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Racial and Ethnic Representation in Gifted Programs

Current Status of and Implications for Gifted Asian American Students

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Abstract: The Elementary and Secondary School Survey data and Civil Rights Data Collection of the Office for Civil Rights (OCR) were analyzed to describe the issue of overrepresentation of gifted Asian American students in gifted education programs in the United States. Nationally, Asian and Whites have been overrepresented in gifted education since 1978, whereas, students from other ethnic backgrounds, such as those from American Indian or Alaska Native, Hispanic, and African American groups, have been underrepresented with gradual increases in this underrepresentation since 1994. When the data were disaggregated by state for the period from 2002 to 2006, each racial and ethnic group displayed varied ranges of representation. Those varied distributions can be attributed to each state's unique demographic profile, varied definitions of giftedness, identification procedures, and identification policies. By focusing on Asian American students, this study addressed some difficulties that gifted Asian American students may face concerning the image of model minority and through the acculturation processes as immigrants or descendants of immigrants. Furthermore, this study suggests a need for disaggregated data collection and more research concerning gifted Asian American students from various ethnic Asian groups.

Putting the Research to Use: Findings from this study highlight the need for carefully collected data in the field of gifted education concerning race and ethnicity of students in programs and provide the reader with a picture of both underrepresentation and overrepresentation of students by state and ethnic group. Attention needs to be paid to sub-groups within categories of race and ethnicity to understand representation. By considering the issue of Asian Americans and their overrepresentation, this research has raised awareness about factors, such as identification processes, acculturation, and academic motivation that might promote recognition of giftedness among some ethnic groups. Finally, this research offers readers with a new, multiple-year, current, analysis of the representation in gifted programs nationally and by state for racial/ethnic groups, an area of continued concern to those in the field of gifted education.

Keywords: *Gifted, Race, Ethnicity, Asian American, Representation, Identification, Underrepresentation*

Representation by race and ethnicity is one of the major issues facing gifted education in pursuit of a more equal representation of students in gifted education programs. Underrepresentation has been a concern in the field of gifted education from the very beginning of its development (Jenkins, 1936). This concern has persisted over many decades (Baldwin, 1987; Ford, 1998; Ford, Grantham, & Harris, 1996; Frasier, 1980; Torrance, 1969, 1973, 1977) and continues to be an issue in gifted education (Ford & Grantham, 2003;

Grantham, 2003). Thus, most research addressing educational equality has focused on improving the representation of other minority students, especially African Americans, in gifted education.

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Meanwhile, overrepresentation¹ has just begun to draw the attention of researchers and educational practitioners (Kitano & DiJiosia, 2002). A recent literature review revealed that very little research has focused on the issue of overrepresentation. Some researchers believed that Asian American students, as a group, are perceived as “overrepresented” in gifted education programs (Ford, 2003; Ford, Harris, Tyson, & Trotman, 2002), but there is a lack of sufficient information about the accuracy of this perception or belief. Additionally, the current available research tends to view all Asian American students as a single group, while simply acknowledging the huge cultural and economic differences among the diverse subgroups that comprise Asian Americans (Kao, 1995).

As stated in “Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity” issued by the Office of Management and Budget (OMB) in 1997, the “Asian” category only includes peoples of origins from the Far East, Southeast Asia, or Indian subcontinent. The Asian category is not only limited to nationalities, but also includes ethnic groups as well, such as Hmong (U.S. Census Bureau, Population Division, 2000). The Census Bureau does not have a separate definition for the Far East, Southeast Asia, or the Indian subcontinent. Geographically, Far East Asians include people from China, Japan, Korea, Mongolia, and Taiwan. Surrounded on the east by the Indian continent, south by China, and north by Australia, Southeast Asia refers to regions including Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, Vietnam, and East Timor. The Indian subcontinent, aptly referred to as South Asia, includes countries such as Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, and parts of Afghanistan. According to the U.S. Census, 2000, Asian Americans comprised 3.8% of the total population of the United States with Whites at 81.1%, African Americans at 12.7%, and Hispanics of any race at 12.6%. However, the projected population of 2050 based on the census in 2000 estimates that Asians will reach 8% of the total population and will be the fastest growing population in the United States (U.S. Census Bureau, 2004b).

Goyette and Xie (1999) listed some commonalities among Asian Americans: (a) Asian Americans as a whole group represent a marginal population in the United States, (b) they are culturally distinguishable from other minorities as well as from Whites, (c) their immigrant history is short, (d) they use their mother’s language at home, and (e) Asian Americans retain their

distinct ethnic identities even after several generations in the United States. Despite the commonalities, each Asian American ethnic group has distinguishable cultural characteristics and different immigrant histories congruent with the continuously changing circumstances and immigration laws in the United States (Kao, 1995).

Misperceptions Concerning Asian Americans

According to Census 2000, an average of almost 69% of all Asian Americans were foreign-born, and except for Japanese, Hmong, Cambodian, Filipino, and Laotian, most of the subgroups were composed of fewer than 30% native-born U.S. population members. Among foreign-born Asian Americans, except Chinese, Filipino, Vietnamese, Korean, Japanese, and Thai, more than 80% of the other subgroups of Asian Americans had entered the United States since 1980. In addition, some subgroups of Asian Americans showed a lower level of education, socioeconomic status, and English proficiency, and a high poverty rate than did U.S. total population (U.S. Census Bureau, 2004a). Nonetheless, treating Asian Americans as a homogeneous ethnic group has shaped some images of a model minority or a voluntary immigrant minority by overlooking heterogeneity among subgroups (Chang & Le, 2005; Lee, 1994; Min, 2004).

Model minority. Although Asian Americans comprise a relatively small proportion of various racial and ethnic groups in the United States, they have received some attention by researchers because they seem to attain relatively high levels of education and of economic success when compared with other minorities. Because of this, Asian Americans as a whole were dubbed a model minority (Kao, 1995; Min, 2004). However, studies on Asian American students’ academic success usually draw results from the samples of students identified as Chinese, Japanese, Korean, and Filipino (e.g., Eaton & Dembo, 1997; Fuligni, 1997; Fuligni, Tseng, & Lam, 1999). Nonetheless, indicating Asian Americans, in general, as a model minority seems to contribute to the stereotype of all Asian Americans as a model minority.

However, Asian Americans, as diverse as around 50 ethnic groups, have earned varied attainments in education and economics (Lee, 2006). Regarding economic status, some subgroups such as Asian Indian, Japanese, Filipino, and Chinese had higher median annual incomes than the median of all averaged U.S. total population families, but some subgroups such as Hmong, Cambodian, and Laotian had lower median

family incomes than the median incomes of the whole population, and also had higher poverty rates than other subgroups (Lee 2006; U.S. Census Bureau, 2004a). As for educational achievement, when compared with the total population, a higher percentage of Asian Americans had attained at least more than a high school diploma. Some subgroups such as Hmong, Cambodian, Laotian, and Vietnamese had a higher percentage of individuals who did not finish high school compared with the total population (U.S. Census Bureau, 2004a). Despite this diversity in education and economics, calling Asian Americans a model minority may not address significant variances in their academic and economic attainments across subgroups (Lee, 1994, 2006; Plucker, 1996).

Based on data of Asian American students in a high school, Lee (1994) stated that because of the model minority stereotype, some Asian American students tended to fit themselves into the image of a model minority. Even though they needed help, they kept their problems secret and were reluctant to talk to others. In a similar vein, some high-achieving Asian American students suffered from a fear of failure and did not accept poor performance. Furthermore, some low-achieving Asian American students were hesitant to seek help for their academic difficulties. Some Asian American students seemed to struggle to live up to the image of the model minority (Lee, 1994).

Voluntary immigrant minority. According to Ogbu's cultural ecological theory, a dynamic relationship between how educational environments treat minorities and how minorities react to those educational environments causes differentiated school performances of minorities (Ogbu & Simons, 1998). In addition, minorities have differentiated reactions according to their status, which was formed by their history of settlement in the United States. Ogbu and Simons (1998) categorized minorities based on their methods of settlement in the United States, such as autonomous, voluntary immigrant, and involuntary nonimmigrant minorities. For example, Amish, Jews, and Mormons were classified as the autonomous immigrants; immigrants from Cuba, China, India, Japan, and Korea were included as examples of the voluntary immigrant minorities, and American Indians and Alaska Natives, and African American as descendants of Africans who arrived in the United States as slaves were categorized as involuntary minorities (Ogbu & Simons, 1998).

Some Asian American students, categorized as voluntary immigrant minorities who immigrated

from China, India, Japan, and Korea, have perceptions of and responses to success in schools and society with better expectations of the future than do involuntary nonimmigrant minorities. Students with refugee status were treated as having perceptions of academic performance similar to voluntary immigrants in that they predicted changes in situation and environment before they came to the United States (Ogbu & Simons, 1998), even though they did not choose to settle down in the United States. Among subgroups of Asian Americans, Cambodians, Hmong, and Vietnamese were categorized as refugees.

However, Ogbu's analysis of academic success does not apply to all subgroups of Asian American students, which hold varied immigrant histories and different acculturation processes (Gibson, 1997; Lee, 1994, 2006). Some researchers have suggested that Ogbu's theory has some limitations (Foster, 2005) in that his analysis of voluntary, immigrant minorities, including refugees, did not account for the academic success of some groups of students. Thus, simple treatment of Asian American students as a single group of voluntary immigrants does not explain significant variations in their achievement. There is a need to understand the diversity among subgroups by studying disaggregated subgroups of data of Asian American students (Lee, 1994, 2006).

Studies With Disaggregated Data

Using disaggregated data from one urban school district in 1998-1999, Kitano and DiJiosia (2002) revealed various representations of subgroups of Asian and Pacific American students in gifted programs. Although students who identified themselves as East Asian Americans (i.e., Chinese, Japanese, Koreans) or as Asian Indians, Filipinos, and Vietnamese Americans showed relatively high percentage of representation in the gifted programs, students who identified themselves as Southeast Asian Americans (e.g., Cambodian, Hmong, Laotian,) were underrepresented in the gifted programs. Although Kitano and DiJiosia did not provide correlates between the students' race and ethnicity and other factors such as socioeconomic status, home environments, and cultural values, which might affect students' achievement, they questioned the common belief that Asian American students are overrepresented, and they presented discrepancies in the proportional representation of subgroups as gifted Asian American students.

Using a nationwide survey data of the National Education Longitudinal Study of 1988 (NELS:88), Konstantopoulos, Modi, and Hedges (2001) analyzed

various correlates related to academically gifted students such as students' characteristics, socioeconomic status, and home environment. As a longitudinal study launched in 1988 and ended in 2000, NELS:88 provides data collected from more than 23,000 eighth grade public school students for researchers to analyze. Konstantopoulos et al. (2001) defined academically gifted students as those who scored in the top 3% on a composite academic achievement test. They specified ethnic origins for Hispanic and Asian American students in this sample, which yielded small subgroups. Among subgroups, south Asian students, such as Asian Indians and Pakistanis, were relatively overrepresented, followed by Chinese, Korean, and Filipino American students. However, Southeast Asian American students, except Filipino American students, were underrepresented in the representation. This uneven representation of subgroups of Asian American is consistent with Kitano and DiJiosia's (2002) findings.

Purpose

Considering the diversity, growth, and misperceptions that surround Asian Americans (Plucker, 1996), there is a need to add more specific perspectives to the issue of overrepresentation of Asian American students in gifted programs. The present study aimed to provide an exact view of representation by race and ethnicity and define the current status of Asian American students in gifted programs. To this end, a research effort was made to find appropriate statistical data sorted by race and ethnicity, and when available, by subgroups of Asian Americans.

Method

The process of searching nationwide statistical data of gifted programs conducted by the U.S. Department of Education, revealed three data sources: NELS:88, the School and Staff Survey (SASS), and the Office for Civil Rights (OCR) data collection. Although, the U.S. Department of Education has conducted the SASS and offered statistical data of enrollment of students in gifted programs since 1988, it has not provided the disaggregated data of students by race and ethnicity. Among these three data sources, the OCR database is the only regularly updated nationwide database of gifted and talented programs (Donovan & Cross, 2002). It has been updated since 1976 when it was known as the Elementary and

Secondary Schools Survey. In 2004, it was renamed as the Civil Rights Data Collection. The OCR database is the only database distinguished by gender and race and ethnicity. The National Center for Education Statistics (NCES) has released the OCR data to the public with the standard errors, but rounded data, through the Digest of Education Statistics series since 2002.

However, there existed little disaggregated data concerning various subgroups of Asian American students in gifted programs. Currently, the NCES in the U.S. Department of Education does not provide any nationwide data about subgroups of race and ethnicity of students in gifted programs. The NCES data report concerning race and ethnicity of students at the state and district levels were usually based on the following five groups: (a) American Indian or Alaska Native, (b) Asian or Pacific Islander, (c) Hispanic, (d) African American, and (e) White. Currently, the Census Bureau and NCES abide by the definition of race and ethnicity that was included in standards of the OMB in 1997 for a statistical purpose. Here, ethnicity is based on the two categories of Hispanic or Latino and Not Hispanic or Latino, and race is based on the following five categories: (a) American Indian or Alaska Native, (b) Asian, (c) Black or African American, (d) Native Hawaiian or Other Pacific Islander, and (e) White. Thus, people who identify their origin as Spanish, Hispanic, or Latino have ethnicity of Hispanic or Latino and may be of any race (U.S. Department of Education, 2003).

Data Sources

This descriptive study used the large data sets from the OCR to address the question of proportional representation among racial and ethnic groups in gifted programs in each state. Because data disaggregated by subgroups of Asian Americans were unavailable, we analyzed the data of the OCR categorized by five race and ethnic groups (i.e., American Indian or Alaska Native, Asian or Pacific Islander, Hispanic, African American, and White). Since 1997, the OCR has distinguished African American and White as non-Hispanic origin. The OCR data were analyzed to determine representation of students identified as gifted by race and ethnicity for these five categories.

To address discrimination against age, gender, race and ethnicity, and disability, the OCR has collected data of students enrolled in the public elementary and secondary schools since 1968. Under the name of the Elementary and Secondary School Surveys (E&S

Survey) until 2002 and the OCR data collection after 2004, the OCR has conducted a biennial survey since 1976 to collect data about educational services, including gifted and talented programs in schools, district, and states by race and ethnicity, gender, and disabilities. Recently, the OCR released the data for 2006-2007 school year with a sample of 5,929 public school districts and 62,484 schools in those school districts. The OCR also provides projected national- and state-level data, converted from the reported data (U.S. Office for Civil Rights, 2002, 2004, 2006). We obtained the 2002, 2004, and 2006 data with standard errors that were accurate to two decimal points by requesting these data directly from the OCR.² These data are appropriate for the purpose of this study to examine representation issues of racial and ethnic groups in gifted programs. This study used the data of state and national projections to identify representation by race and ethnicity. Projected data from 1978 to 2006 were considered to provide a view of trends in representation by race and ethnicity in gifted programs nationally. For each state except the District of Columbia which has no data entries, the projected data of 2002, 2004, and 2006 were considered.

Design

To clarify the description of representation by racial and ethnic groups, this study adopted one of the comparison methods introduced by Kitano and DiJiosia (2002). Kitano and DiJiosia suggested two ways to describe the representation of population by racial and ethnic groups. One is simply to compare percentages of students in each racial and ethnic group who are enrolled in gifted programs and who are enrolled in schools in which the gifted programs are situated. In that case, two sample *t* tests or chi-square tests for each racial and ethnic group by states are appropriate. Another is to use a Representation Index (RI), which is effective to summarize a representation trend in one number.

A Representation Index (RI) consists of the ratio of the proportion of students from a given racial category in gifted programs to the proportion of students from that given racial category in schools with the gifted programs (Kitano & DiJiosia, 2002). If the RI equals 1.0, it indicates a perfect proportion of representation by a race and ethnic group. If the RI is greater than 1.0, it suggests a greater tendency toward overrepresentation, and if the RI is less than 1.0, it shows a tendency toward underrepresentation of a racial and ethnic group. For example, if one racial

and ethnic group consisted of 10% of total population, but students from that group comprised 1% of the students identified as gifted, this results in a RI of 0.1, indicating proportional underrepresentation. An underlying assumption of representation is that the proportion of a racial and ethnic group in any categories or programs should be equal to the proportion of that ethnic group in the school population if there is no discrimination (MacMillan & Reschly, 1998). In this study, the RI, an appropriate method to conduct a comparative analysis, was used to investigate the general trend of representation of racial and ethnic groups by examining the OCR data.

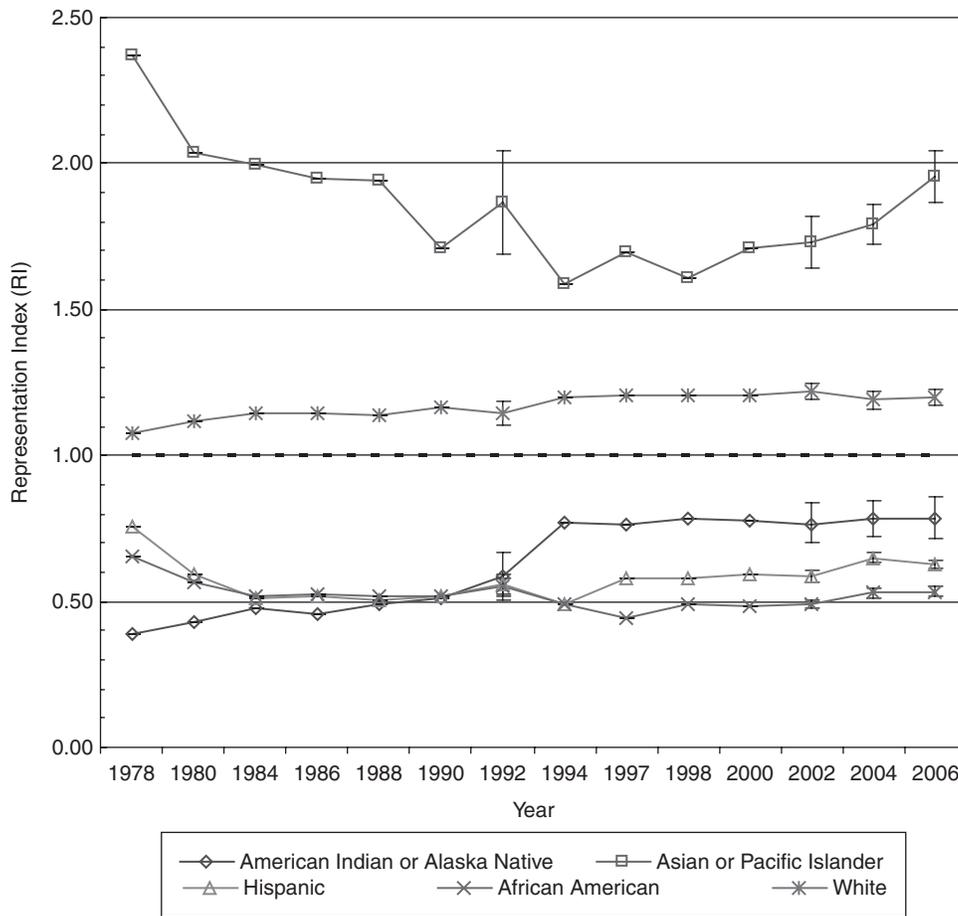
To construct 95% confidence intervals of an estimated representation index, we incorporated the Fieller method (Motulsky, 1995) under the assumption that each population number given in the OCR data can be treated as a mean from a large sample size with a normal distribution. The Fieller method is one way to calculate confidence intervals of a quotient together with the delta method and the generalized linear method (Beyene & Moineddin, 2005). By simulating the three methods, Beyene and Moineddin (2005) found that they produced very similar results of confidence intervals especially when population sizes were relatively large.

Results

Nationwide Representation

According to the OCR projected data, on average, almost 6.6% to 6.8% at a 95% confidence interval of all students, regardless of race and ethnicity, participated in gifted programs in 2006. Figure 1 depicts the nationwide Representation Index (RI) of students who participated in gifted programs from 1978 to 2006 by racial and ethnic groups. A dotted line designating a RI of 1.0 was inserted to help distinguish between overrepresentation and underrepresentation. The capped error bars of RIs since 2002 extended to the 95% confidence intervals. Students who self-identified as Asian and Pacific Islander have consistently been overrepresented with an RI exceeding 1.6 since 1978. White students also have been slightly overrepresented in gifted programs with an RI of about 1.2. American Indian or Alaska Native students have had a static representation in gifted programs after a gradual increase in 1994, and they still have been underrepresented with an RI of approximately 0.8. Even though students

Figure 1
Nationwide Racial and Ethnic Representation in Gifted Programs From 1978 to 2006



Source: The Office for Civil Rights (OCR), the Elementary and Secondary School Survey, and the Civil Rights Data Collection.
 Note: The dotted line indicates that Representation Index (RI) is 1.0. Error bars expanded to 95% confidence intervals.

who identified themselves as Hispanic or African American have gradually increased in gifted programs since a drop in 1994 and 1997 respectively, they have been continuously underrepresented with RI's ranging from 0.4 to 0.7.

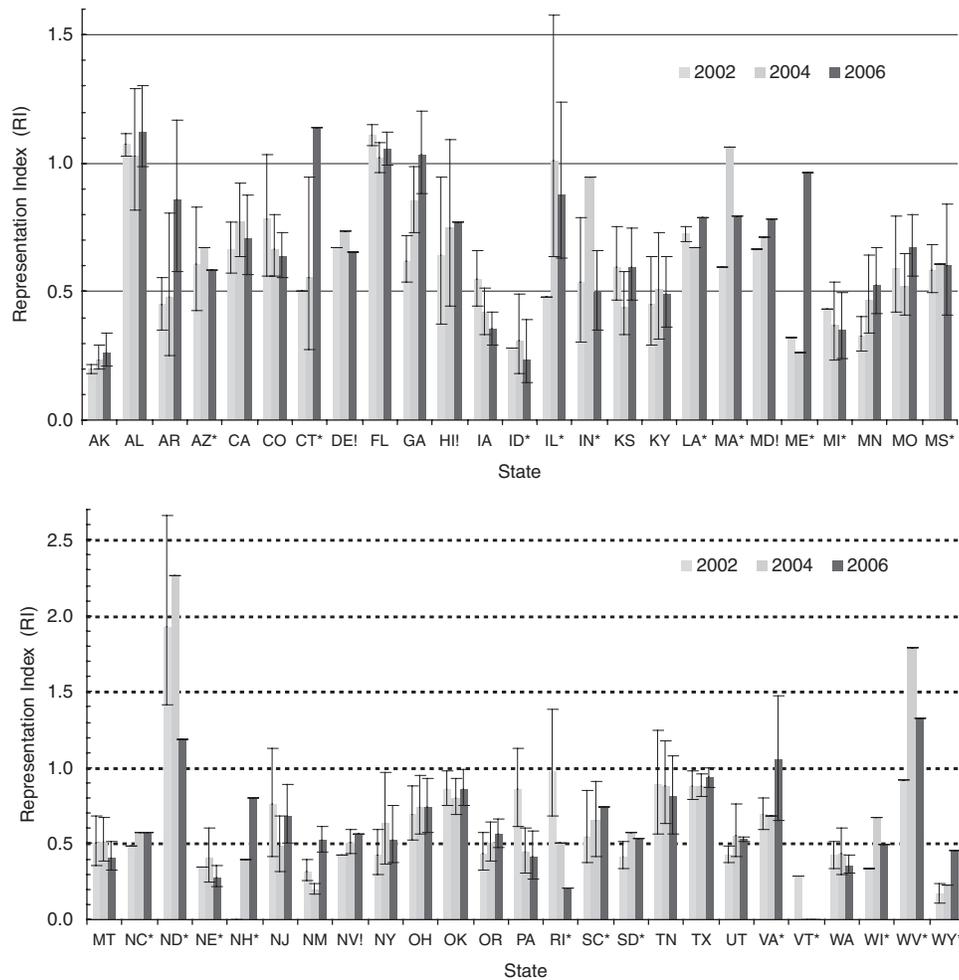
Statewide Representation

To present the 3-year statewide OCR data, 2002, 2004, and 2006, bar graphs were adopted to illustrate a comprehensive representation of states and race and ethnicity. Figures 2 through 6 show varied representations of five racial and ethnic groups by states and years. The capped error bars represent the 95% confidence intervals. According to the Fiella formula, lower limits and upper limits of confidence intervals are not always symmetrical around representation indexes. As a result of the uncertainties from the standard errors,

some states have wide ranges of 95% confidence intervals of RIs. We marked those states with an asterisk (*) if the standard error is greater than 25% of an estimated RI in at least 1 year's data. For these states we did not incorporate the confidence intervals on Figures 2 through 6 because it seemed meaningless to denote the large amount of statistical uncertainties on the graph. These uncertainties did not allow us to draw any conclusive statements about these states. If data from a state are based on universal count in at least 1 year's data, then the state is flagged by an exclamation mark (!) with no standard errors on the graph. For example, in 2006, four states, Delaware, Hawaii, Maryland, and Nevada, were flagged in this way.

As of 2006, Asian and Pacific Islander students were overrepresented in most states (41 out of 50 states) even considering the statistical uncertainties (Figure 3). Besides the four states marked by an asterisk due to

Figure 2
Statewide Representation of American Indian or Alaska Native Students
in Gifted Programs in 2002, 2004, and 2006

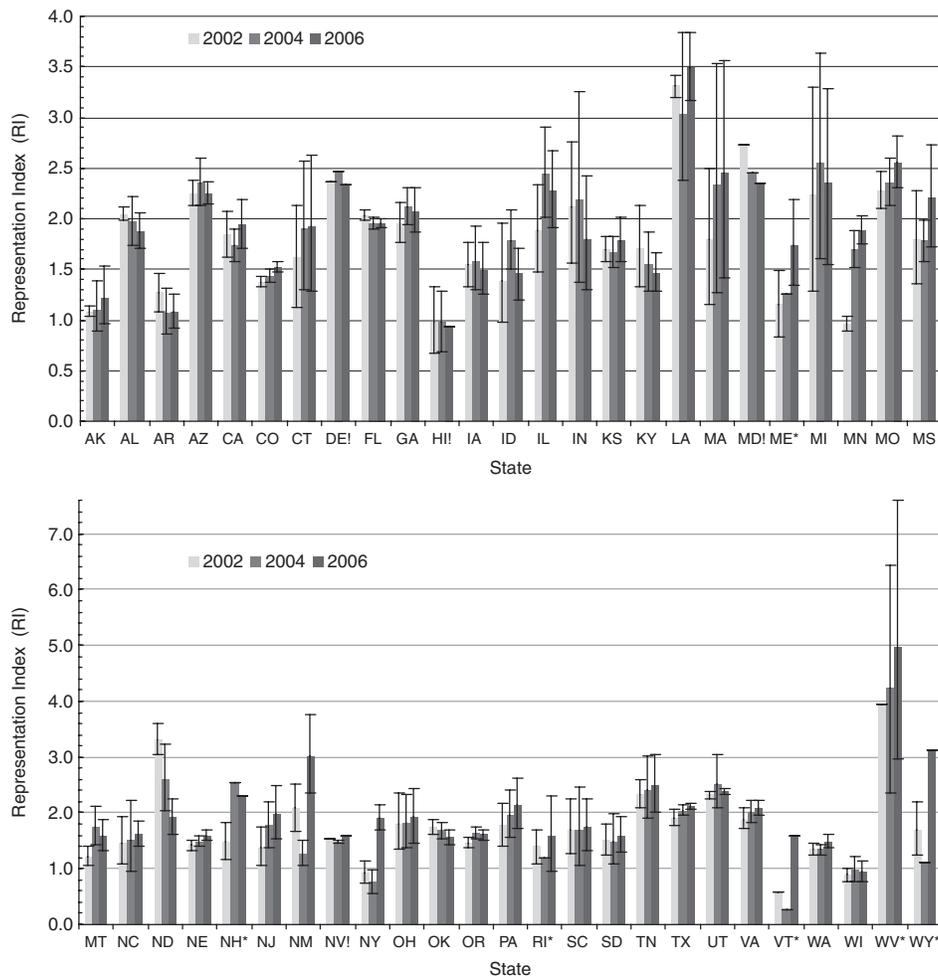


large statistical uncertainties, five states, Alaska, Arkansas, Hawaii, Rhode Island, and Wisconsin, had 95% confidence intervals laid down on RIs less than 1.0. Notably, Hawaii and Wisconsin had RIs less than 1.0 with uncertainties in all 3 years of the data with Hawaii less than 1.0 with certainty in 2006.

Similarly, White students were moderately over-represented in 26 states out of 50 states even adjusting for the statistical uncertainties in 2006 (Figure 6). With the exception of four states, Massachusetts, New Hampshire, Vermont, and Wyoming, having large uncertainties in 2006, 20 states revealed RIs having a lower limit of the 95% confidence interval less than 1.0 RI in 2006. Among them, North Dakota, Utah, and West Virginia had RIs less than 1.0 with uncertainties over the period of 2002 to 2006.

Generally, American Indian or Alaska Native, Hispanic, and African American students were under-represented as gifted in most states (Figures 2, 4, 5). With regard to American Indian or Alaska Native students, a relatively large number of states (15 out of 50) had data with large uncertainties in 2006, so they were not used to draw inferences. However, in 27 states these students were certainly underrepresented in 2006 with 95% intervals under the 1.0 RI. Among Alabama, Arkansas, Florida, Georgia, Illinois, Tennessee, Texas, and Virginia, all of which have a 95% confidence interval straddling the 1.0 RI, it was noteworthy that Alabama and Florida had an RI more than 1.0 with uncertainties for the entire data sets, and Georgia showed distinct increases of RIs during the data period.

Figure 3
Statewide Representation of Asian or Pacific Islander Students in
Gifted Programs in 2002, 2004, and 2006



Note: Each state is denoted by postal abbreviations. * denotes a state with at least one standard error larger than 25% of an estimated Representation Index (RI) and ! denotes a state with at least one RI based on universal counts.

As for Hispanic students, 43 out of 50 states were indubitably underrepresented in gifted programs in 2006. Apart from the five states asterisked because of large statistical uncertainties, two states, Louisiana and Maine had a 95% confidence interval straddling the 1.0 RI in 2006. It was notable that Maryland had RIs more than 1.0 with certainties in 2 years' data sets, 2002 and 2004, and Florida had RIs near 1.0 with relatively small uncertainties.

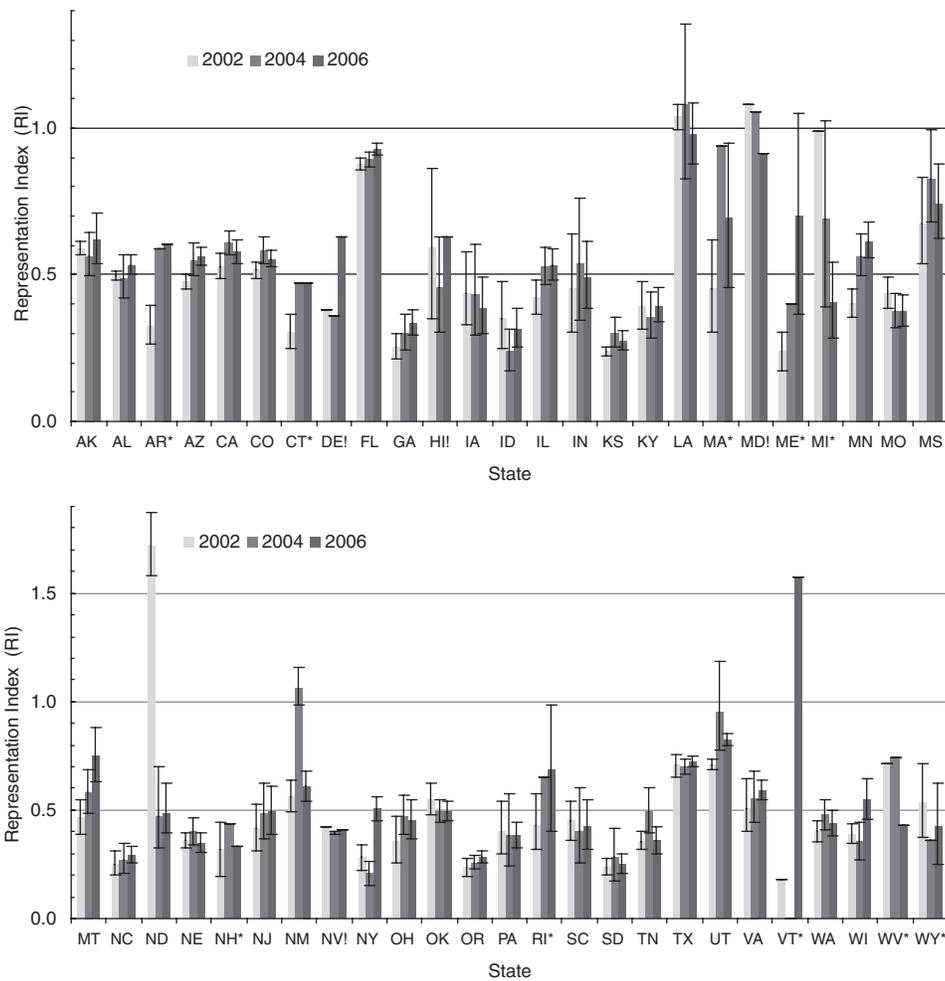
Concerning African American students, 42 out of 50 states, excluding the five states with large uncertainties, were underrepresented with statistical certainties below the 1.0 RI in 2006. Even though the three states, Massachusetts, West Virginia, and

Wyoming, had a 95% confidence interval spanning across the 1.0 RI in 2006, they had a relatively large range of the confidence interval.

Interpretation of the Findings

On both national and statewide levels, the OCR data revealed clearly disproportionate representation by race and ethnicity. On the national level as presented in Figure 1, White and Asian American students have been consistently overrepresented in gifted programs. Conversely, American Indian or Alaska Native, Hispanic, and African American students have been continuously underrepresented in gifted

Figure 4
Statewide Representation of Hispanic Students in Gifted Programs in 2002, 2004, and 2006



Note: Each state is denoted by postal abbreviations. * denotes a state with at least one standard error larger than 25% of an estimated Representation Index (RI) and ! denotes a state with at least one RI based on universal counts.

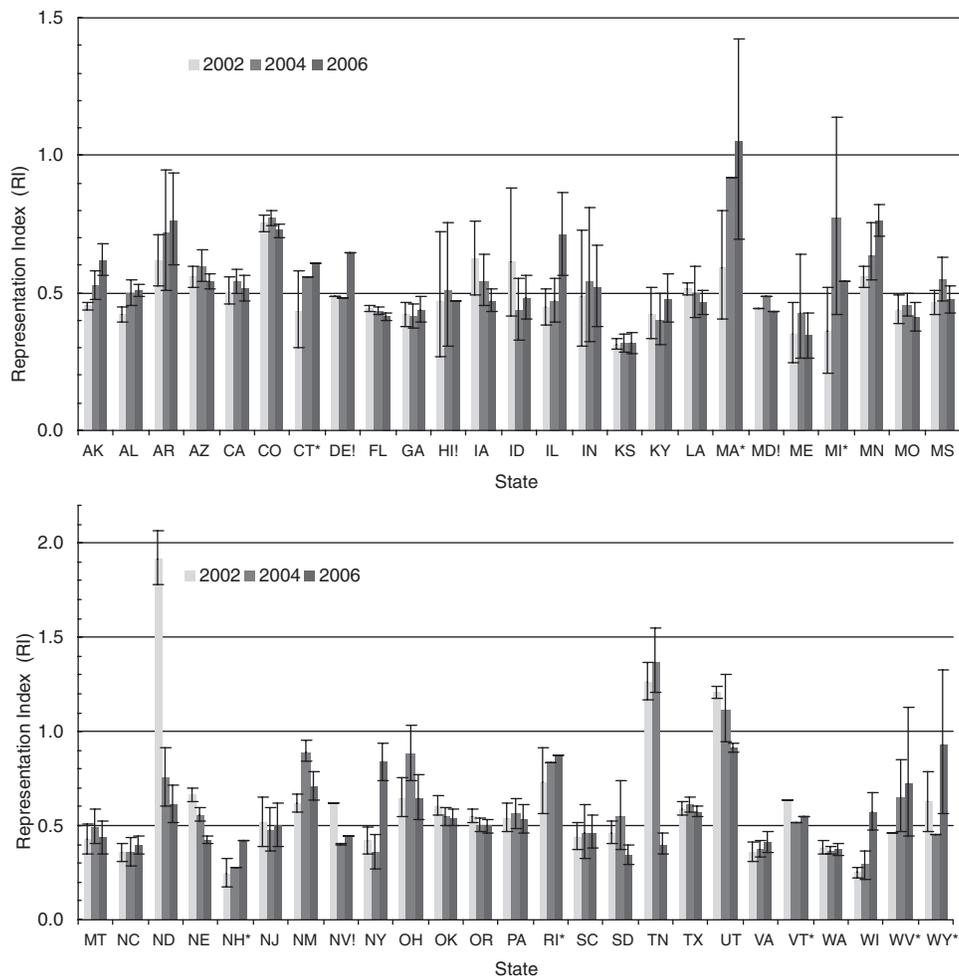
programs. This underrepresentation persists despite continuous studies concerning those minority groups.

On the statewide level, there were large state to state variations in the RI for each racial and ethnic group as presented in Figures 2 through 6. No states revealed an ideal proportional representation by race and ethnicity in gifted programs. In considering the varied definition and identification procedures of giftedness and policies by states (Coleman & Gallagher, 1992), these varied representations may be a function of the varied identification procedures. As shown in Figures 2 through 6, trends existed in some states concerning representation of some racial and ethnic groups during the entire period of the data. For example, the representation of the American Indian or Alaska Native group increased

in Arkansas, Georgia, Maryland, Minnesota, New Mexico, Nevada, and Utah when we compared the 2002 data with the 2006 data, even though their RIs were lower than 1.0. However, RIs decreased in some states such as Delaware, Iowa, and Pennsylvania even considering the statistical uncertainties (Figure 2). The representation of Hispanic students increased in Arizona, Delaware, Florida, Illinois, Maine, Minnesota, Montana, New York, Utah, and Wisconsin and decreased in Maryland during the same period (Figure 4). In the case of African American students, RIs increased in Alaska, Alabama, Delaware, Illinois, Minnesota, New York, and Wisconsin, and decreased in Florida, North Dakota, Nebraska, Nevada, South Dakota, Tennessee, and Utah (Figure 5). However,

Figure 5

Statewide Representation of African American Students in Gifted Programs in 2002, 2004, and 2006



Note: Each state is denoted by postal abbreviations. * denotes a state with at least one standard error larger than 25% of an estimated Representation Index (RI) and ! denotes a state with at least one RI based on universal counts.

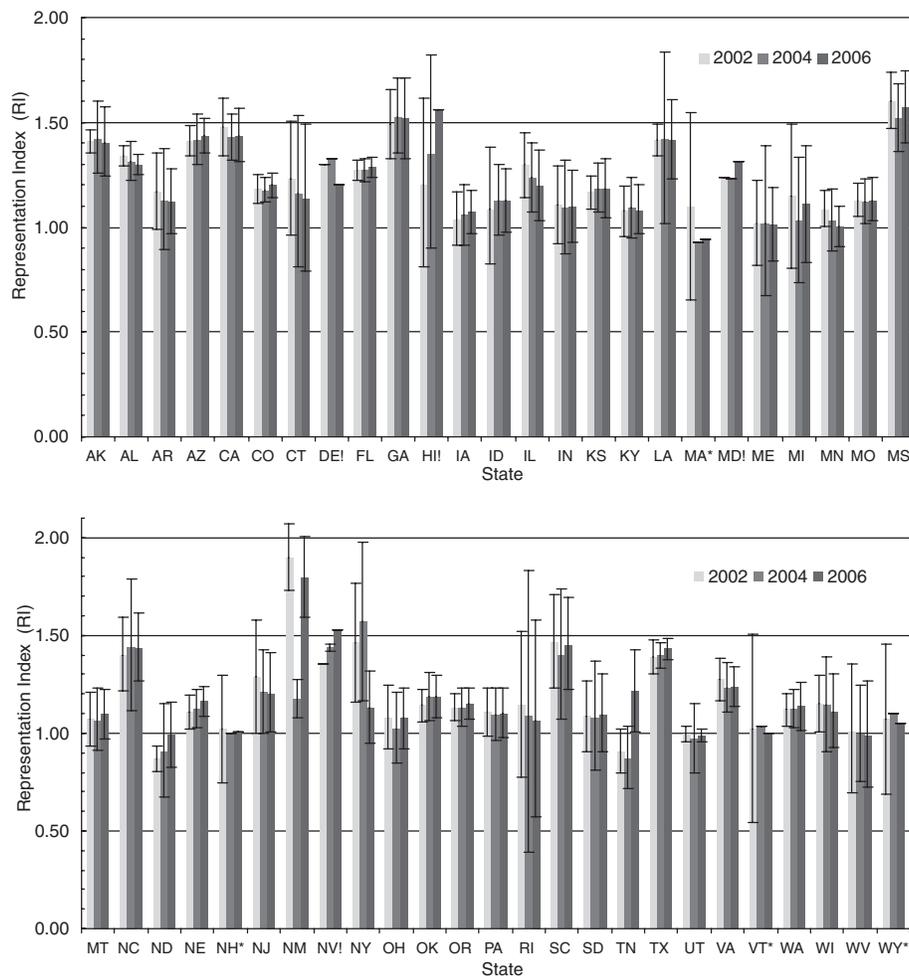
among of them, Utah was the only state that had RIs relatively close to 1.0 in all 3 years' data.

According to Figure 3, Asian and Pacific Islander students have been overrepresented in most states in the 3 years' data. When we compared two data sets, 2002 and 2006, the RIs of Colorado, Minnesota, Nebraska, Nevada, New York, and Tennessee slightly increased, but the RIs of Maryland and North Dakota decreased. Wisconsin and Hawaii were the only states that had RIs with confidence intervals straddling the 1.0 RI in the entire data sets.

Wisconsin revealed that its demographic profile had a higher proportion of a specific subgroup of Asian Americans. Specifically, Wisconsin has the second largest Hmong population next to California,

followed by Minnesota in the United States. Since the second Indochinese War, Hmong refugees were dispersed across the United States to reduce the financial burden on each state in the period from 1975-1980. However, because of their strong kinship and clan-centered social structures, Hmong refugees began to migrate and regrouped in the above three states (Hutchison, 1997). Thus, Hmong populations accounted for more than the sum of other subgroups of Asian populations in Wisconsin. With a comparatively shorter immigrant history than other subgroups of Asian Americans, Hmong have high poverty rate among Asian American subgroups, as do Cambodians, Laos, and Pakistanis (U.S. Census Bureau, 2004a).

Figure 6
Statewide Representation of White Students in Gifted Programs in 2002, 2004, and 2006



Note: Each state is denoted by postal abbreviations. * denotes a state with at least one standard error larger than 25% of an estimated Representation Index (RI) and ! denotes a state with at least one RI based on universal counts.

Hawaii was the state with the largest proportion (41.6 %) of Asian Americans. It had the fourth largest of Asian American population behind California, New York, and Texas according to the 2000 Census. Hawaii also had a large portion of native-born Asian Americans, that is, later generations because of relatively longer immigration histories of some subgroups of Asian Americans than other states (Min, 2006).

Similar to the representation of Asian American students, White students have been continuously overrepresented across most states in all the data sets. The only exceptions were Delaware, which had a slight decrease, and Maryland and Nevada, which had increases in the RIs.

Discussion

Several conclusions can be drawn from the results, and several questions can be raised. Each state has used a varied definition of giftedness, identification procedures, and policies to place students in gifted programs (Coleman & Gallagher, 1992). Therefore, aggregated nationwide students' enrollment rate, as shown in Figure 1, might not be a precise indicator of certain groups' representation in gifted programs. However, even with these limitations, the OCR data are very informative and provide the largest sample of data over time; therefore, rather than anecdotal accounts, these data are adequate for exploring racial

and ethnic representations in gifted programs (Donovan & Cross, 2002).

Although Asian American students are generally overrepresented in gifted programs, little research has investigated this group of students (Ford, Baytops, & Harmon, 1997; Kao & Herbert, 2006; Plucker, 1996), and variations by subgroups among Asian students have been virtually overlooked. Even though the OCR data analyzed in this study did not provide disaggregated data of subgroups of Asian American students, the findings revealed that uneven representation has been persistent in gifted programs for decades. The varied regional representation of racial and ethnic distribution over time seems to imply that different identification procedures and an uncommon demographic profile of each state may contribute to those results. This section discusses some factors that can affect gifted Asian American students' representation in gifted programs in terms of identification procedures, acculturation processes, and academic motivation.

Identification Processes

Identification of gifted students is not an easy process. Even though multiple ways of identification methods to avoid cultural and socioeconomic biases have been recommended (VanTassel-Baska, Feng, & Evans, 2007), studies using traditional assessments have continuously reported possible biases toward minorities during identification procedures (McBee, 2006).

Using data of all public elementary gifted students enrolled in 2004 in the state of Georgia, McBee (2006) analyzed screening processes and displayed uneven nomination rates by race and ethnicity and socioeconomic status (SES). Among screening resources, automatic referrals, which were based on standardized tests and teacher nominations, identified more than half of the percentage of gifted students. The other identification sources such as parents, self- and peer-referrals were less accurate and less used to place students in gifted programs. Asian American students as a whole group together with Native Americans and Whites were nominated more than the other minorities, such as African American and Hispanic students, in most referral sources. In addition, low-SES students were less frequently selected into gifted programs regardless of their race and ethnicity.

Whether ability is evenly distributed or not across race and ethnicity (Gottfredson, 2004), identification procedures may not be totally free of biases across racial and ethnic groups. For example, when it comes to the teacher's role in the classroom,

Adderholdt-Elliot, Algozzine, Algozzine, and Haney (1991) reported that teachers participated in identification processes in more than 90% of states. Peterson (1997) analyzed 55 middle school teachers' responses on their criteria to refer students as gifted. Most of them relied on the students' behaviors, such as mastery of English and classroom participation, to nominate them as gifted students. Even experienced teachers in identifying and teaching gifted students may not fully perceive culturally situated giftedness of minority students (Neumeister, Adanms, Pierce, Cassady, & Dixon, 2007). If mainstream teachers rely heavily on the mainstream cultural values to assess students' behavior to nominate them as gifted, they might miss gifted minority students, whose behaviors are affected by different cultural values. In the classroom, teachers as "pivotal players" (Peterson, 1999, p. 354) might be partly responsible for underrepresentation of minority students in gifted programs. Such undernominated referral might affect not only minority students but also some subgroups of Asian students with low SES.

Acculturation Processes by Generations

As a medium in which students' behavior is situated, cultural values affect students' behavior in the class (Peterson, 1997). As immigrants and descendents, both Asian American parents and students have gone through an acculturation process in the mainstream culture. However, because of different acculturation processes, conflicts between parents and children often exist. In their qualitative study of two gifted Taiwanese American students, Kao and Herbert (2006) described a subtle conflicting situation between their parents and two students caused by different academic expectations, different notions of successful career choices, and cultural values. According to the analysis of acculturation processes of Korean American students by Lee (2004), students revealed differentiated acculturation processes according to their generation. Students of later generations, such as second and third generation descendents, have adapted to the mainstream culture, although still maintaining internal cultural values. However, the first- and half-generation students, who were born in foreign countries but educated in the United States, had more conflicts than in later generations. These conflicts included more difficulty in communication with their parents (the first generation), who spoke more mother language at home and kept strong cultural values. Lee (2004) suggested that the first generation and first and half generations need to be treated differently than

other generations due to their unique situation. Even though some subgroups of Asian American students have shown relatively higher achievement than other subgroups, academic achievements of Asian American students have decreased with each generation in the United States (Zhang, 2001).

Academic Motivation

According to studies on academic motivation, which were mostly based on the data of East Asian or South Asian American students, Asian American students were more likely to have a strong tendency to attribute academic success to effort and trust choices or values determined by parents or social groups because of cultural collectivism (Iyengar & Lepper, 1999). Consequently, Asian American students as a whole seem to show better academic performance; they adjust to schedule more study time, have high academic expectations and aspirations, and evaluate themselves more stringently (Fuligni et al., 1999). Also, they have strong parent and peer support (Fuligni, 1997), high parental expectations, and strong parental criticism (Castro & Rice, 2003). However, the pursuit of high achievements among some subgroups of Asian American students also bring some unhealthy repercussions, such as increased fear of failure (Castro & Rice, 2003; Eaton & Dembo, 1997; Zusho, Pintrich, & Cortina, 2005), chronic worry about making mistakes or self-doubts (Castro & Rice, 2003), and anxiety (Zusho et al., 2005). Although Asian American students' academic motivation accounts for better performances and identification in gifted programs, in some subgroups of Asian Americans, social and emotional problems can result.

Even though Asian Americans were overrepresented in gifted programs in most of the states for decades, there were some points that we need to explore further. We might attribute their general overrepresentation to various reasons, such as different academic motivation and presumably different abilities (Gottfredson, 2004) that conflated to place students in gifted programs with the current identification processes. However, it does not mean that those attributes describe all subgroups and all generations of Asian American students, as we could confirm that in a few states, for example Wisconsin and Hawaii, Asian American gifted students had relatively low rates of representation. Each subgroup of Asian Americans had a different immigration history, so together all subgroups may not be simply classified as a voluntary immigrant minority. Furthermore, as

immigrants or descendents of immigrants, Asian American students have experienced acculturation processes at school and at home. They seem to have difficulties revealing their varied educational needs, in part due to acculturation processes and a desire to uphold the image of the model minority at school, and they seem to have conflicts with their parents caused by differentiated acculturation processes at home.

Limitations

Finally, we should discuss the following three points as limitations of this study. First, the results of this study that were derived from the projected data by the OCR could serve to provide general estimates of representations rather than precise numerical evaluations. Second, as a characteristic of a quotient index, RIs are sensitive to sample size. This means that if denominators are fixed, some changes in the number of students in nominators might cause a large change in a RI for racial and ethnic groups with a small population like American Indian or Alaska Native students. However, the same change might not be significant for racial and ethnic groups with a large population such as White students. Thus, this might partially explain relatively high variations of RIs for American Indian or Alaska Native and Asian and Pacific Islander groups and low variations of the other large population groups. Third, since the OCR counted students enrolled in K-12 school systems, we assume that secondary schools might place students in gifted programs using different criteria from elementary schools. Also, gifted students who drop out of school might not be counted.

Implications for Future Research

This study provides rationale for addressing the following areas in future research: (a) implementing changes in the methods of data collection by including more detailed racial and ethnic identification and (b) more research and educational interest in underserved gifted Asian American populations.

Necessity of Disaggregated Data

Aggregated data across approximately 50 ethnic groups in Asian American students may mask diversity of their educational needs (Lee, 2007; Pang, Kiang, & Pak, 2004). To uncover those variations, more efforts to obtain disaggregated data of subgroups of Asian American students in gifted programs are necessary to warrant better future educational practices

(Kitano & DiJiosia, 2002). Particularly, more detailed data collection procedures are strongly recommended to include information about socioeconomic class, education, generations of immigrants, family structure, and geographical regions for all ethnic subgroups (Donovan & Cross, 2002).

A good example of these efforts was found in the Educational Longitudinal Survey of 2002 (ELS 2002). The ELS 2002 adopted a revised definition of race and ethnicity of NCES Standards (Seastrom, 2002) to the survey questions by using a two-question format. One question concerns ethnicity based on the categorization of Hispanic or Latino origin and a second question concerns race based on the five categorizations: (a) American Indian or Alaska Native, (b) Asian, (c) Black or African American, (d) Native Hawaiian or Other Pacific Islander, and (e) White. Furthermore, Hispanic origin was desegregated into six subgroups: (a) Mexican, (b) Cuban, (c) Dominican, (d) Puerto Rican, (e) Central American (Guatemalan, Salvadoran, Nicaraguan, Costa Rican, Panamanian, and Honduran), and (f) South American (Colombian, Argentinean, Peruvian, etc.). Asian American was broken down into six subgroups: (a) Chinese, (b) Filipino, (c) Japanese, (d) Korean, (e) Southeast Asian (Vietnamese, Laotian, Cambodian/Kampuchean, Thai, and Burmese), and (f) South Asian (Asian Indian, Bangladeshi, and Sri Lankan). Classifications by children might increase unreliability of data. Thus, obtaining the categories from family or census data would be important to assure the integrity of subgroup classification. Therefore, more detailed information for subgroups of race and ethnicity could be obtained in this way.

More Research and Educational Interest in Gifted Asian American Students

Even though aggregated data of gifted Asian American students as a whole have shown better representation in gifted programs, administrators and educators need to keep in mind the heterogeneity within subgroups and differences among individuals. Kao and Herbert (2006) suggested that teachers and counselors need to be aware of the potential difficulties that gifted Asian American students might face due to conflicts through differentiated acculturation processes with their parents and lack of role models to guide them. By understanding their acculturation processes, teachers can reduce bias in the nomination process to place students in gifted programs. Furthermore, administrators and practitioners also need to be aware of the unique demographic profile

of each state and provide appropriate identification procedures to embrace any underserved minorities.

In addition, it is time to invest more research efforts in Asian American students by examining the research void in gifted education. Aggregated data may not reveal an exact view of the problems existing for Asian American students, but may actually hide their unique educational needs. It is necessary to have sociocultural approaches to understand their educational needs by investigating each subgroup's immigration history, students' generation, SES, and their cultural values.

In light of varied demographic profiles of each state, much work lies ahead to address the issue of developing proportional representation of each racial and ethnic group in gifted programs. However, researchers need to look further to explain the reasons behind the varied range of racial and ethnic representations in each state shown in the OCR data. Furthermore, administrators and practitioners need to consider policies, identification processes, and curricula by reckoning on their state's unique demographic profiles and by assessing biannual changes in the racial and ethnic representation. These efforts would contribute to understandings of the varied minority groups and their unique situations in each state.

Notes

1. Although we are examining overrepresentation of Asian American students in gifted programs, in no way do we intend to infer that this phenomena indicated that Asian students are not deserving of placement in gifted programs. We do not intend to suggest that fewer Asian American students be identified, rather we seek to describe and investigate the nature and extent of this phenomenon.

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