

A Comparative Study of White and Asian-American Students' Orientations towards Schooling:

A Focus on 12<sup>th</sup> Graders' Mathematics Achievement

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**Abstract**

The author analyzed 12<sup>th</sup> grade students' orientations towards schooling, with a comparative perspective between White and Asian students. Using the longitudinal data from the National Education Longitudinal Study of 1988 (NELS:88), the author chose the third wave of data (the 1992 survey when students were 12<sup>th</sup> graders) for analysis. Findings indicate that Asian students have higher mathematics achievement than White students. However, students' orientations towards schooling are not the same for Asian and White students. Compared to White students, Asian students had higher aspirations for higher education and higher percentages of mathematics course enrollment during 12<sup>th</sup> grade. In addition, results indicated Asian students spent more time on mathematics homework out of school than White students.

## Introduction

The label “model minority” in reference to Asian-Americans<sup>1</sup> is a focus of hot debate within the educational community. Many have criticized this label, saying it neglects the diversity of Asians (Lee, 1994; Lew, 2006; Li, 2005). However, compared to other racial or ethnic minorities, it is widely accepted that Asian students are overrepresented among high academic achievers and in many prestigious colleges and universities (Bureau, 2007; Sue & Okazaki, 1990). There are different theories to explain the academic achievement of Asian students (Holdaway, 2007; Ogbu, 1983; Weinberg, 1997; Yin, 2007; Zhou, 2007). Generally speaking, culture (with a connection to Confucianism) and structure are two main explanations for Asian students’ success in education (Ngo & Lee, 2007; Zhou, 2007). For example, in his article in the *New York Times*, Kristof (2006) concluded, “...the success of Asian-Americans is mostly about culture (p. 13)”.

Because Asian students are perform differently than other minorities such as Black and Hispanic students in education and achieve at academic rates comparable to White students, it is interesting to explore the possible elements that contribute to their achievement. For example, some studies have argued that students’ motivation is closely related to their mathematics achievement (Chen & Stevenson, 1995; Whang & Hancock, 1994). This study focuses on students’ orientations towards schooling and these orientations’ effect on mathematics achievement, specifically comparing Asian and White students. In this paper, orientations towards schooling mainly include students’ aspirations of education, students’ mathematics

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<sup>1</sup> In the following context I will use Asian to refer Asian-American for convenience.

course taking status during 12<sup>th</sup> grade, students' time spent on homework in and out school, students' time spent on watching TV during weekdays and weekends, and students' locus of control and self concept. All questions related to the orientations in this study are based on students' replies.

### **Research Questions**

- a. Is there is a significant difference in orientations towards schooling between White and Asian students?
- b. If so, what is the impact of students' orientation to mathematics achievement for White students compared to Asian students?
- c. Which orientations tend to have the largest impact?

### **Subjects and Methods**

The data for this analysis comes from the National Education Longitudinal Study of 1988 (NELS:88). During the spring term of the 1987-1988 school year, the National Center for Education Statistics (NCES) initiated a national longitudinal study of 8<sup>th</sup> grade students in the United States. Many of the 8<sup>th</sup> grade students were re-surveyed in 1990, 1992, 1994 and 2000. Survey researchers collected data from the students (even after some dropped out of school), their parents, schools, teachers, and from extant high school and postsecondary transcripts. Students in the first three waves participated achievement tests (assessments in math, reading, science, and social studies). This analysis focuses on the third wave subjects (the 1992 survey when students were 12<sup>th</sup> graders). There are 14,136 subjects in this survey. However, because this analysis only focused on White and Asian students, after recoding and applying the suitable

weight, the analysis included 11,565 students (11,014 White students and 551 Asian students). I used 13 variables from the NELS:88 dataset for my analysis. After recoding, some categorical variables were treated as continuous variables. All continuous variables were standardized for regression analysis. Any cases with missing data regarding the variables of interest were deleted listwise.

I used regression and one-way analysis of variance (ANOVA) for analysis. My dependent variable was Mathematics IRT<sup>2</sup> and independent variables included three categories: (1) Background: race, gender, parents' education, socio-economic status; (2) Orientations towards schooling: students' educational aspirations, time spent on mathematics homework in and out school respectively, mathematics course-taking status, time spent watching TV during weekdays and weekends respectively; (3) Other factors: locus of control, and self concept. Detailed descriptions of variables are given below.

### **Mathematics IRT.**

My dependent variable was 12<sup>th</sup> graders' mathematics IRT which is a cognitive assessment for students' mathematics achievement. IRT (Item Response Theory) can relatively accurately reflect students' achievement at any point in time in the corresponding subjects (math, science and reading) because IRT allows test makers to include a broader range of questions that cover a broader range of difficulty. Based on the difficulty of questions correctly answered by a student, IRT estimates the total number of correct answers on a plausible test (one much bigger

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<sup>2</sup> IRT (Item Response Theory) is a cognitive assessment for students' achievement. Higher IRT scores represent higher achievement, vice versa.

and covering more curricular material than would be possible in a normal test taking setting). For example, the math IRT score indicates the number of correct answers on a math achievement test. High scores represent higher achievement and lower scores represent lower achievement. About 20% of the data were missing for students' mathematics IRT.

**Race.**

Race was recoded into dummy variables. The Asian students in the study included those whose backgrounds are Chinese, Filipino, Japanese, Korean, Southeast Asian, South Asian, West Asian, Middle Eastern, and Other Asians. The frequencies range from West Asian with 19 students to Filipino with 119 students. Except Filipino American students, none of other Asian group has a frequency more than 100. Due to the small subjects in subgroup within Asian students, I combined them into a single group. The number of White students was coded from a composite race variable. After recoding, there were 10,502 (95.4%) White and 551(4.6%) Asian students. However, the recoded race variable was not used as a predictor my multiple regression directly because I ran separate regression analysis for Asian and White students. There is about 1% missing data for the original composite race.

Readers should keep in mind that Asians are not a single racial/ethnic group and there are distinctions of 12<sup>th</sup> graders' mathematics achievement between these groups. For example, the 12<sup>th</sup> grade mathematics achievement for Chinese (0.85 *SD*) and South Asian (0.846 *SD*) students are much greater than Southeast Asian (0.37 *SD*) and West Asian students (0.23 *SD*). However, the purpose of this study is not to analyze this diverse aspect of Asian 12<sup>th</sup> graders' mathematics achievement.

**Gender.**

Gender was also recoded as a dummy variable: there were 5,461 (49.6%) female and 5,553 (50.4%) male students. There was no missing data for gender after selecting Asian and White students from the data set.

**Parents' Education.**

Parents' education was measured by a categorical variable: parents' highest education level. Within the data set, about 40% parents have education more than high school but less than four-year college, 19% parents have a high school education, 18% have a college education, 12% have a masters' degree (or equivalence) and 6% have a Ph.D., M.D. (or equivalent). There was no missing data for this variable.

**Socio-economic Status.**

Students' family socio-economic status was transformed into a standardized composite continuous variable, with higher scores corresponding to higher socio-economic status. There were no missing data for this variable.

**Students' Aspiration of Education.**

Students' aspiration of education is a categorical variable that asked how far students thought they could go in school. The choices included: "does not apply," "less than high school," "high school only," "less than 2 years school," "2 years or more school," "trade school degree," "less than 2 years college," "more than 2 years college," "finish college," "master's degree," "Ph.D, M.D. degree (or equivalent)," and "do not know." 64.8% of the students surveyed thought that they would "finish college," get a "master's degree" or "Ph.D., M.D (or equivalent)."

Because the choices of education are roughly ordered in one direction (the higher values correspond to higher aspirations except for the last one--“do not know”), after some minor recoding I was able to treat this variable as continuous variable. Thus, it was able to be used in the regression analysis. Three percent of the cases data were missing for this variable.

### **Time Spent on Mathematics Homework in and out School.**

These two categorical variables measure how much time students spent on mathematics homework in and out school respectively. The choices for the two variables include: “none”, “less than 1 hours,” “1-3 hours,” “4-6 hours,” “7-9 hours,” “10-12 hours,” “13-15 hours,” “over 15 hours,” and “not taking mathematics.” About 37% students reported not taking mathematics for both variables. In school, 20% of the students surveyed spent 1-3 hours, 18% of them spent 4-6 hours, and 15% of them spent less than 1 hour on mathematics homework. None of the other choices exceeded 5% of the students. Out of school, 23% of the students surveyed spent 1-3 hours, 14% of them spent less than 1 hour, 11% of them spent 4-6 hours, and 8% spent no time on mathematics homework. None of the other choices exceeded 4% of the students. In the regression analysis, these two variables were recoded by choosing the midpoint in each value. For example, “10-12 hours” was recoded as 11. Students who did not take mathematics courses were coded as the mean score of those who take mathematics courses. After recoding I treated these two variables as continuous and applied them in the regression analysis. Two percent of the cases were missing data for these two variables respectively.

### **Mathematics Courses Taking Status.**

This is a dummy variable coded from time spent on mathematics in school. For students



who did not take mathematics courses during 12<sup>th</sup> grade, they were coded as 0, otherwise they were coded as 1. There were 37% students who did not take mathematics courses and 60.4% students who took them during their 12<sup>th</sup> grade year. Of the total number of cases, 2.6% of them were missing values for this variable.

### **Time Spent on Watching TV during Weekdays and Weekends.**

These two variables measure how much time students spent on watching TV during weekdays and weekends. The choices include: “don’t watch TV,” “less 1 hour/day,” “1-2 hours/day,” “2-3 hours/day,” “3-5 hours/day,” and “5 hours or more a day.” Half of the students spent 1-3 hours to watching TV during weekdays. Very few students do not watch TV or watch more than 5 hours during weekdays (4.2% and 8%, respectively). During the weekend, about 45% students spent 2-5 hours watching TV, and the percentages for students who spent 1-2 hours or more than 5 hours watching are both 18%. Very few students do not watch TV during weekend (4.2%). These two variables were recoded by choosing the midpoint of the hours they spent watching TV. For example, “2-3 hours” was recoded as 2.5. Then these two variables were also treated as continuous variables in the regression analysis. Of the selected data set, 2.6% and 3.6% of the cases were missing data for time spent on weekdays and weekends watching TV, respectively.

### **Other Measures.**

I included students’ locus of control<sup>3</sup> and self concept as independent variables for their

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<sup>3</sup> Locus of control in social psychology refers to the extent to which individuals believe that they can control events that affect them.

mathematics IRT scale scores. These two variables are standardized composite variables. The higher a student's score, the higher self control or self concept they have.

## Findings

### Mathematics Achievement.

ANOVA analysis on the mathematics IRT score illustrates that there is a statistically significant difference between White students and Asian American students,  $F(1, 9193)=20.77$ ,  $p<0.001$ . Asian American students ( $Mean=55.0$ ,  $SD=0.79$ ) received higher scores than did White students ( $Mean=51.4$ ,  $SD=0.14$ ).

In the following, I analyzed students' parents' education and different aspects of students' orientation towards schooling and their relationship to students' mathematics achievement I conducted this analysis with a comparative perspective for Asian and White students.

### Parents' Education and Mathematics Achievement.

Asian students' parents have higher proportions of higher education attainment than White students' parents. Approximately 50.8% of Asian students' parents have higher education degrees which include four-year college degrees, master's degrees, and PhDs or M.Ds. (or equivalences), compared to 35.1% for White students' parents. For example, 12.5% of Asian students' parents have Ph.D. or M.D. degree compared to 5.5% White students' parents. However, Asian students' parents also have higher proportions (6.1%) that do not finish high school than White students' parents (3.6%).

Fig. 1 reveals the relationship between students' parents' education and their

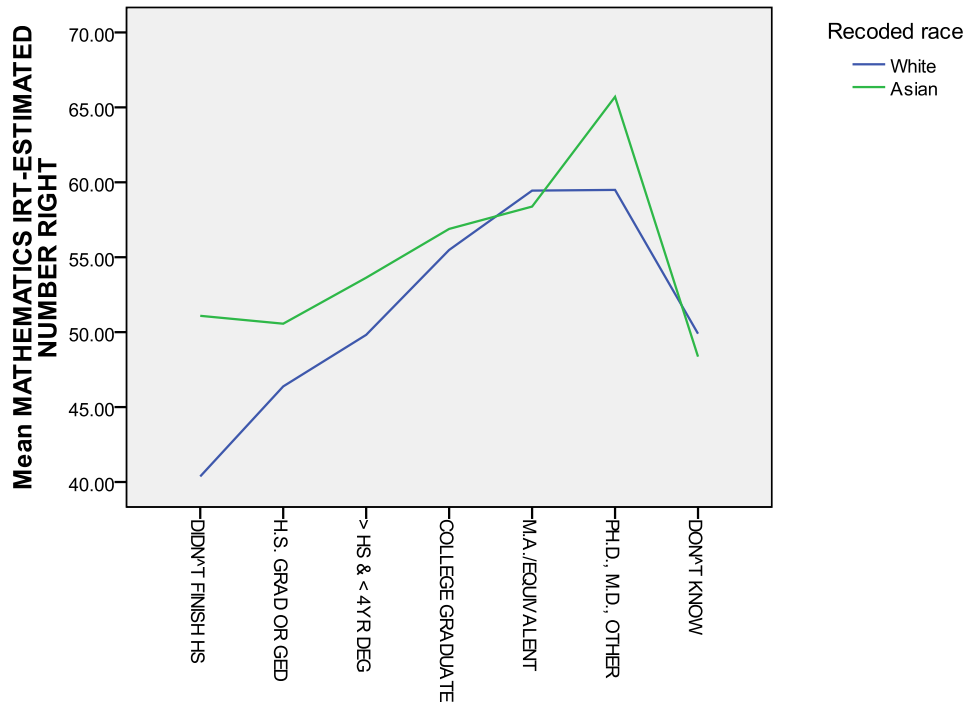


Fig. 1 -- PARENTS' HIGHEST EDUCATION LEVEL

mathematics achievement. Generally, higher parents' education level relates to higher mathematics achievement for both White and Asian students. Generally, Asian students outperform their White peers if their parents have the same education level except when their parents' highest degree is Master's degree (or equivalence) and those answered "don't know." In these two cases, the difference between White and Asian students' mathematics achievement is very small. Fig. 1 shows that Asian students whose parents' reported their highest education level as either Ph.D. (or M.D.) or "Do not finish high school" largely outperform their White counterparts.

**Students' Aspiration of High Education and Mathematics Achievement.**

More than two-thirds of students, both White and Asian, think that they will go to four-year colleges (or beyond). However, Asian students have statistically significant higher

aspirations for higher education (four-year colleges and beyond) than White students and their parents. In the study, 80.2% of Asian students that think they will go to four-year colleges (or beyond) compared to 66.9% White students who think so. In fact, Asian students appear to be more ambitious in their graduate school aspirations than White students. For example, 24% of Asian students reported that thought they will get master’s degrees (or equivalent), compared to 18% of White students. Further, 23% of Asian student thought they will get Ph.D. degrees, M.D. degrees (or equivalent), comparing to 14% of White students.

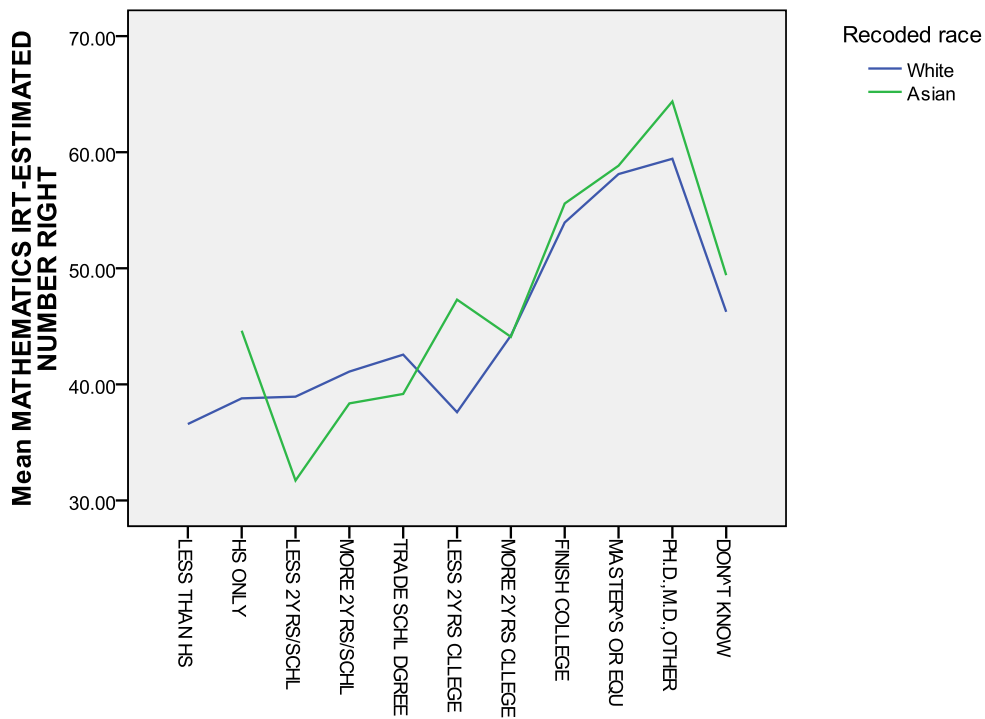
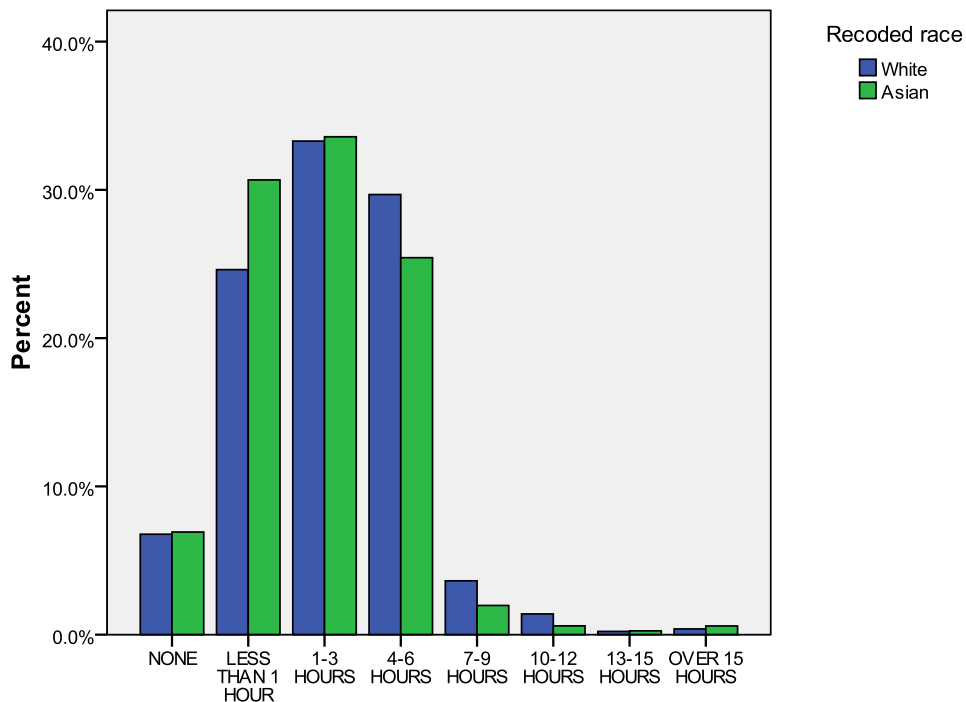


Fig. 2. How far in school R think R will get

Fig. 2 indicates that students who had higher educational aspirations generally had higher mathematics achievement than those with lower educational aspirations for both Asian and White students. Students who wanted to “finish college” (and beyond) have much higher mathematics achievement than students whose aspiration is lower than “finish college.” Asian

students who reported their educational aspirations as desiring to earn a Ph.D., M.D., or equivalent have the highest mathematics achievement than others students, both Asian and White. Asian students also outperform White students in mathematics achievement if their aspirations of education are “high school only” or “less than two years college.” However, if students’ educational aspirations are “less than two years school,” “more than two years school,” or “trade school degree,” White students have higher mathematics achievement than Asian students. Nevertheless, I need to remind readers that the percentages of students who have aspirations below “less than 2 years college” are small for Asian (7.7%) but substantial for White (17.1%).

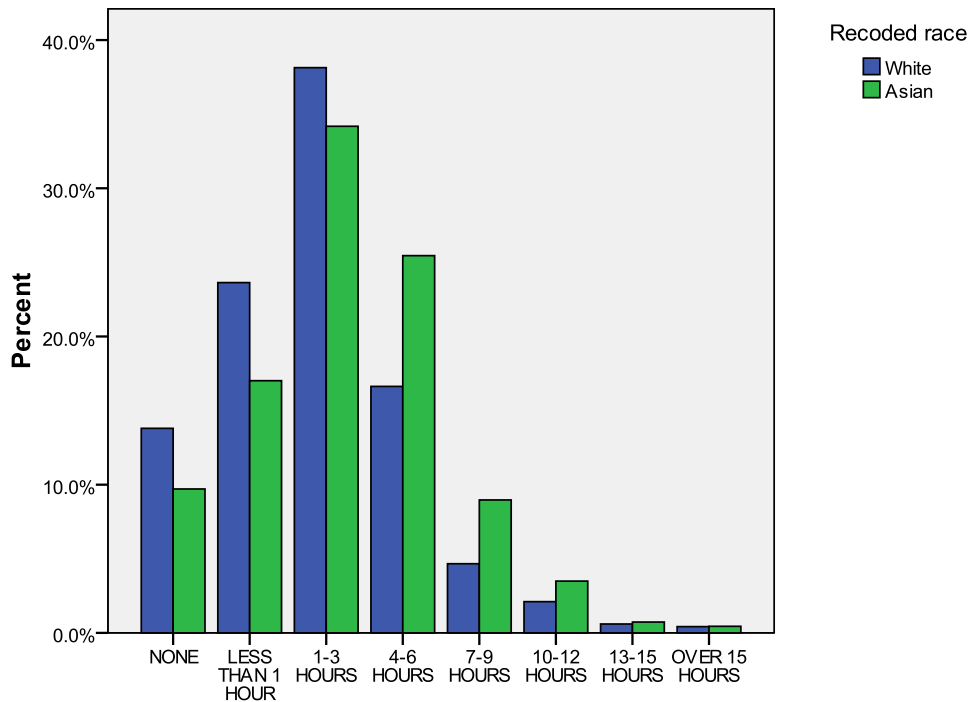
**Time Spent on Mathematics Homework in and out of School.**



**Fig. 3. Time spent on math hw in school**

According to Fig. 3, there is no difference between percentages of White and Asian students’ time spending on mathematics homework in school. White students spent slightly more time on mathematics homework in school than Asian students. According to the survey data,

30% White students reported spending 4-6 hours on mathematics homework, compared to 25% of Asian students. Additionally, 31% of Asian students reported spending less than 1 hour on mathematics homework, compared to 25% of White students. The percentages for students who spent 1-3 hours on mathematics homework in school are same for both White and Asian students, 33%.



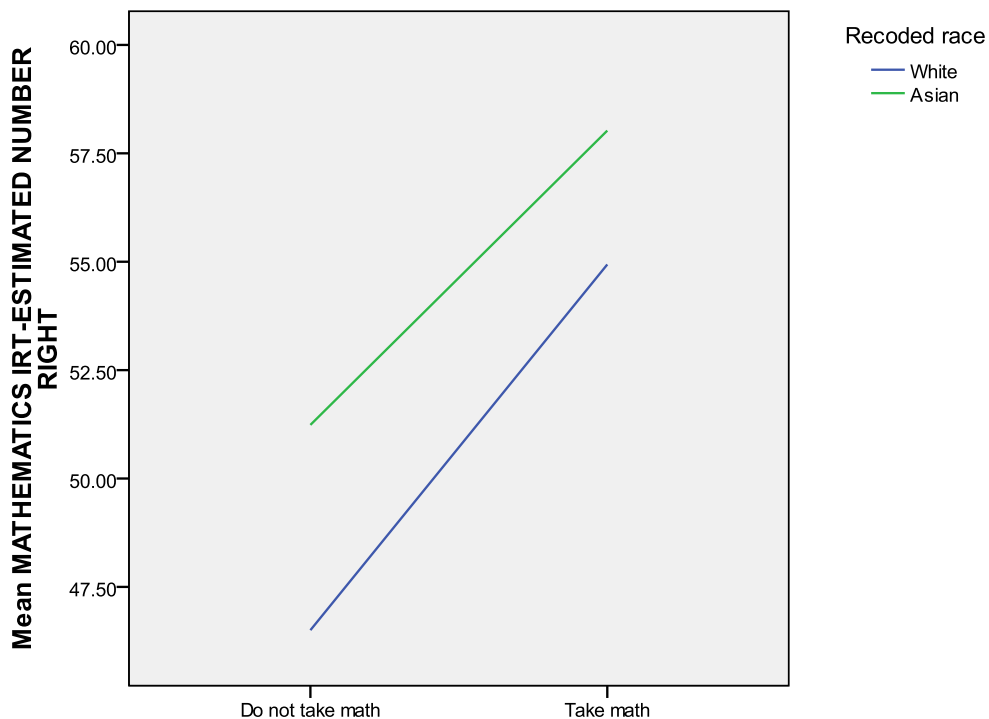
**Fig. 4. Time spent on math hw out school**

Despite this finding, Asian students spent much more time on mathematics homework out of school than White students (Fig. 4). The results of the survey show that 9% of Asian students spent 7-9 hours on mathematics homework, compared to 5% of White students. Twenty-five percent of Asian students reported spending 4-6 hours on mathematics homework, compared to 17% of White students. The percentages for students who reported spending 1-3 hours on mathematics homework are 38% for White students and 34% for Asian students, respectively. Thirty-seven percent of White students and 27% of Asian students spent less than 1

hour on homework or did not spend time on mathematics homework out of school.

**Mathematics Courses Taking Status.**

Seventy-three percent of Asian students took mathematics courses during 12<sup>th</sup> grade, compared to 61% of White students. Students who took these mathematics courses have much higher mathematics achievement than those who did not take mathematics courses (Fig. 5).



**Fig. 5. Mathematics courses taking status**

**Time Spent on Watching TV during Weekdays and Weekends.**

There is a similar pattern between White and Asian students’ time spent watching TV during weekdays and weekends. In general, Asian students spent a little more time on watching TV both on weekdays and on weekends than White students. During the week, about 90% students spent less than 1 hour to 5 hours on watching TV per day for both White and Asian students . On the weekends, 18% of Asian students and 14% of White students spent more than 5

hours on watching TV. Additionally, 28% of Asian students and 26% of White student spent 2-3 hours on watching TV. The percentages for students who spent 2-5 hours on watching TV are 22% for Asian and 24% for White students.

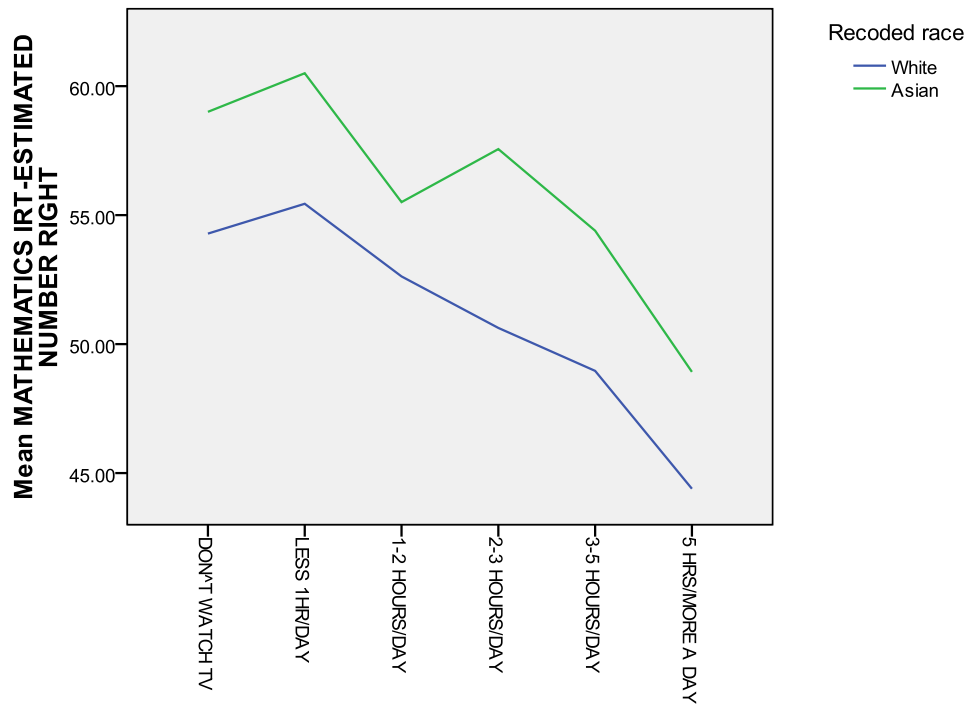


Fig. 6. Hours spent on weekdays R watching TV

According to Fig. 6 and 7, both during weekdays and weekends, if Asian and White students spend same amount of time on watching TV, Asian students still have higher mathematics achievement than White students. Generally, the more time student spent on watching TV during weekdays, the lower mathematics achievement they have (Fig. 6). However, for Asian students who watch less than one hour per day seems to have highest mathematics achievement. For both White and Asian students who spent more than 5 hours on TV have the lowest mathematics achievement.



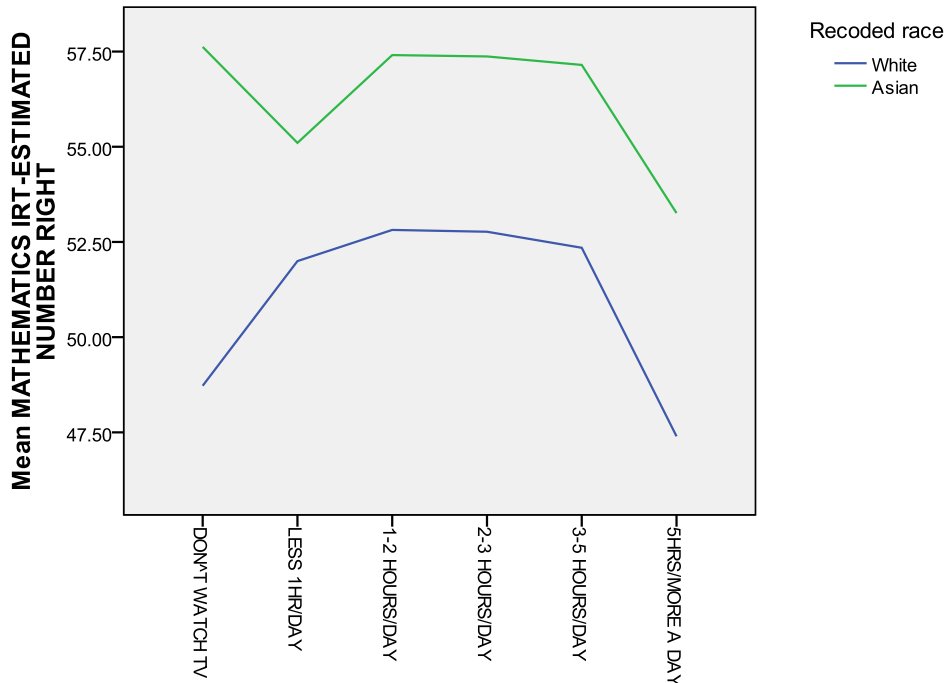


Fig. 7. Hours spent on weekends R watching TV

Nonetheless, the influence of time spent watching TV during weekends is complex for Asian and White students (Fig. 7). Asian students who do not watch TV and those spent between 1 and 5 hours have higher mathematics achievement than those spent less than 1 hours and those more than 5 hours per day. White students who spent less than 1 hours to 5 hours on watching TV have higher mathematics achievement than those who do not watch TV and watch more than 5 hours per day.

### Students' Locus of Control.

A one-way ANOVA was used to compare the mean locus of control between White students ( $Mean=0.098$ ,  $SD=0.006$ ) and Asian students ( $Mean=0.003$ ,  $SD=0.033$ ). Using an alpha level of 0.05, this test is statistically significant ( $F(1,10471)=7.959$ ,  $p=0.005$ ). This means White students have higher belief that they can control events that affect them than Asian students.

**Students' Self Concept.**

One-way ANOVA was used to compare the mean self concept between White students ( $Mean=0.001$ ,  $SD=0.69$ ) and Asian students ( $Mean=-0.18$ ,  $SD=0.73$ ). Using an alpha level of 0.05, this test is not statistically significant ( $F(1,10482)=0.249$ ,  $p=0.618$ ). This means White students and Asian students have similar self perceptions.

**Regression Analysis.**

Table 1: Regression analysis of 12<sup>th</sup> graders' mathematics achievement<sup>b</sup>

	Asian (I)	White (J)	Differences (I-J)
(Constant)	.222*	-.059***	0.281**
sex	-.245**	-.111***	-0.134
socio-economic status composite	.183	.209***	-0.026
parents' highest education	.070	.048**	0.022
students' aspiration of education	.386***	.276***	0.110
Math courses-taking status	.223*	.363***	-0.140
time spent on math hw in school	.021	-.047***	0.068
time spent in math hw out school	.091**	.050***	0.041
hours spent on weekdays watching TV	-.153**	-.133***	-0.020
hours spent on weekends watch TV	.064	.048***	0.016
teen locus of control	.254**	.180***	0.074
Self concept	-.067	-.004	-0.063
$R^2$	0.330	0.329	--
$N$	373	7945	--

a. Dependent variable: mathematics IRT-estimated number right

b. show in table are unstandardized coefficients.

\*-- $p<0.05$ , \*\*-- $p<0.01$ , \*\*\*-- $p<0.001$

The results for the multiple regressions are shown in Table 1. I utilized linear regression to compare the influence of White and Asian 12<sup>th</sup> graders' orientation towards schooling on students' mathematics achievement. After the procedure of recoding and listwise delete missing

data, the dataset was comprised of 7,945 White students and 373 Asian students. The predictors in the analysis include students' sex, socio-economic status, parents' highest education, whether or not students take mathematics class in 12<sup>th</sup> grade, students' time spending on homework in and out school, students' hours spending on weekdays and weekends watching TV, students' locus of control, and students' self concept. Except for the two dummy variables (sex and math course-taking status) all other predictors were recoded and standardized (Mean=0, and SD=1), which means that the coefficients reported in the analysis can be interpreted as effect sizes (ES). I will provide an analysis of the differences of ES between White and Asian students in the final paper.

The overall multiple regressions are statistically significant for both White students ( $R^2=0.329$ ,  $F(11, 7945)= 354.058$ ,  $p<0.001$ ) and Asian students ( $R^2=0.330$ ,  $F(11, 373)= 16.215$ ,  $p<0.001$ ). The predictors explained 32.9% and 33% of the variance in White and Asian students' mathematics achievement respectively.

I applied series t-tests to test the differences between Asian and White students' coefficients in the two regression analysis. Except the constant, there is no statistically difference for other coefficients between the two regressions. The statistically significant constant difference suggests that Asian students' mathematics achievement is higher than White students'. Although the coefficients are not statistically different (see Table 1), there are both similarities and differences in these two columns.

The regression indicates that students' educational aspirations, taking mathematics courses during 12<sup>th</sup> grade, more time spent on mathematics homework out of school, and higher

measures of students' locus of control are positive predictors of their mathematics achievement for both White and Asian students. For example, the effect sizes for students' aspirations are 0.386 *SD* and 0.276 *SD* for Asian and White students, respectively, which suggests that students with strong aspirations for higher education have higher mathematics achievement than those with lower aspirations. One unit increase in aspiration would result in 0.386 *SD* and 0.276 *SD* increase in mathematics achievement for Asian and White students, respectively. Similarly, students who took mathematics courses during 12<sup>th</sup> grades have 0.223 *SD* and 0.363 *SD* higher mathematics achievement than those who did not take mathematics for Asian and White students respectively. Also, increase of students' locus of control and time spending on mathematics homework out of school would positively contribute to students' mathematics achievement for both Asian and White students.

In addition to the factors discussed above, there are three variables that positively predict White students' mathematics achievement but not Asian students' achievement. They are: socio-economic status (*SD*=0.209 for White), parents' highest education (*SD*=0.048 for White), and hours spent on weekends watching TV (*SD*=0.048 for White). However, the *SDs* for the latter two predictors are relatively small.

The amount of time students spend on mathematics homework in school is a negative predictor of mathematics achievement for White students (*SD*=-0.047), but not for Asian students. This finding suggests both White and Asian students should spend more time at home doing mathematics homework outside instead of in school.

In addition to the factors mentioned above, there are two variables that negatively

predict students' mathematics achievement for both Asian and White students: gender and time spent watching TV on weekdays. This finding indicates that there may be a gender gap between female and male students for both Asian and White students. According to the regression, female students tend to have  $-0.125SD$  and  $-0.111SD$  less than male students for Asian and White students respectively. Besides the gender gap, students who spent one unit hours on weekdays watching TV would result in  $-0.153SD$  and  $-0.133SD$  decrease in their mathematics achievement. Finally, students' self concept is not a statistically significant predictor for mathematics achievement for both Asian and White students.

### **Conclusion and Discussion**

In this study I compared Asian and White students' orientation towards schooling and its effects on students' mathematics achievement with a comparative perspective. The regression analysis indicates that for both White and Asian students who want to increase mathematics achievement can achieve it by increasing their aspiration for higher education, continuing to take mathematics courses during 12<sup>th</sup> grade, increasing time spent on mathematics homework outside of school, having a stronger sense of locus of control, and spending less time watching TV on weekdays.

The results also show that Asian students have higher mathematics achievement than White students which can be partially explained by their parents' education attainment and different orientations towards schooling. Asian parents have a higher proportion of higher education attainment than White students' parents. In the analysis, half of the Asian students' parents have four-year college degrees (or higher), compared to nearly one-third of White

students' parents. For students whose parents have a Ph.D. (or equivalent degree), Asian students tend to have higher mathematics achievement than White students.

Additionally, Asian students have higher aspirations for higher education than White students. Particularly, Asian students' aspirations for master's degrees, Ph.D.s, or equivalent degrees are much higher than White students. Moreover, according to the regression analysis, students' aspiration for education is a positive predictor for both Asian and White students' mathematics achievement. Asian students are more likely to benefit from this predictor because a unit increase in aspiration predicts  $.386 SD$  in mathematics achievement for Asian students, compared to  $.276 SD$  increase for White students.

This analysis also shows that Asian students (73%) have a higher percentage of enrollment in mathematics courses during 12<sup>th</sup> grade than White students (61%). Enrollment in mathematics courses during the 12<sup>th</sup> grade is a positive predictor for students' mathematics achievement ( $.223SD$  and  $.363SD$  for Asian and White respectively). So students' mathematics achievement benefited greatly by being enrolled in 12<sup>th</sup> grade mathematics courses for both groups. .

One final finding to note is that Asian students spent much more time on mathematics homework out of school than White students which suggests that Asian students spend more time on mathematics homework at home. Because the amount of time students spend on mathematics homework outside of school is a positive predictor of their mathematics achievement, White students should just consider spending more time outside of school working on their mathematics.

There are some limitations for this analysis. First, the 1992 data may not reflect current demographic trends and the picture of White and Asian students' orientations towards schooling may have changed substantially since then. For example, many students may currently spend more time on the computer, which the old survey did not address. In addition, the sample size for Asian students is relatively small in this study, and the fact that there is diversity within Asian Americans (Lee, 1996; Ngo & Lee, 2007; Wan, 1996) makes it is hard to generalize the findings to broader situations. Also, the missing data for students' mathematics IRT is relatively large which may yield a potential risk to external validity of the analysis. I know little about the students' families' backgrounds, which can have important implications for their education (Louie, 2004). For example, I do not know which generations the Asian students and their parents are and what the location of our subjects.

This research contributes to our understandings of Asian American students' educational experiences in general and mathematics achievement in particular. This study indicates that orientations towards schooling have different influences on students' mathematics achievement between Asian and White students. What remains unclear is that why Asian students had higher aspirations of education; took more mathematics courses during 12<sup>th</sup> grade; and spent more time work on homework out of school. In order to explore the model minority myth, researchers have to know more about Asian students' educational experiences which include their orientations towards schooling.

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