AAPI community involvement, such as Chinese schools, or AAPI librarian associations, such as CALA and APALA.

Questions in Group I asked AAPI librarians what they have done and questions in Group II asked what should be done to improve AAPI in library leadership positions. The questions in Group II changed the format to a Likert scale of 1 to 5, in which the difference in perceptions among AAPI chief librarians, supervisor librarians and non-supervisor librarians was examined. There is no significant difference in most questions between AAPI chief librarians and other groups. The only difference is that AAPI chief librarians took a neutral stand (mean equals 3.00) on “Asian culture of hard working and no complaining” as a factor to achieve top leadership positions while other groups took a negative attitude (mean equals 2.17). In general, AAPI chief librarians have similar perceived means on most of the variables as AAPI librarians. Unfortunately, due to a small sample size of N=91, and extremely small sample size of AAPI chief librarians with n<10, the THV measure could not be used, so the validity of the ANOVA tests could not be measured. This means that the results need to be interpreted with caution: nothing is absolute and there is no way to make anything absolute for Group II questions. To compare differences in group means effectively, it is suggested to have at least a sample size greater than 30 for each of the three major groups, non-supervisor librarians, supervisor librarians, and chief librarians. The researcher anticipated the small size of AAPI chief librarians and designed the study as a mixed method instead of a quantitative study. The findings and
interpretations from qualitative parts discussed below complement and triangulate the findings in the quantitative study.

**Interpretation of Qualitative Surveys**

The comments from the Q1 study completed by 91 AAPI librarians provided additional rich qualitative data and supplement the Q2 data from eight AAPI chief librarians. Due to the limited funding and time, the Q2 was conducted in a structured questionnaire format with many open questions. Unfortunately, only eight of twelve invited AAPI chief librarians completed the Q2, and only four of them provided in-depth data on open-end questions, such as the key question in regard to major family, educational, and professional factors that influence their decisions to pursue library leadership positions. Nevertheless, Q1 comments and Q2 qualitative survey findings have the following interpretations.

**Lack of Unity among AAPI Librarians**

Three AAPI chief librarians and many AAPI librarians commented on lack of unity among AAPI librarians. CALA mainly consists of first generation Chinese American librarians and 80% of them are born in China, Taiwan, and Hong Kong (Ruan & Xiong, 2008A). APALA is open to ALL Asian American librarians, but its membership numbers are less than half of CALA members in the last two decades, and librarians as descendents of many Asian countries, such as India, Pakistan, Korea, and Vietnam are not actively involved in either CALA or APALA. The three current AAPI ARL chief librarians are not actively involved in either CALA or APALA based on this study. According to ALA statistics (2007), AAPI credentialed librarians are the
second largest among all minority librarian groups and the largest among academic librarians. However, as one AAPI chief librarian stated, CALA and APALA are considered minor leagues on the same level as American Indian librarians, behind major leagues such as Black and Hispanic librarian groups, during ALA presidential campaigns. The lack of unity weakens the political power and dampens the voice of AAPI librarians.

**Asian Accent and Language Skills**

As shown in Q1 survey, about two of every three AAPI librarians are foreign-born, first generation immigrants who did not receive PK-12 education in North America. It is natural for most AAPI librarians to speak English with an Asian accent. Some United States national and state leaders who came as first generation immigrants also have a foreign accent. Both the 56th Secretary of State, Henry Kissinger who came to the United States at age 15, and the 38th Governor of California – Arnold Schwarzenegger who came to the United States at age 21, speak English with a heavy German accent. However, a German accent is not linked to poor language skills; those who speak English with a German accent are considered “even prestigious in academic circles” according to late University of California, Berkeley Chancellor Chang-lin Tien. (1998, p. 44-46). Although first generation immigrants may not be as fluent in English language as native born citizens, the perceived lack of English proficiency is not just for first generation AAPI immigrants, it is also a barrier for third plus generation AAPI librarians based on Q2 survey because all Asian/Pacific Americans are perceived as new immigrants with limited English language
proficiency under the *Forever Foreigner Theory*. As mentioned in Chapter Two, the third generation immigrant Judge Ito was questioned by another third generation European immigrant Senator D’Amato on his “perceived English proficiency” incident in 1995, but no one would question European or even African third generation immigrants for their English proficiency in the United States. This perceived English proficiency under the *Forever Foreigners Theory* is damaging to all Asian/Pacific Americans. This study shows that the library leadership position has no correlation to generation of immigrants or to their PK-12 education. It is positively correlated only to additional degrees beyond the MLS. A doctoral degree in education is very prevalent among AAPI chief librarians. Two out of three AAPI ARL chief librarians hold the Ed.D, and three out of four doctoral degrees earned among eight AAPI chief librarians who completed the survey are Ed.D. It is the role of all AAPI librarians and faculty to change the public perception of AAPI’s poor English language skills through more presentations and public speaking. It is fine to have an accent and the audience will get used to the accent after being exposed enough times.

**Asian Culture in an American Way**

Asian culture has been mentioned in both Q1 comments and Q2 as a double-edged sword. On one side, Asian culture emphasizes strong work ethics for individuals, but on the other side, it does not encourage people to tell their stories of success. As seen in Q1 and Q2, most AAPI librarians do not believe the Asian culture of hardworking and no complaining will help achieve leadership positions, but AAPI chief librarians took a neutral stand on this issue. Several AAPI chief librarians listed
“strong work ethics” and “passion to serve” as their cultural influence to seek leadership positions. To put Asian culture in an American way, “telling your story”, especially your story of success, is a skill many AAPI librarians felt that they have not mastered. Telling your story not only requires oral presentation skills, it also needs critical thinking skills to choose what to tell and how to tell a story, and political skills to address a hostile audience and avoid antagonizing or to persuade the audience to make choices. There are different formats for telling your story, in addition to oral presentation, writing an attractive resume and cover letter is a way to tell your story to potential employers. Compiling a self evaluation or promotion dossier for tenure track faculty, writing annual reports for department chairs or committee chairs are different ways of telling your story.

**Mentoring and Networking**

AAPI librarians are not as organized in mentoring and networking as African American librarians. The lack of public information on AAPI chief librarians and the fact that none of the 91 participants in Q1 listed any of the current three AAPI ARL chief librarians are contrast with the approach of promoting of Black chief librarians. Many comments from Q1 stated that there is no role model and mentioned the lack of information on AAPI chief librarians. Among AAPI chief librarians, the two who listed good mentors as a direct factor in their pursuing leadership positions are both retired as of 2011. Three other AAPI chief librarians listed lack of role models and mentors as a major obstacle on their pathway to leadership positions. More important, there is no open access to contact information for current or retired AAPI chief
librarians. It took the researcher great effort to come up with a list of a dozen AAPI chief librarians and their contact information. AAPI librarians are the largest minority group in academic libraries, and the second largest among all credentialed librarians. But the number of current AAPI chief librarians and the mentoring and networking effort do not reflect the existing numbers of AAPI librarians.

**Discussion of Research Findings and Theoretical Frameworks**

Four theoretical frameworks are presented in Chapter One, and the researcher will discuss the research findings related to each of them.

**Critical Race Theory (CRT)**

As discussed in Chapter One, basic tenets of CRT can be summarized as follows:

1. Racism is ordinary, not aberrational, under the dominant society’s laws and rules.

2. Our system of White-over-color ascendancy serves an important purpose, both psychic to working class Whites and material to elite Whites. Therefore, large segments of society have little incentive to eradicate it.

3. From a social construction point of view, races are products of social thought and relations, not objective, inherent, or fixed. They correspond to no biological or genetic reality; rather, races are categories that society invents, manipulates or retires when convenient.

4. Dominant society racializes different minority groups at different times, in response to shifting needs of the dominant group.
5. Minority status brings with it a presumed competence to speak about race and racism, based on their own unique perspectives to society (Delgado & Stefancic, 2001, pp.6-9).

Among almost 110,000 credentialed librarians, Whites are still dominant with all minorities together accounting for only 11% of professional librarians, of which 4.77% are Blacks 3.20% Asian/Pacific Islanders, 1.94% Hispanics, and 0.28% American Indians. Some librarians reported more than one race or did not report race at all. In academic libraries where an ALA-accredited MLS is the minimum requirement and additional master’s degrees are either required or preferred, the composition for academic librarians is 85%, 6%, 5%, 2% and 1% for White, AAPI, Black, Hispanic, and more than one race respectively (American Library Association, 2007). This study shows that minority composition among 9,000 librarians in 126 ARL libraries (80% are academic libraries) is 6.6%, 4.4%, 2.8%, and 0.4% for AAPI, Black, Hispanic, and American Indians as of 2011. The percentages of Hispanic and American Indian credentialed librarians have increased significantly in the last 10 years, but their numbers are still low due to smaller bases. The percentage of AAPI librarian in ARL libraries is very close to AAPI faculty percentage in the U.S. Also very similar to the under-representation of AAPI at the top leadership positions among colleges and universities, AAPI percentage at the top library leadership positions among the largest libraries are well below the percentage of AAPI professional librarians, despite much higher than average education attainments of AAPI librarians.
As social justice educator Paul Kivel pointed out, race can be used as a tag for different ethnicity groups, and the tag can be changed based on dominant group’s needs. In 1848-49 during the Constitutional debate in California, Mexicans were considered White because many of them were land owners on the West Coast, but the California Supreme Court declared Chinese not White. Today, Mexicans are no longer considered White and “Chinese Americans are conditional white” (2002, p16-17). AAPI professionals are more acceptable as librarians, professors, scientists, or engineers due to their higher education attainment, but the entrance barrier for top leadership positions for AAPI professionals is much higher than for White professionals or for Black professionals based on this study.

**Glass Ceiling Theory**

According to the theoretical framework discussed in Chapter One, the concept of glass ceiling refers to “artificial barriers to the advancement of women and minorities.” The glass ceiling is the “unseen, yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements” (Federal Glass Ceiling Commission, 1995b). Cotter and others further developed four glass ceiling criteria (2001):

1. A gender or racial difference that is not explained by other job-relevant characteristics of the employee.

2. A gender or racial difference that is greater at higher levels of an outcome than at lower levels of an outcome.
3. A gender or racial inequality in the chances of advancement into higher levels, not merely the proportions of each gender or race currently at those higher levels.

4. A gender or racial inequality that increases over the course of a career. (p. 655-682)

As we can see in this study, more AAPI librarians are employed by large libraries and academic libraries than by public and school libraries, and AAPI librarians have a larger percentage with additional advanced degrees beyond MLS compared to other race/ethnicity groups. Some of them also advanced to supervisory positions, but very few of them ever reached the top leadership positions. The two who were promoted to ARL chief librarian positions in 2010 and 2011 have more credentials than all other ARL chief librarians. Both have subject master degrees, plus MBA and doctoral degrees. Among other academic libraries, AAPI chief librarians are still rare. Although AAPI librarians are the largest minority group among academic libraries, the researcher was able to identify less than 10 current and retired AAPI chief librarians. As a contrast, the researcher identified over 100 Black chief librarians with contact information from ALA and HBCU Library Alliance Web sites. The glass ceiling affects AAPI librarians even more than Black librarians.

**Immigration Filtering Theory (IFT)**

The IFT asserts that Asians who immigrated after 1965 will have higher educational achievement for up to three generations compared to the general U.S. population. Only populations with higher education and special skills are encouraged
to immigrate to the United States as specified in the professional categories of
*Immigration and Nationality Act of 1965*. The *model minority* is the direct result of
*IFT* as only AAPI with higher education achievement and special skills are allowed to
immigrate; *forever foreigner* is the perception based on the fact that many AAPI are
either first or second generation immigrants since 1965.

This study affirms the IFT; more than 70% of AAPI librarians received their
PK-12 education overseas, and close to 50% have either a second master’s degree or a
doctoral degree, much higher than the national average (29%) of professional
librarians with advanced degrees, in addition to MLS (American Library Association,
2007, p10). Furthermore, this study shows the null hypotheses that it is less likely for
first generation AAPI librarians to be in higher leadership positions is not valid. In fact,
all four AAPI chief librarians in academic and Federal Government libraries who
completed the Q2 survey are first generation immigrants. But all AAPI chief librarians
in public library systems who completed the Q2 survey are 3rd or higher generation
immigrants.

**Four Capitals Theory: Cultural, Social, Human and Political Capitals**

Additional advanced education attainment, years of professional experience,
and number of scholarly publications are important human capitals for librarians and
for any intellectuals. These variables are all positively correlated to leadership
positions as seen in Q1 statistical analysis. The number of voluntary job changes, level
of professional association involvement, and level of political involvement are part of
cultural and social capitals; these variables are also positively correlated to leadership
positions. As defined in Chapter One by the researcher, political capital is a group’s political influence over society’s opinions, which leads to policy changes and to fairer treatment of the group in the society. The difference in leadership positions based on three population profiles compiled by the researcher in Chapter Four shows that AAPI librarians have much less chance to be represented at the chief librarian level compared to White racial groups and even compared to Black racial groups. Among the largest 126 libraries in North America with close to 9,000 professional librarians, AAPI librarians comprise the largest minority group, but they have only a 38% chance to be represented at the chief librarians level compared to White and a 50% chance compared to Black, based on RD ratios developed in this study. Because AAPI librarians have the highest education achievement and the strongest cultural motivation to pursue leadership through education, the lower representation of AAPI librarians at the top leadership level cannot be explained by human capital or cultural capital theory. One AAPI chief librarian mentioned that the visibility of AAPI librarians is not at the same level as Black and Hispanic librarians. He stated that ALA presidential candidates did not think of “small” ethnic associations such as “APALA, CALA, and AILA (American Indian Libraries Association) as viable campaign venues.” In reality, AAPI librarians are the second largest ethnic group among credentialed librarians, and the largest group among credentialed college librarians. The “small” was referring to the small political power of AAPI librarians, not necessarily the number of AAPI librarians. The low visibility and the weak voice of AAPI librarians during ALA presidential campaigns suggest a low political capital,
which in turn undermines the social capital, cultural capital and human capital of AAPI librarians.

The AAPI librarian leadership achievement gap can’t be explained by Human Capital, Cultural Capital, or Social Capital. Many AAPI librarians suggested the weak Political Capital of AAPI librarians and AAPI communities in general. In a democratic society such as in the United States, the researcher drew the conclusion that an organized group with large membership numbers is the asset that can raise Political Capital. AAPI has achieved the largest number in higher education and in academic librarianship as a minority group, but the large number of AAPI librarians did not transform into strong Political Capital due to lack of unification. “United, we shall overcome. Divided, we will be ignored” should be used as the slogan to reach unification for AAPI.

Recommendations

Have One Association Representing All AAPI Librarians

As shown in Chapter Four, among five associations of ethnic librarians affiliated with ALA, there is one association for each minority except for AAPI librarians. AAPI librarians have two separate associations, CALA for Chinese American librarians and APALA for other Asian American and Pacific Islander librarians. AAPI librarians’ comments in Q1 as well as multiple statements from chief librarians’ in Q2 point to the need for only ONE association representing all AAPI librarians. The mission of the AAPI librarians should serve as an advocate for the development, promotion, and improvement of library services and resources to
the nation's AAPI community; and provides leadership for the recruitment and professional development of AAPI librarians. Combining associations would give AAPI librarians a united voice that would increase their visibility and influence in proportion to their numbers. Starting from now, the two AAPI librarian associations should plan joint programs and joint conferences. This recommendation of combining the two associations will be proposed by the researcher at the 2012 ALA annual conference. The combined AAPI librarian association should be a major campaign venue for each ALA presidential candidate. The association should also ask each ALA presidential candidate to respond in writing to a list of suggestions proposed by the association to address the AAPI librarians leadership achievement gap and other concerns unique to AAPI librarians or AAPI communities in the future.

Outreach and Advocacy Committee

The AAPI librarian association should have an outreach and advocacy committee with the dual charges of reaching out and advocating on behalf of AAPI librarians. Many of the concerns from both Q1 comments and Q2 have existed for many years among AAPI librarians and educators based on literature reviews in Chapter Two. But lack of action and influence beyond scholarly discussion kept most of AAPI community concerns under the political radar. There has been discussion of bamboo ceilings for AAPI government employees and in science and engineering professions and there have been some changes. But the changes happened too slowly and the AAPI leadership achievement gap still exists in higher education and in librarianship.
Create One Open-Access List of AAPI Chief Librarians

Both CALA and APALA should host an online list of current and recently retired AAPI chief librarians and their contact information (with their consent), and request that the ALA Office of Diversity Web site link to the AAPI chief librarians list. The list itself should be an example of “telling your story” by successful AAPI chief librarians, and it also would provide useful mentoring information for future AAPI library leaders. AAPI has much to learn from African American and Hispanic American political skills and their track record in attaining various social justice goals. AAPI librarians should be active in joint programs with BCALA and REFORMA, such as the Joint Conference of Librarians of Color (JCLC). The researcher has been invited to present part of this study at the 2012 JCLC in Kansas City, Missouri. The JCLC is an excellent venue for networking with other minority beyond just AAPI chief librarians, who usually have the institutional resources for travel to attend library conferences.

Leadership Development Programs

One theme which emerged from both Q1 and Q2 comments is that AAPI librarians are perceived as lacking the soft skills needed for strong leaders. Although AAPI librarians possess hard skills as measured by additional degrees, subject knowledge, publications, foreign languages, and analytical skills, hard skills alone could not produce strong leaders. According to the 2010 study by Mosenkis on leadership soft skills, AAPI college students in a very selective university scored lower than most other ethnic groups based on three mockup exercises – 1) Leaderless
Group Discussion (similar to a committee meeting), 2) Overwhelming in-Basket Mail Handling and Prioritizing, and 3) Oral Presentations. The only group that scored lower than AAPI students was international students. Asian American students did not perform well when there was no clear instruction of the task in a leaderless situation, and did not handle stress well when a task clearly exceeded one’s ability to complete it within the time limit. However, similar to all other skills, leadership soft skills can be taught and learned. Working with current and recently retired library leaders and attending formal leadership training programs are but a few of the suggestions that were derived from Q1 and Q2. Current library leadership development programs include, but are not limited to the following:

- Frye Leadership Institute at Emory University for academic librarians and information technologists http://www.fryeinstitute.org/
- UCLA Graduate School of Education and Information Studies Senior Fellows Program http://is.gseis.ucla.edu/events/seniorfellows/index.htm
- ARL Leadership Fellows Program http://www.arl.org/leadership/rllf/index.shtml
The researcher strongly suggests that the AAPI librarians association serve as a recommendation body and a recruitment agency for these leadership development programs. AAPI librarians who receive recommendations and develop soft skills through these leadership programs will have a better chance to be chief librarians. In addition they could establish a closer relationship with the AAPI librarians association, and serve as potential mentors for future leaders.

**English Major and Doctoral Degree in Education**

Four out of eight AAPI chief librarians in Q2 survey have an English undergraduate major. The other four include one in American Studies, one in Women Studies, one in Education, and one in Computer Science. At the doctoral level, three out of four are in Education, and one in Computer Science. All chief librarians with doctoral degrees stated that the additional advanced degree had a direct impact on their professional growth. A degree in English or Communication helps in written and oral communication as well as presentation skills, and it is particularly useful to those foreign born AAPI librarians who did not complete PK-12 education in the United States. However, all credentialed librarians should have already completed their undergraduate majors and MLS; going back to English or Communication Studies as an undergraduate major is unrealistic. A doctoral degree in education (Ed.D.) with a concentration in education leadership is recommended for AAPI librarians who aspire to leadership. The Ed.D. will increase their capacity to pursue chief librarian positions. There are several reasons that an Ed.D. degree is better suited than other advanced degrees for chief librarians.
The Ed.D. program is designed for working professionals. This would mean that AAPI librarians do not have to quit their full time employment to complete the doctoral degree. Like the MBA is a higher level professional degree for working professionals with a bachelor’s degree, the Ed.D. is regarded as a higher level professional degree for librarians whose minimum requirement is a MLS. For librarians working in college and university libraries, employee benefits usually cover the tuition for enrolling in a degree program in the same institution. The schedule for working professionals and the employee tuition benefits make the Doctorate of Education particularly attractive when compared to all other doctoral degrees.

In comparing curriculum of a typical Ed.D. with that of an MBA program, the Ed.D. is more suitable for public sector leaders. Instead of focusing on quarterly income statements and cash flow result, the Ed.D. curriculum is focused on transactional and transformational leadership—how to motivate people to move along the pathway set by the visionary leaders. According to James MacGregor Burns (1978, p4), “transactional leaders approach followers with an eye toward exchanging,” transactional leadership takes the initiative in making contact with others for the purpose of an exchange of something valued. In contrast, transformational leadership “requires a leader with vision, self confidence, and inner strength to argue successfully for what he sees is right or good, not for what is popular or is acceptable according to established wisdom of the time” (Bass, 1985, p.17). The researcher recommends both leadership skills to potential AAPI library leaders. With the public sector and the education sector’s limited power to change individual employee’s compensation,
transformational leadership style has wider application and is more effective for educational leaders.

In addition to the study of leadership theory and practice, research methodology, basic legal, public policy, and fiscal policy knowledge, the Doctorate in Education is also a writing and presentation intensive program. It helps AAPI librarians to improve their communication and presentation skills.

**Support Higher Education Immigration Bills and Policies**

Based on the fact that 70% of AAPI librarians received their PK-12 education overseas and the Asian American history discussed in Chapter One, the researcher strongly recommends that AAPI librarians advocate and support legislation and policies that favor immigration through higher education. Anyone who has earned a college degree or above in the United States should be given the chance to remain in the U.S. as a legal resident to fill the college educated labor force shortage in the nation. In a brief cost benefit analysis, immigration through higher education policies benefits both the current economy by exporting renewable service of higher education to foreign countries and the future economy by producing a college educated workforce at no cost to United States tax payers. The tuition at most public universities for non-resident aliens is three times as much as in-state tuition, and the higher non-resident tuitions subsidize the shrinking state support for most public universities. There is also no PK-12 cost for immigrants who completed their primary and secondary education overseas. In the state of California, the public funding per PK-12 student is over $7500 per year based on 2011 California Legislative Analyst’s
Office report at http://www.lao.ca.gov/reports/2011/calfacts/calfacts_010511.pdf. As the Immigration Filtering Theory suggests, those who came to the United States for higher education and graduate schools tend to be highly productive workers with the potential to be future leaders through up to three generations. As for AAPI population in the United States, continuous new immigrants with higher education background will help maintain a larger proportion of the AAPI professional workforce, and keep the pressure on reducing the AAPI leadership achievement gap. If immigration policy changes and the current channels for highly educated and highly skilled labor are closed, then the AAPI highly educated professional workforce will be reduced and the AAPI population may be marginalized again due to its small numbers. This would result in a similar outcome to the “dark” period of 1880 to 1965 in the United States immigration history in which immigration from nations other than European countries was banned or highly discouraged.

Suggestions for Future Research

RD Ratios among ACRL Professional Librarians and Chief Librarians

The P3 profile in this dissertation only studies the chief librarians among the largest 126 libraries in North America. A larger profile of chief librarians in all 4-year college and university libraries by race, education, and career paths is suggested as a continuation of this study. The RD ratios can be calculated based on the number of AAPI chief librarians in all 4-year college and university libraries compared with ALA’s published percentage of over 6% AAPI professional librarians in academic libraries. The Association of College and Research Libraries (ACRL) is a division of
ALA at http://www.ala.org/acrl/. There are over 2000 public and private 4-year colleges and universities and almost all of them have a library. There are no statistics available from ACRL about chief librarians and their ethnicity and the task of researching over 2,000 chief librarians is beyond the time and resources the researcher has for this study.

**Apply RD Ratios and Advancement Ratios to Other Social Justice Studies**

One of the purposes of this study is to disseminate the RD ratios and Advancement Ratios to other social justice research. The RD ratios and Advancement ratios as defined in Chapter Two not only quantify a wide social justice phenomenon—representation disparity, but they also pinpoint and isolate where the problem occurred. Without the RD ratios and Advancement ratios as effective tools to analyze the under-representation as a social problem, it is hard to determine whether the smaller than fifty percentage of women college faculty is due to lack of hiring women doctoral degree holders, due to the low percentage of women in doctoral degree programs, or due to the low college graduation rate for women because we know there are more women in college than men. RD ratios provide a tool to compare 4-year college faculty percentage with the percentage of doctoral degree holders by race and ethnicity, and a doctoral degree is a prerequisite for most 4-year college tenure track positions. The RD ratios can also compare percentage of doctoral degree holders with percentage of bachelor degree holders for the same group of population, and percentage of bachelor degrees with percentage of high school diploma and so on. Using RD ratios, this study shows that AAPI librarians and college faculty in general
have an achievement gap at the top leadership level based on the percentage of professional librarians or faculty. We can also use RD ratios to show that AAPI are under-represented at tenured fulltime faculty level (6.5%) based on AAPI percentage of doctoral degree holders (12.5%), or AAPI’s representation at the principal level based on AAPI credentialed teachers. The researcher recommends applying Comparative Advancement radios to college and graduate school admissions in order to provide background information for the upcoming Supreme Court case Fisher v. University of Texas, (No. 11-345) to be heard in 2012. In the University of California Regents v. Bakke case in 1979, Bakke had a GPA of 3.40 and high percentile MCAT scores. Based on Association of American Medical Colleges (AAMC) data released in 2012, the following table shows the medical school acceptance rate by race/ethnicity against applicants GPA and MCAT scores.

Table 23

Acceptance Rates for U.S. Medical Schools by Race/Ethnicity and GPA/MCAT Scores (2009-2011)

<table>
<thead>
<tr>
<th>Medical School Acceptance Rates (2009-2011)</th>
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<tbody>
<tr>
<td>GPA</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Black</td>
</tr>
</tbody>
</table>

Note: The author compiled the data based on AAMC data release 2012 Table 25: MCAT and GPA Grid for Applicants and Acceptees by Selected Race and Ethnicity, 2009-2011 (aggregated).
Bakke as a White American with 3.40 GPA and relatively high MCAT scores, would still have a much lower chance to be accepted by medical schools than Black applicants with lower GPA and lower MCAT scores between 2009-2011. However, an AAPI applicant to medical schools in 2009-2011, had an even lower chance to be accepted by medical schools than Bakke in the same category (highlighted) or in any categories of GPA/MCAT combination. Using Advancement ratio calculation, the AAPI is the ONLY minority group whose Comparative Advancement (CA) ratio is less than 1. It means AAPI applicants have less acceptance rate than White by medical schools (.30/.359 = 0.833), while all other minority groups have Comparative Advancement ratio greater than 1. CA ratio for Hispanic is .687/.359 = 1.914, almost twice the acceptance rate as White, and CA ratio for Black is .859/.359 = 2.393, almost two and half times the acceptance rate as White. The similar study can apply to college admissions, especially the highly selective colleges. The researcher believes that the RD and CA ratio calculation will help Supreme Court Justices to see the social justice issue faced by AAPI, even though Asian Americans and Pacific Islanders are not the focus of Supreme Court cases of either Bakke or Fisher. But the Supreme Court decision on Fisher will have a significant impact to AAPI future applicants to selective colleges and medical schools.

The RD ratios can also be applied to negative environments, for example percentages of population by ethnic groups in prison or in mental institutions.
Perspective from Hiring Authority of Chief Librarians

The researcher also recommends securing the perspective of members from outside the AAPI librarian rank for the study of AAPI leadership achievement gap. For example, a survey can be designed for the hiring authority of chief librarians to gain their perspective on AAPI librarian leadership potentials. A survey of 126 ARL chief librarians’ supervisors would include Provosts, Chancellors, or Presidents in academic libraries, and city/county chief executives or a board of directors in public libraries. Due to limited resources, the survey of chief librarians’ hiring authority could not be completed within the parameters of this study.

New Study of U.S. Born AAPI Leadership Achievement Gap

The Immigration and Nationality Act of 1965 open the door for AAPI professionals and highly education Asians to become citizens of the United States. The U.S. Population Census in 2007 reported that two out of three AAPI are foreign-born first generation immigrants. Because of the quota and per country limit system set by the U.S. immigration policy, the total new immigrants allowed each year is a constant, but the native-born population growth within the United States is not limited. Eventually, the U.S.-born AAPI population who go through the PK-12 education in the United States will become the majority of AAPI population. It is more appropriate to study U.S.-born AAPI leadership achievement gap, which will be a more accurate predictor for the future.
Study the Pacific Islanders Leadership Achievement Gap

As stated in the Q1 comments, Pacific Islanders are different from new Asian Immigrants. Based on Ogbu’s classification of minorities, Pacific Islanders are “involuntary” immigrants while Asian Americans are “voluntary” immigrants. It is recommended to have a separate study on Pacific Islanders on their leadership achievement based on their education attainment. The researcher believes the result will have significant difference from this study.

Conclusion and Reflection of the Researcher

The researcher is a foreign born AAPI librarian who completed his PK-16 education, plus three year post-graduation research experience overseas. The researcher has over 20 years full time librarianship experience in three major types of United States higher education systems—an elite private university, a public research university, and the largest 4-year state comprehensive university system. The researcher has multiple professional and master’s degrees and published widely during his two tenure and promotion cycles between 1994-1996 and 2002-2004. The researcher only moved twice voluntarily, but reluctantly the second time as a tenured science librarian and the head of a branch library in a research university. As one of the 50 fellows from Frye Leadership Institute 2001, and on the Frye fellows e-mail list, the researcher received multiple invitations to apply for chief librarian positions since 2001, but had not done so before conducting this study.

With two working professional parents and three children whose ages are several years apart, the top priority for the researcher seems to be a stable family life
in order to raise children. The Ed.D program provides the researcher with a new perspective on leadership and social justice. As a minority group, the AAPI has the highest education attainment and highest income. But a deconstructive analysis of the data shows that AAPI incomes are below White or even below other minority groups with the same education achievement. Furthermore, AAPI leadership achievement is much lower compared with their qualified pools, and the achievement gap is wider at the higher level. Among 2.79 million Doctor’s degree holders in the United States, 12% are AAPI. Among tenured faculty in 4-year colleges and universities where a Doctor’s degree is required, only 6.5% are AAPI, and the AAPI percentage of college and university presidents is below 1%. It is the disparity of these percentages that inspired the researcher to conduct research among AAPI librarians on their leadership achievement. As the three population profiles compiled by the researcher in this study indicate, AAPI librarians have a clear leadership achievement gap among North America’s largest 126 libraries and in academic libraries in general. Based on existing theoretical frameworks of Critical Race Theory and Glass Ceiling Theory and the two new frameworks the researcher proposed—Immigration Filtering Theory and Four Capitals Theory, the researcher makes several strong recommendations which include expanding the social capital capacity by uniting all AAPI librarians under ONE association, creating political capital by participating in ALA presidential candidates campaigns, and recommending AAPI librarians to leadership training programs. The researcher also recommends all AAPI supporting and strengthening future immigration through higher education policies to maintain a consistent flow of foreign
born Asian/Pacific Islanders immigrants who completed PK-12 education overseas and pay non-resident tuition for college and graduate schools in North America—the combination of higher education service export and college educated labor force import.
APPENDICES
Committee for the Protection of Human Subjects

November 2, 2011

To: Jian-zhong Zhou 11-12-043 (Oct)
   Doctoral Candidate
   Library-Reference

From: Maria Dinis, Chair
       Committee for the Protection of Human Subjects

RE: The Leadership Achievement Gap of Asian/Pacific Librarians

The Committee for the Protection of Human Subjects conditionally approved your application as “Minimal Risk” at its October 17, 2011 meeting. With the additional materials you have provided, your project is now approved as Minimal Risk.

This IRB approval is with the understanding that you will promptly inform the Committee if any adverse reaction should occur while conducting your research (see “Unanticipated Risks” in the CPHS Policy Manual). Adverse reactions include but are not limited to bodily harm, psychological trauma, and the release of potentially damaging personal information.

The approval applies to the research as described in your application. If you wish to make any changes with regard to participants, materials, or procedures, you will need to request a modification of the protocol. For information about doing this, see “Requests for Modification” in the CPHS Policy Manual.

Your approval expires on November 2, 2012. If you wish to collect additional data after that time, you will need to request an extension for the research. For additional information, see “Requests for Extension” (now called Continuing Review) in the CPHS Policy Manual.

If you need any further information about the use of human subjects, please contact me at 916-278-7161.

Thank you.
APPENDIX B

Revised Letter to CSUS CPHS 11/2/2011
Wednesday, November 02, 2011

To: Maria Dinis, Chair, CSUS Committee for the Protection of Human Subjects (CPHS)
CC: Rose Borunda, Chair of Dissertation Committee

From: Jian-zhong “Joe” Zhou

Re: Revision of research proposal 11-12-043 -- leadership achievement gap of Asian/Pacific librarians

The Committee had the following recommendations dated 10/20/2011.

The committee wanted you to: (1) provide letters of approval in letterhead from the two associations (CALA and APALA). (2) In both consent forms, under the questions/contact information, please delete CSUS Research IRB contact information and provide the name and contact information of your faculty sponsor. (3) In your survey, the categories for question 4 currently are not mutually exclusive: less than 10,000, 10,000 to 50,000 etc., which includes 10,000 twice. The committee recommends 10,001 to 50,000, 50,001 to 500,000, etc. In question 12, provide an option for those who are non-citizens to select.

As of November 1, 2011, I have completed all four recommendations. (1) I have obtained both letters from CALA and APALA president or executive director (both attached). (2) I have changed contact information from CSUS IRB to Professor Borunda. The revised invitation letters are attached. (3) I have modified the categories to be mutually exclusive based on committee recommendations. (4) I have added an option for those who are non-citizens in my Q1 question #12. The revised survey is also attached.
APPENDIX C

CALA Endorsement
Chinese American Librarians Association (CALA)

—An Affiliate of the American Library Association

Jian-zhong “Joe” Zhou
Head of Reference Department
CSUS University Library
Sacramento, CA 95819-6039
Phone: 916-278-6201
Fax: 916-278-5661
Email: zhou@csus.edu

Dear Joe,

We would like to congratulate you again on winning the ALA Diversity Research grant for this year. As we all know winning this award is a high honor and conducting research in the area of leadership diversity in libraries is highly needed and critically important.

We appreciate your interest in using CALA as your research base by surveying CALA members for the grant project. We support you in using the CALA listserv as the media for surveying our members. You may send survey information to CALA listserv for members’ to participate in the survey voluntarily. Based on our experience, it appears that the CALA Listserv works well for this kind of research and we wish you a pleasant experience and success with this project.

Please let us know if you have any questions.

Sincerely,

Min Chou
President
Chinese American Librarians Association
Email: ...

Haipeng Li
Executive Director
Chinese American Librarians Association
Email: ...
APPENDIX D

APALA Endorsement
29 October 2011

Dear Jian-Zhong

We are happy to learn about your research project on leadership and Asian American Pacific Islanders, as well as your request to survey the membership of the Asian Pacific American Librarians Association (APALA).

APALA has a history of supporting and mentoring API librarians to help them advance in the profession and seek leadership positions both in the profession and in our association.

Indeed APALA was established more than 30 years ago to address the lack API leaders in librarianship to represent API librarians and express the issues affecting API communities with regards to librarianship and library services. After thirty years, the current leadership in APALA still believes that this is an area that needs more attention and study. Therefore, we are strongly interested in the results of your research and welcome your request to survey APALA members.

The APALA Executive Board approves your request to conduct an online survey of APALA members using the survey instrument titled “AAPI librarians leadership achievement gap”.

Please contact me if you need further assistance.

Gerardo Colmenar
Executive Director, APALA
APPENDIX E

Invitation to AAPI Librarians to Participate the Q1 Survey
Dear Fellow Asian/Pacific American Librarians,

**Invitation to Participate**
Jian-zhong “Joe” Zhou, an Asian American academic librarian for 20+ years, and a candidate for the Doctorate of Education Leadership, at California State University, Sacramento (CSUS), is conducting a study that examines the leadership achievement gap of Asian and Pacific Islander Americans (AAPI) librarians. The research is partially funded by the Diversity Office of the American Library Association (ALA) and CSUS.

The phenomenon of AAPI’s low representation in leadership ranks in disproportion to their high education achievement is defined as the *Asian Americans’ leadership achievement gap*. American Council on Education data shows that the AAPI have the highest representation at the faculty level, but lowest at top leadership level of U.S. universities among all minority groups. In addition, Census data shows that AAPI have the highest education attainment among all racial/ethnic groups.

The enclosed questionnaire should take 10-20 minutes to complete. You are encouraged to complete the questionnaire within a week.

**Description of Procedures**
As an AAPI professional librarian, you have been asked to voluntarily complete an online questionnaire. Participation is entirely voluntary and responses to all questions are optional. There is minimal risk and no direct benefit to you. Upon completion of the survey, you will be given the option to provide contact information of any Asian/Pacific current or retired chief librarians of medium to large libraries in North America. The researcher will not disclose any participant’s names in the study.

**Risks and Inconveniences**
There are minimal risks to participating in this study. These include:
• Privacy concerns - Some questions, although relevant to the study, may feel invasive to some participants.
• Time - Participants will spend 10-20 minutes on the survey.

**Safeguards**
Safeguards put in place to minimize risks include:
• Voluntary Participation
You may refuse to participate or, once you have started, you may withdraw at any time. However, the researcher will be unable to remove anonymous data in the collection after the survey has been submitted should the participant wish to withdraw it.
• Confidentiality of participants’ personal information
Your responses will be kept confidential to the degree permitted by the technology
used. However, no absolute guarantees can be given for the confidentiality of
electronic data.
• Potential breach of confidentiality - Every effort will be made to ensure the
confidentiality of the participants. Survey will be identified by participant ID numbers
instead of participant names.

Benefits
There are no direct benefits to the participants; however, the purpose of this research is
to identify factors that help pave the way to leadership positions for all AAPI
librarians and eliminate obstacles in the future.

Questions/Contact Information
The CSUS Institutional Review Board (IRB) has approved this study. If you have
questions about the study, you may direct those to the researcher, Joe Zhou at
zhou@csus.edu, 916-278-6201, or the faculty sponsor, Dr. Rose Borunda at
rborunda@csus.edu, 916-278-6310. You may print a copy of this form to keep for
your records.

1. Do you wish to voluntarily participate in this survey?
   ☐ Do you wish to voluntarily participate in this survey?  Yes - I hereby
   signify that I have reviewed this consent statement and that I agree to participate in
   this study voluntarily.
   ☐ No - I do not agree to participate in this study.
APPENDIX F

Invitation to AAPI Chief Librarians to Participate the Q2 Survey
Dear Asian/Pacific American Library Directors/Deans,

You have been identified by fellow Asian/Pacific librarians, ALA Diversity Office, or ARL as one of the Asian/Pacific library leaders among medium to large libraries in the United States, you are invited to complete a chief librarian’s survey sponsored by ALA in the area of Asian/Pacific librarian’s leadership achievement.

Invitation to Participate
Jian-zhong “Joe” Zhou, a Chinese American librarian for 20+ years, and a candidate for the Doctoral of Education Leadership, at California State University, Sacramento (CSUS), is conducting a study that examines the leadership achievement gap of Asian and Pacific Islander Americans (AAPI). The research is partially funded by the Diversity Office of the American Library Association (ALA) and CSUS.

Purpose of the Study
The high education achievement of Asian Americans and Pacific Islanders (AAPI) are known to the general public. AAPI population has the highest percentage of college degree, graduate degree, professional degree, and doctoral degree attainment based on Census data. Less known to the general public is the lack of AAPI representation at the top leadership level in all sectors of employment—government, private, and even higher education. The American Council on Education (ACE) data showed in 2008 that 7% of fulltime tenured faculty members in the United States are AAPI, but only less than 1% of college and university presidents are AAPI. AAPI have the largest percentage among all minority groups as fulltime tenured faculty, but the smallest percentage among all minority college and university presidents. The same situation is true for AAPI librarians, and the purpose of this study is to explore the following:

- What factors contributed to successful pathways toward chief librarian positions for AAPI librarians in the United States?
- What are the major cultural, social, political and structural obstacles that prevent AAPI librarians from reaching top leadership positions in librarianship?

This study is one of the three research proposals which received American Library Association (ALA) Diversity Award for 2011/12. The study is also partially sponsored by the California State University, Sacramento (CSUS). The finding of this study will be presented during ALA Annual Conference in June 2012, and will be published at CSUS Library’s Scholarwork—an institutional repository program using DSpace software. The author intends to publish the research in scholarly journals in the future.

The questionnaire will be sent to you shortly after verifying your e-mail address and the survey should take 20-30 minutes to complete. You are encouraged to complete the questionnaire by December 15, 2011.
Description of Procedures
As an AAPI professional librarian, you have been asked to voluntarily complete an online questionnaire. The estimated time is 10 to 20 minutes. Participation is entirely voluntary and responses to all questions are optional. You may refuse to participate, or once you have started, you may withdraw at any time before submitting the survey. There is minimal risk and no direct benefit to you. Upon completion of the survey, you will be given the option to provide your e-mail address and other contact information for follow-ups. The researcher will not disclose any names associated with any answers in the study.

Risks and Inconveniences
There are minimal risks to participating in this study. These include:
• Privacy concerns - Some questions, although relevant to the study, may feel invasive to some participants.
• Time - Participants will spend 10-20 minutes on the survey.

Safeguards
Safeguards put in place to minimize risks include:
• Voluntary Participation
You may refuse to participate or, once you have started, you may withdraw at any time. However, the researcher will be unable to remove anonymous data in the collection after the survey has been submitted should the participant wish to withdraw it.
• Confidentiality of participants’ personal information
Your responses will be kept confidential to the degree permitted by the technology used. However, no absolute guarantees can be given for the confidentiality of electronic data.
• Potential breach of confidentiality - Every effort will be made to ensure the confidentiality of the participants. Survey will be identified by participant ID numbers instead of participant names.

Benefits
There are no direct benefits to the participants; however, the purpose of this research is to identify factors that help pave the way to leadership positions for all AAPI librarians and eliminate obstacles on the pathway.

Questions/Contact Information
The CSUS Institutional Review Board (IRB) has approved this study. If you have questions about the study, you may direct those to the researcher, Joe Zhou at zhou@csus.edu, (916) 278-6201, or to the faculty sponsor, Dr. Rose Borunda at rborunda@csus.edu, 916-278-6310. You may print a copy of this letter to keep for your records.
APPENDIX G

Type of Positions Held by CALA Librarians

(on attached disk)
APPENDIX H

African American Chief Librarians

(on attached disk)
APPENDIX I

ARL Chief Librarians

(on attached disk)
APPENDIX J

Q1 Code Book
Q1 AAPI Librarians Leadership Survey Codes

0
Yes=1, No=0

I-1. Choose your generation as an AAPI immigrant. If you are a foreign-born citizen or legal resident of the U.S., you are a first generation immigrant.
  • Not an Asian/Pacific American (AAPI) citizen or legal resident=0
  • First generation Asian/Pacific immigrant =1
  • Second generation AAPI--one of your parents is a first generation Asian/Pacific immigrant =2
  • Third generation AAPI--one of your grandparents is a first generation Asian/Pacific immigrant = 3
  • Fourth or more generation AAPI=4

I-2. Please choose the first diploma or degree you have received in the United States or Canada
  • High School Diploma = 1
  • Associate Degree = 2
  • Four-year College Degree =3
  • Graduate Degree =4
  • No Diploma or Degree from North America =0

I-3. What is the total population of the city/county/metropolitan area where you work?
  • Less than 10,000 = 1
  • 10,001 to 50,000 = 2
  • 50,001 to 500,000 = 3
  • 500,001 to 1 million = 4
  • More than 1 million = 5

I-4. Please select your highest education attainment
  • ALA-MLS only = 2
  • ALA-MLS plus a second master degree = 3
  • ALA-MLS plus a doctoral degree =4
  • A graduate degree outside ALA-MLS = 1
  • No graduate degree =0
I-5. Number of years you worked as a professional librarian, IT professional or other information professional.

- 0-4 = 1
- 5-9 = 2
- 10-14 = 3
- 15-19 = 4
- 20 or more = 5

I-6. Number of SCHOLARLY publications, including but not limited to journal articles, books, book chapters, book reviews, annotated bibliographies, of which you are an author or a co-author.

- 1-2 = 1
- 3-5 = 2
- 6-9 = 3
- 10-15 = 4
- 16 or more = 5

I-7. How many times have you made VOLUNTARY professional job changes? Please note, a move-up in rank, i.e. from Assistant Librarian to Associate Librarian on the same position is NOT a job change. But a position change within the same institution should be considered a job change.

- Never = 0
- 1 or 2 times = 1
- 3 or 4 times = 2
- 5-6 times = 3
- 6 or more times = 4

I-8. What is the highest position you have held in national library/information science organizations, such IFLA, ALA, or its divisions, PLA, ACRL, LITA etc. Please do not include CALA, APALA or regional community organizations here.

- None = 0
- Membership only = 1
- Committee member = 2
- Committee chair = 3
- Elected Board/Council member = 4
- Other= assign 0-4 value manually
I-9. What is the highest professional position you have held in North America?

- Non-supervisor Professional (does not supervise other full time staff) =0
- Supervisor Professional, i.e. department, section head or associate director =1
- Chief librarian (the highest ranked librarian) supervises less than 10 FTE staff =2
- Chief librarian supervises 10-49 FTE staff =3
- Chief librarian supervises 50+ FTE staff =4
- Others = assign 0-4 value manually

I-10. What is your level of involvement within your library and the parent institution, i.e. an academic library's parent organization will be the university. Choose ALL that apply!

- Served on library committees =1
- Served as library committee chair =2
- Served on parent institution's committees =4
- Served as parent institution's committee chair =5
- Served on Asian/Pacific employees association =3
- Other: Assign value manually

I-11. What is your level of involvement with the local government and school district? Choose ALL that apply!

- Regularly participate in general elections =1
- Regularly participate in primary election and other local elections =2
- Attended, at least once, school district/college board meetings =3
- Attended, at least once, city/county/local government council/board meetings =4
- appointed or elected to serve on local government or school district council/board =5
- Non-citizen and not eligible to vote =0

I-12. What is your involvement with the regional or local communities? Choose ALL that apply!

- Board/Council member of local Asian community organizations, i.e. Chinese school = 1
- Board/Council member of a community organization, i.e. Homeowners association, local church =4
- Board/Council member of Asian professional organizations, i.e. CLA, CALA, APALA = 2
- Board/Council member of professional organizations, i.e. Toastmasters International, Friends of the library = 5
- Board/Council member of a hobby club, sports, music, cooking = 3
- Others, assign value manually

II-1. From your perception, how important are these factors in achieving top library leadership positions? The least important is 1 and the most important is 5.

<table>
<thead>
<tr>
<th>In addition to MLS, a second master or a doctoral degree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>More scholarly publications and professional presentations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active involvement in ALA and other national professional organizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service on institution’s committees, especially as chairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service on parent institution’s committees, especially as chairs</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Active involvement in local government</td>
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<td></td>
</tr>
<tr>
<td>Active involvement in local Asian/Pacific community organizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Asian culture of hard working and no complaining</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Raising the issue to ALA Presidential candidates on lack of AAPI leaders during elections</td>
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</tr>
<tr>
<td>A national initiative to look at equal opportunities for promotion of minority workforce</td>
<td></td>
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</tr>
</tbody>
</table>
II-2. Please indicate your level of agreement from "1--Strongly Disagree" to "5-- Strongly Agree" with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native born Asian/Pacific librarians have a better chance than first generation immigrants to enter the leadership rank.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Asian/Pacific librarians are perceived by the hiring authorities as knowledgeable and technical, but not as good leaders.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Asian/Pacific librarians have LESS CHANCE to be promoted to top leadership positions than women and other minority librarians.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Asian/Pacific librarians lack leadership role models/mentors for achieving top leadership positions.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The lack of AAPI librarians in top leadership roles can't be explained by job-related factors, i.e. education, publication, and years of experience.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The degree of AAPI librarians under-representation is greater at higher leadership levels than at lower levels.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The diversity programs in my institution often exclude AAPI because they are not under-represented minorities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>National media attention to AAPI leadership under-representation will improve chance of promotion for ALL minorities</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Increasing AAPI voting power in all levels of elections will improve AAPI leadership achievement gap.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

1 is "strongly DISAGREE" and 5 is "strongly AGREE"
II-3. Assuming you are qualified for a higher leadership position in the next five years, please indicate your likelihood of applying from "1--Very Unlikely" to "5--Very Likely" with the following conditions:

<table>
<thead>
<tr>
<th>Condition</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The leadership position is within your current institution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>The leadership position is in the same region and you do not have to move.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>The leadership position is outside your region, and you will move to a metropolitan area NO SMALLER than your current location.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>A higher leadership position in any location after my children are independent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>A higher leadership position in any location after I retire from current position.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>A higher leadership position without conditions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
</tbody>
</table>

1 is "very unlikely" and 5 is "very likely"

II-4. Please list any Asian/Pacific chief librarians who are leadership role models to you by name, title, and contact information.

Please list AAPI chief librarians by name, title, and contact information

II-5. From your perspective, please write anything else that will contribute to having more AAPI librarians at top leadership positions.

II-6. From your perspective, please write major obstacles that hindered AAPI librarians reaching top leadership positions.
APPENDIX K

Questionnaire One (SPSS Data File)

(on attached disk)
APPENDIX L

Q1 Value Labels and Recodes (SPSS Syntax File)

(on attached disk)
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Leadership Education for Asian Pacific.


