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The Chinese Secondary In-Service Teachers' Attitudes toward Academic Brilliance, Athleticism, and Studiousness of Their Students

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Abstract

This study used Tannenbaum's (1962) research model to examine Chinese secondary teachers' attitudes toward their students and investigate whether they had anti-intellectual beliefs and gender stereotypes compared with their counterparts in western nations. Totally 357 Chinese secondary teachers were recruited to rate their attitudes toward eight types of hypothesized students varying in three opposite pairs of characteristics: academic brilliance/average, studiousness/nonstudiousness, and athleticism/nonathleticism. The results indicate that the Chinese teachers viewed students who were both academically brilliant and athletic as the most favored type of students, followed by those who were either academically brilliant or athletic. The teachers showed the least preference toward the students who were average in academic brilliance, nonstudious, and nonathletic. This study did not show overt anti-intellectualism among Chinese teachers, but revealed teachers' perfectionistic attitude and implicit anti-intellectualism since that the athletic-brilliant students were ranked vastly higher than nonathletic-brilliant ones. Chinese teachers also showed gender stereotypes. They held relatively more positive attitudes toward male students and tended to believe that female students were more likely to achieve academic brilliance by studying hard.

Keywords

Quantitative Methodologies, Secondary, Definition and/or Conception of Giftedness/Talent, Attitudes, Academic Brilliance, Athleticism, Studiousness, Asian

1. Introduction

The research on the attitudes toward anti-intellectualism can be traced back to a half century ago when Tannenbaum (1962) conducted a now-classical study to probe into the question among American high school students. He hypothetically created eight profiles of students by varying the characteristics of the students on three dimensions: academic brilliance (brilliant vs. average), studiousness (studious vs. nonstudious), and athleticism (athletic vs. nonathletic). He surveyed high school students' attitudes toward these eight hypothetical types of students. He found that, it was athleticism, rather than brilliance, that played the major role in determining the students' preference for the profiles of the hypothetical students. The adolescents in the study consistently showed more favorable attitudes toward their athletic peers than those who were less athletic or nonathletic no matter they were academically brilliant or not (see **Figure 1**). Academically brilliant students were not viewed favorably by their peers unless they were also athletic. Brilliant students who studied hard but were not athletic (brilliant-studious-nonathletic) were least favored by their peers. Even for those students who were both brilliant and athletic, the studious ones were less favored than those who were not studious.

Stemming from Tannenbaum's (1962) study, Cramond and Martin (1987) examined the preservice and in-service teachers' attitudes toward academically gifted students in America. Like the adolescents in Tannenbaum's (1962) study, both types of teachers preferred athleticism to academic brilliance of the students.

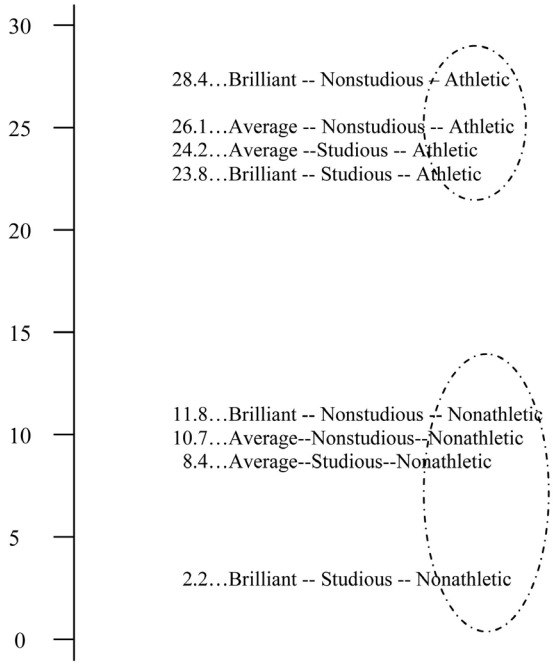

Figure 1. Adolescents' preference of the 8 types of their peers in Tannenbaum's (1962) study. Note. Higher scores implying higher preference. The levels of preference are represented by the mean global scores ascribed to the eight types of students by the teachers.

The students who were described as athletic were favored over the nonathletic, regardless of their standing on academic brilliance. The least favored students in Cramond and Martin's (1987) study were those who were stereotyped as the gifted—the group of students who were brilliant, studious, and nonathletic. Again, similar to the results of Tannenbaum's (1962) study on adolescents 25 years earlier, athleticism was found to be the key determinant of teachers' preference for the students (see **Figure 2**). Cramond and Martin (1987) concluded that these teachers' attitudes "reflect those of the society at large that pays a professional athlete considerably more than an academician" (p.19).

McCoach and Siegle (2007) inquired into American teachers' attitudes toward the academically gifted students in schools and concluded that the fears of elitism motivated educators to look at the gifted education programs as adding privileges for "the already advantaged" (p. 246). McCoach and Siegle's investigation revealed a bipolarized attitude toward the gifted education, with some teachers supported it actively whereas some others opposed it strongly. And their study discovered a disturbing fact that the teachers who were trained for gifted education did not show more positive attitude toward the gifted than those who were not trained. Therefore, understanding the needs of the gifted may not promote teachers' preference to these students they were trained to teach. This result is in accordance with what Cramond and Martin (1987) obtained in their study 20 years earlier: the brilliant-studious-nonathletic students were least favored by both of the in-service and the preservice teachers, and the teaching experiences did not nurture a more positive attitude toward the brilliant. Taking the fact into

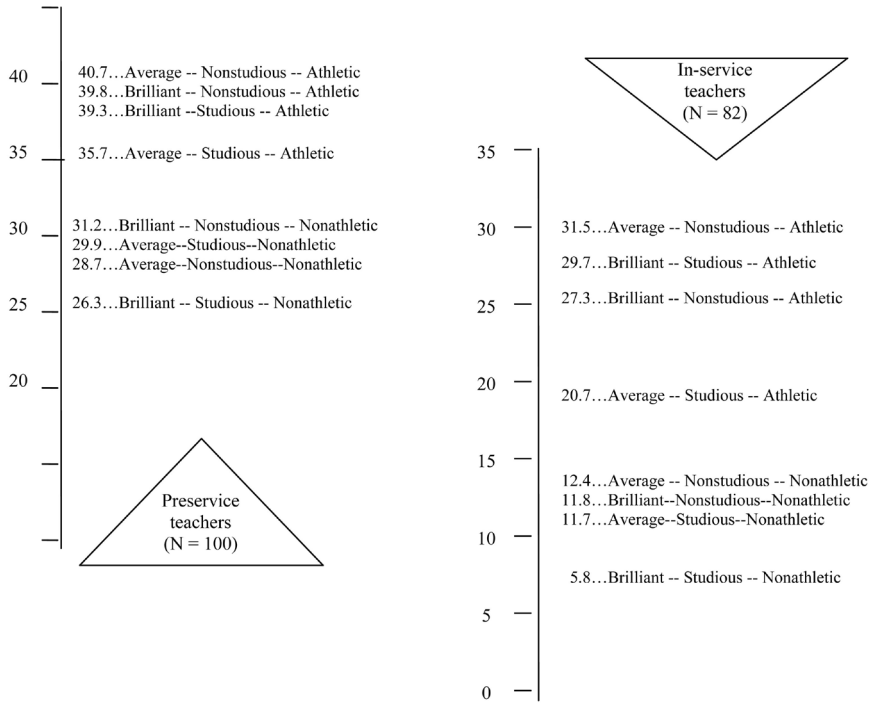

Figure 2. Levels of preservice and in-service teachers' preference of students in Cramond and Martin's (1987) study.

account that Cramond and Martin's (1987) study was conducted 20 years earlier, McCoach and Siegle's study suggests that the attitudes toward the academically gifted have not changed critically over the past two decades.

The studies in other Western countries revealed similar results. A research with Australian and British teachers by Larsson (1990) found that teachers of the two countries favored the integrated programs for the academically gifted students, and opposed the separated programs that might be interpreted as elitist. One decade later, Carrington and Bailey (2000) examined Australian preservice teachers' attitudes toward the gifted students. They reported that the brilliance, if not appeared together with nonstudiousness, did not make a better impression on the secondary preservice teachers. The primary preservice Australian teachers disliked academically brilliant students regardless of gender or studiousness. Both primary and secondary teachers rated female students who were both studious and academically brilliant the least favorable. A recent study (Baudson & Preckel, 2013) showed that the primary and secondary German teachers generally believed that the academically gifted students were more introverted, less emotionally stable, and less agreeable than the average students. Baudson and Preckel concluded that, although the notion that giftedness is at the expense of social and emotional abilities had been largely rejected by a series of studies (e.g., Martin, Burns, & Schonlau, 2010; Rost, 2009; Zeidner & Shani-Zinovich, 2011), Germany teachers still stereotype the gifted as socially and emotionally deficient.

Asian countries and cultures are considered by many scholars as regarding the academic achievement and the studiousness of students highly (e.g., Henderson, Marx, & Kim, 1999; Kim, 1997; Wu, 2006). Some investigators maintained that, in terms of academic study, Asian parents, teachers, and adolescents value the effort whereas their American counterparts are stronger believers in the importance of innate abilities (Chen & Stevenson, 1995; Hess, Chang, & McDevitt, 1987; Mizokawa & Ryckman, 1991; Stevenson & Lee, 1990; Wu, 2007). A multitude of studies found American adolescents and parents with Asian background tend to hold higher academic expectations (Aldous, 2006; Castro & Rice, 2003; Kao & Tienda, 1995; Pearce, 2006; Vartanian, Karen, Buck, & Cadge, 2007; Yan & Lin, 2005) and Asian American students exert more efforts in academic performance (Fuligni, 1997; Kao & Tienda, 1995; Peng & Wright, 1994; Portes & MacLeod, 1996) than those in other ethnic groups.

By summarizing the findings of the aforementioned studies, one reasonable inference is that, Asian teachers and students may favor brilliance and studiousness over athleticism. Asian students who are brilliant-studious-nonathletic may not be the least favored by peers and teachers like their counterparts in the Western cultures. However, there is one study conducted in Asia that does not support this inference. Lee, Cramond, and Lee (2004) translated Tannenbaum's (1962) original attitude questionnaire into Korean and investigated South Korean preservice and in-service teachers' attitudes toward academic brilliance. Interestingly, their study revealed the same pattern of preference as the one Cra-

mond and Martin (1987) obtained from their study on American teachers. South Korean teachers, similar to their American counterparts in 1980s, favored athleticism over studiousness and academic brilliance (see **Figure 3**). Again, the brilliant-studious-nonathletic students were least liked by their teachers. Lee et al. (2004) suggested that Korean teachers' "anti-intellectual beliefs" reflect the present situation of South Korean society which is similar to other industrialized countries (p. 51).

Unlike South Korea which has achieved great success in economy and reached the status of a developed country, Mainland China is still a developing country. Furthermore, Chinese students and teachers are still overwhelmed with competitions in the college entrance examination system (Chen, 2011; Li & Zhang, 2002; Lou & Qi, 2000). As indicated in a variety of studies, academic achievement is still the major concern of Chinese students and their educators. For instance, Lou and Qi (2000) demonstrated that Chinese secondary school students perceive academic achievement as the major resource of psychological pressure. Zhai, Shi, and Huang (2000) discovered academic performance to be the most important factor that influenced the self-value of Chinese secondary school students. Song and Wang (1998) reported that Chinese teachers kept high expectations for the brilliant students. The studies on Chinese education have commonly identified several key characters that Chinese adolescents possess: they are highly motivated to achieve (Hau & Ho, 2010; Salili, 1996); they are expected to be self-reliant (Lam, 2005; Leung & Shek, 2011); and they tend to attribute effort as the primary reason for academic success (Hau & Salili, 1990; Ho & Chiu; 1994;

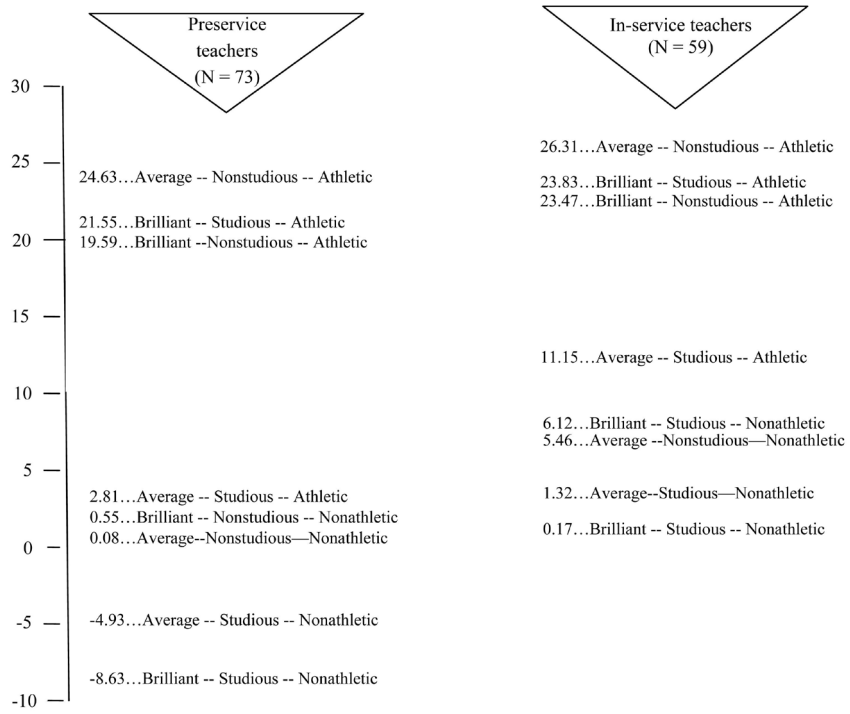

Figure 3. Mean global desirability scores ascribed to the eight stimulus characters by the South Korean preservice and in-service teachers (Lee, Cramond, & Lee, 2004).

Mok, Kennedy, & Moore, 2011; Wang & Li, 2003). In summary, the previous studies imply that Chinese teachers tend to view academic brilliance and studiousness more positively than their Western counterparts. However, inasmuch as there is no study with Chinese teachers in which academic brilliance, studiousness, and athleticism are investigated simultaneously, it is unclear that whether Chinese teachers' attitudes toward academic brilliance remain positive when it's considered together with the other two features.

With the secondary (junior and senior high) school teachers as the participants, the present research adapted the research model from Tannenbaum's (1962) study and tried to investigate the following research questions: 1) Is Chinese teachers' pattern of preference for profiles of hypothetical students constituted by varying three pairs of characteristics (academic brilliance-average in academic achievement, studiousness-nonstudiousness, and athleticism-nonathleticism) different from the patterns demonstrated by their American and South Korean counterparts? More specifically, 2) Do Chinese teachers view the brilliant-studious-nonathletic students (the stereotype of gifted students) as the least preferred as shown by the American and South Korean teachers or Chinese teachers still prefer the academically brilliant students if they are not athletic? 3) Do gender, teaching experience, teaching level (junior or senior high), location of school (suburban or urban) and other teacher characteristics affect Chinese teachers' attitudes toward their students? 4) Do Chinese teachers perceive each type of the hypothetical students equally to be males or females in number? And do Chinese teachers hold the same attitudes toward the brilliant male and female students? 5) Do Chinese teachers keep implicit anti-intellectual beliefs guised under the favoritism for academic achievement?

The purpose of the present study is to reveal the Chinese secondary teachers' attitudes toward their students and to examine, in comparison with western educators' anti-intellectualism and gender-stereotype, how the Chinese secondary teachers perceive their students with different characteristics. The author hopes this study would contribute to improving the theory and practice of education in the contexts of western and eastern cultures.

2. Method

2.1. Participants

Participants of the present study were randomly selected from four urban secondary schools (Experimental Middle School of Beijing Normal University, Cuiwei Middle School, The 24th Middle School of Beijing, and The Affiliated High School of China University of Mining and Technology) and four suburban secondary schools in Beijing (Yanqing No. 3 Middle School, Yanqing No. 5 Middle School, Kangzhuang Middle School, and Cuicun Middle School). The four suburban secondary schools were selected from two suburban counties of Beijing. And the four urban secondary schools were selected from three urban districts of Beijing. All the eight schools had both junior high (grades 7 - 9) and

senior high (grades 10 - 12) levels. These schools represent the typical conditions in facilities, size, and student feature of the areas where they locate.

A total of 370 teachers were recruited to fill in the questionnaire designed for this study. Three hundred fifty-seven teachers (183 in urban schools, 174 in suburban schools) submitted completed questionnaires, which made an effective return rate of 96.5%. Among the 357 participants, 100 (28.0%) were males and 257 (72.0%) were females. The ratio between male and female teachers in the sample was similar to the one released in a recent comprehensive investigation by the Chinese Education Investigation and Data Analysis Center in BNU (Zeng, 2012), which revealed that 74.4% of Chinese secondary school teachers were females and only 25.6% of them were males.

Of the 357 teachers, 159 (44.5%) taught junior high levels (7th grade to 9th grade) and 139 (38.9%) taught senior high levels (10th grade to 12th grade). The remaining 58 (16.2%) participants taught both junior and senior levels. The participants' ages ranged from 22 to 65 years old, with an average age of 36 ± 7.6 years.

2.2. Instruments and Procedures

The questionnaire used in this study was designed and developed following Tannenbaum's (1962) five-step procedure.

1) Trait list building

The first step in developing the questionnaire was to obtain a list of traits which depicts the characteristics of the secondary school students who are brilliant in academic achievement or outstanding in athletics. Two preliminary studies (Liu, Zi, & Qu, 2011; Zi, Cramond, Wu, & Liu, 2010) have already produced this list adopting Tannenbaum's (1962) method. The researchers sent an open-ended questionnaire to 120 secondary school students (60 male, 60 female, grade 7 - 12) selected from a urban, a suburban, and a rural secondary schools, asking them to list adjectives and descriptive phrases that they believed typically describe excellence in academic and athletic abilities. Seventy two traits were generated from the student input (Liu, Zi, & Qu, 2011; Zi, Cramond, Wu, & Liu, 2010).

2) Rating the traits

Each of the 72 traits (see **Appendix 1**) was rated by 102 of the 357 teachers (46 junior high teachers, 56 senior high teachers; 30 males, 72 females; mean age 36.6 ± 6.9) in terms of desirability with three options ("desirable", "undesirable", and "neither"), same as what Tannenbaum's (1962) did in his study. The traits with 70% or above of agreement among the raters were classified as either desirable or undesirable. The traits with agreement lower than 70% among the raters were classified as neutral. Based on the criteria, the rating process generated 42 desirable, 6 undesirable, and 24 neutral traits. Further analyses did not show significant differences in ratings between male and female teachers or between senior high school and junior high school teachers, same as shown in a prelimi-

nary study (Liu, Zi, & Qu, 2011). The desirable traits include a variety of features such as "like sports", "be high in aspirations", "quick-witted." The undesirable traits include "only good at study, no other strengths", "be a troublemaker" etc. The Neutral traits include "competitive", "silent", "introversive", etc. (for details, see **Appendix 1**).

3) Creating the questionnaire

The questionnaire "Teacher's Survey of Attitudes toward the 8 Types of Hypothetical Students" (see **Appendix 2** and Table 1 for an outline) consisted of eight types of stimulus characters (hypothetical students) and 72 traits listed below each character for evaluation. Eight hypothetical students were constituted by combinations of three dichotomous attributes of brilliance (brilliance vs. average), athleticism (athletic vs. nonathleticism) and studiousness (studious vs. unstudious), that is, Student A (brilliant-studious-athletic), B (average-nonstudious-athletic), C (brilliant-nonstudious-athletic), D (average-studious-athletic), E (brilliant-nonstudious-nonathletic), F (average-nonstudious-nonathletic), G (Brilliant-studious-nonathletic), and H (average-studious-nonathletic). For example, for a character that was labeled Type A (brilliant-studious-athletic), the description was designed as the following:

A is a brilliant student who is always among the highest in class in all academic subjects. A spends more time studying school subjects and doing homework than do most students. A is sports-minded and participates in many athletic activities at school.

Table 1. The chi-square test results comparing the teachers' designation of gender to each type of students.

Cluster	Type of Students	Perceived Gender by Teachers			X^2	p
		Boy, n (%)	Girl, n (%)	Either, n (%)		
Cluster 1	Type A: Brilliant-Studious-Athletic	98 (29.1%)	100 (29.7%)	139 (41.2%)	9.51	.009**
	Type C: Brilliant-Nonstudious-Athletic	195 (58.4%)	41 (12.3%)	98 (29.3%)	108.90	.000***
	Type E: Brilliant-Nonstudious-Nonathletic	118 (35.0%)	81 (24.0%)	138 (40.9%)	14.89	.001**
Cluster 2	Type D: Average-Studious-Athletic	97 (28.7%)	105 (31.1%)	136 (40.2%)	7.53	.023*
	Type G: Brilliant-Studious-Nonathletic	34 (10.1%)	186 (55.0%)	118 (34.9%)	102.91	.000***
	Type B: Average-Nonstudious-Athletic;	186 (54.1%)	42 (12.2%)	116 (33.7%)	90.44	.000***
Cluster 3	Type H: Average-Studious-Nonathletic	46 (13.6%)	152 (45.1%)	139 (41.2%)	59.51	.000***
Cluster 4	Type F: Average-Nonstudious-Nonathletic	80 (23.5%)	99 (29.1%)	161 (47.4%)	31.67	.000***

* $p < .05$, ** $p < .01$, *** $p < .001$.

For a character that was labeled Type F (average-nonstudious-nonathletic), the description was as the following:

F is an average student who receives fair grades in all academic subjects. F spends no more time studying school subjects and doing homework than do most students. F is not sports-minded and does not participate in many athletic activities at school.

In the questionnaire, the stimulus character of each of the eight hypothetical students was followed by the 72 indicators created in Step 1. Each participant was asked to choose between "yes" and "no" for every trait to decide their perception of a hypothetical student. Prior to the 72 traits, there was an item in the questionnaire which asked the participants to decide a hypothetical student to be a boy, a girl, or either a boy or a girl.

4) Data Collection and Scoring

A total of 357 participants responded to the Teacher's Survey. The collected original responses were transformed into digital data in the same way as Tannenbaum (1962) did in his study. For the 42 desirable traits, a response of "yes" was set a score of +1, and a response of "no" was given a score of −1. For the 6 undesirable traits, a response of "yes" was given a score of −1, and a response of "no" was set a score of +1. For the 24 neutral traits, either response was assigned a score of 0. For each participant, by adding up the 72 scores assigned to every stimulus character, eight "global desirability scores" were calculated.

3. Results

Figure 4 presents descriptive statistics, including means and standard deviations of the eight global desirability scores for the eight hypothetical students. The data were analyzed via a repeated measures ANOVA across the eight global desirability scores. The analysis found a significant result, which indicated that Wilks' Lambda = .36, F (7, 329) = 83.60, $p < .001$. Given that the sphericity assumption was rejected in the Mauchly's test ($X^2 = 343.50$, $p < .001$), the Bonferroni method was adapted for the post-hoc pairwise comparisons among the eight global desirability scores. The post-hoc tests revealed that the mean scores of teachers' preferences for Type A and Type C students were not significantly different, whereas both of them were significantly higher than the desirability scores of the other six types. As a result, Type A (brilliant-studious-athletic) and Type C (brilliant-nonstudious-athletic) students can be considered as one group (labeled "Cluster 1" in Figure 4) in terms of teacher preference. And the students of this group were ranked highest by their teachers.

The post-hoc analyses revealed that the teachers' attitudes towards Type E, Type D, Type G, and Type B students were generally not different from each other, except that Type E students' mean global score of desirability was significantly higher than that of Type B student. The mean global desirability score of each of these four types was significantly lower than those of the two student types in Cluster 1 and higher than those of Type H and Type F students. Accordingly, these four types of students were roughly viewed as a second-rank cluster

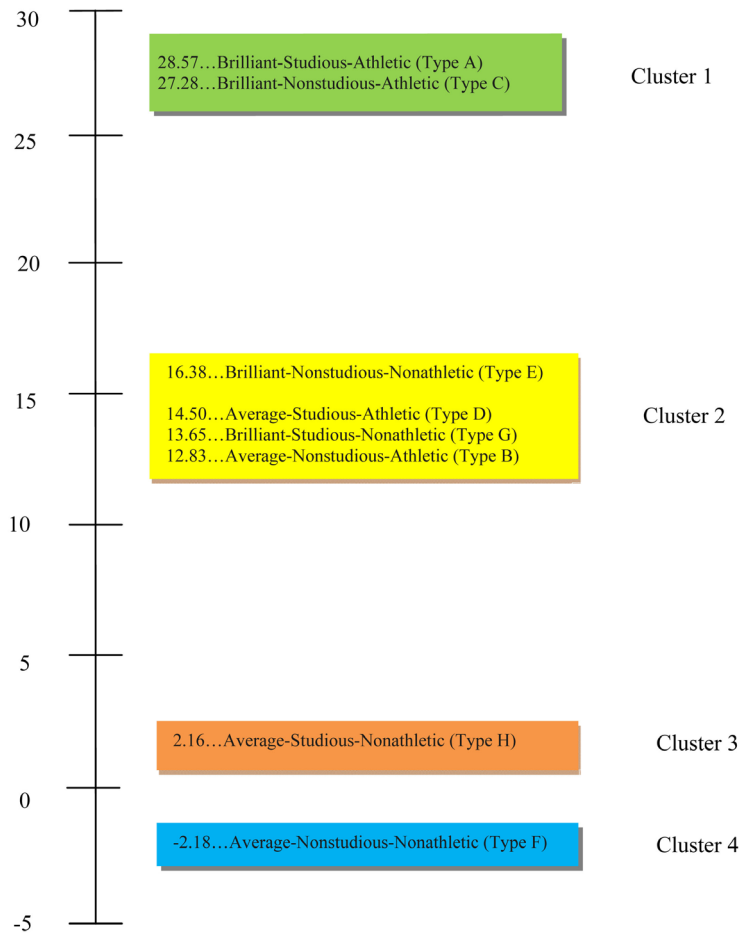

Figure 4. Mean global desirability scores ascribed to the eight stimulus characters by the 357 Chinese secondary in-service teachers.

("Cluster 2" in **Figure 4**). The mean global desirability score of Type H students was significantly higher than that of Type F, and both of them were significantly lower than those in Cluster 1 and Cluster 2. The authors labeled Type H as Cluster 3 and Type F as Cluster 4, respectively (see **Figure 4**). Thus the eight types of hypothetical students were clustered into four groups. Type A and Type C students (Cluster 1) were perceived by the teachers as the most desirable. These students were both brilliant and athletic, and were either studious or non-studious. Type E, Type D, Type G, and Type B students belonged to a secondly desirable cluster (Cluster 2) which consisted of students being either brilliant or athletic, but not both, regardless of their effort (studiousness/nonstudiousness). Now that the brilliant-nonstudious-nonathletic (Type E) students were more favored than the average-nonstudious-athletic (Type B) students, for these two types of nonstudious students, the academic brilliance was more preferred than the athleticism.

Cluster 3, as well as Cluster 4 students, were nonathletic and average in academics, but the studiousness of the former won them higher desirability scores than the nonstudious latter did. Overall, the average-nonstudious-nonathletic

students were ranked the lowest by the Chinese teachers who participated in this study.

Compare the Mean Global Desirability Scores between the Brilliant and the Average Students, the Athletic and the Nonathletic Students, the Studious and the Nonstudious Students, and among the Brilliant, the Athletic, and the Studious Students

By adding up each teacher's global desirability scores for the four types of hypothesized students with the characteristic of *brilliance* (Type A, C, E, and G), a total preference score for the brilliant students were calculated; and by adding up each teacher's global desirability score for the four types of *average* students (Type B, D, F, and H), a total preference scores for the average students was calculated. A paired-samples t-test detected a significant difference in their mean total preference scores between the brilliant and the average students (for brilliant students, M = 85.87, SD = 46.9; for average students, M = 27.32, SD = 48.6; t = 20.58, $p < .001$, Cohen's d = 2.25). Teachers in the present study showed much higher preference to brilliant students than to average students. With the same method, the athletic students were also found to receive much higher ratings than nonathletic students (for athletic students: M = 83.18, SD = 45.3; for nonathletic students: M = 30.01, SD = 50.3; t = 18.56, $p < .001$, Cohen's d = 2.03). The teachers' ratings on studiousness and nonstudiousness were also significantly different (studious: M = 58.87, SD = 45.0; nonstudious: M = 54.31, SD = 43.2; t = 2.26, $p < .05$, Cohen's d = .25), the former was higher than the latter. The effect size (Cohen's d = .25) of the t-test that indicated the teachers' preference for studious students over nonstudious students was markedly smaller than the effect sizes in the t-tests indicating the preference for brilliant over average students (Cohen's d = 2.25) and the preference for athletic over nonathletic students (Cohen's d = 2.03).

A repeated measures ANOVA with brilliance, athleticism, and studiousness as three within-subjects factors showed a significant main effect (Wilk's Lambda = .51, $p < .001$). The Bonferroni corrected post-hoc pairwise comparisons revealed that teachers' ratings on brilliance and the athleticism were without difference (Mean Difference = 2.69, $p = .325$). But both of them were significantly higher than the ratings on studiousness (between brilliance and studiousness, Mean Difference = 26.99, $p < .001$; between athleticism and studiousness, Mean Difference = 24.30, $p < .001$).

In summary, the secondary school teachers in this study favored the brilliant students over the average students, the athletic students over the nonathletic students, and the studious students over the nonstudious students. These teachers generally viewed the brilliance and the athleticism of their students as equally preferable whereas the studiousness was much less effective in evoking the preference.

The Influence of the Teachers' Demographic Features on their Attitudes toward the Hypothetical Students

To examine the influence of the teachers' gender (male or female) and teach-

ing level (junior high, senior high, or both) on their preference, a repeated measures ANOVA was performed with gender and teaching level as the two between-subjects factors and the character (8 types) as the within-subjects factor. No interaction effect was detected among gender, teaching level and character (Wilk's Lambda = .96, F (14, 648) = 1.06, p = .393). The followed multivariate tests revealed that the male and female teachers ranked the characters in the same pattern (Wilk's Lambda = .98, F (7, 324) = 1.07, p = .385), and the teachers who taught different levels (junior high, senior high, or both) did not display different patterns of preference (Wilk's Lambda = .95, F (14, 648) = 1.21, p = .267). Then, the main effect analysis comparing the overall mean global desirability scores (calculated by averaging the eight global desirability scores) between male and female teachers showed no significant difference (F (1, 330) = 1.13, p = .289). Similarly, the overall mean global desirability scores among the three types of teachers (junior high, senior high, and both) were also not significantly different (F = (2, 330) = 2.10, p = .124). The results generated above indicated that the teachers with different genders or teaching levels had similar attitudes toward the hypothetical students.

To examine the teaching experience in its influence on teachers' attitudes toward the students, the teachers were categorized into three groups: the beginners (with less than 10 years' teaching experience), the intermediates (having the teaching experience between 10 and 20 years), and the long-term educators (more than 20 years' teaching experience). A repeated measures ANOVA was conducted with teaching experience as the between-subjects factor and student type as the within-subjects factor. No significant difference was found among the three categories of teachers in their evaluation of the eight types of hypothesized students (Wilk's Lambda = .95, F (14, 646) = 1.18, p = .283). Similarly, when the teachers' ages were categorized into three groups (younger than 30, 30 to 40-year-old, and older than 40), a repeated measures ANOVA still found no significant influence of age on the ratings of the stimulus characters (Wilk's Lambda = .96, F (14, 624) = .95, p = .505).

When the schools' locations were taken into consideration, a repeated measures ANOVA detected a significant interaction between school location (urban and suburban) and stimulus character (Wilk's Lambda = .95, F (7, 328) = 2.38, p < .05). The main effect analysis revealed that the urban teachers' overall mean global desirability score was higher than that of their suburban counterparts (for urban teachers: M = 16.66, SD = .73; for suburban teachers: M = 11.42, SD = .76; Mean Difference = 5.24, SE = 1.06, p < .001). **Figure 5** demonstrates the three patterns of the teachers' preferences extracted from the whole data, the urban data, and the suburban data respectively. It shows that the suburban teachers ranked the eight stimulus characters in the same order as the urban teachers did, which is also identical to the pattern extracted from the whole pool of data. The post-hoc analyses (Bonferroni method) revealed that both suburban and urban teachers ranked Type A students without significant difference from Type C students. Therefore, Type A and Type C students were perceived as one cluster

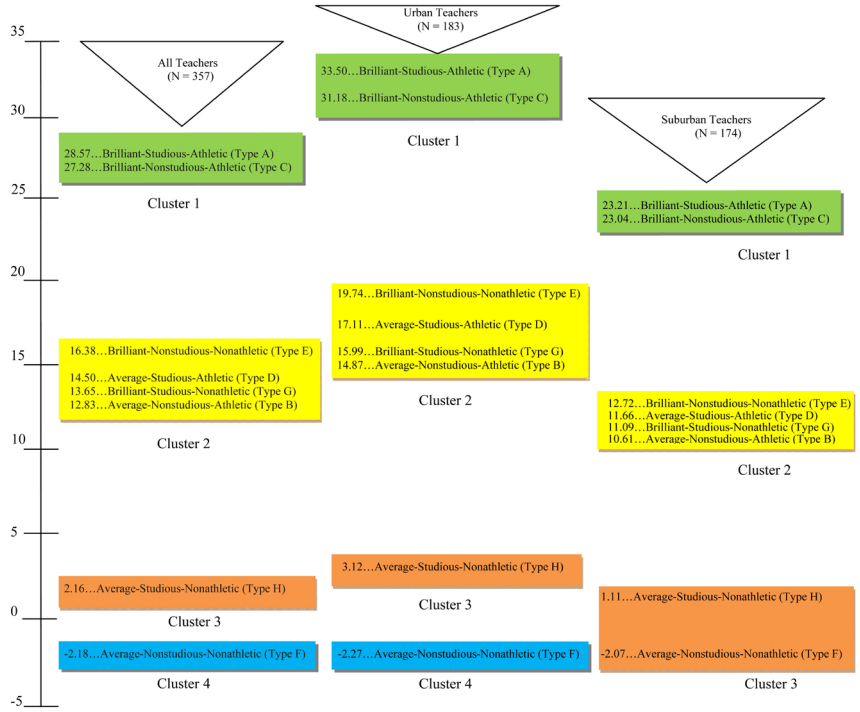

Figure 5. The patterns of Chinese teachers' preferences with the urban and the suburban data combined and split.

(Cluster 1) by the urban teachers as well as the suburban teachers, which is also identical to the result generated from the whole data sample. As for the four types of stimulus characters in Cluster 2 (Type E, Type D, Type G, and Type B), the post-hoc analyses with Bonferroni method found that, the suburban teachers, like the urban teachers, ranked these four types of characters without significant difference, and the scores of all these types were significantly different from Cluster 1, Cluster 3 and Cluster 4 students. Again, Type E, D, G, and B hypothesized students were converged to the same cluster, which is also consistent with the results generated from the whole data. For the remaining two types, the urban teachers ranked Type H students significantly higher than Type F students, which is in accord with the order extracted from the whole data sample. However, for the suburban teachers, the post-hoc analysis found no significant difference between their preference scores for these two types of students (Mean Difference = 3.19, SD = 1.24, $p = .309$). The suburban teachers viewed Type H and Type F students as one cluster (see Figure 5). As a result, the urban teachers showed a slightly more positive attitude toward the average nonathletic students who made efforts, whereas their suburban counterparts did not show such preference.

Eight independent samples t-tests were carried out to compare between the urban and the suburban samples in the eight global desirability scores. The urban teachers rated most of the eight characters (except Type H and Type F) significantly higher than those of the suburban teachers (Type A: $t = 6.34$, $p < .001$; Type B: $t = 2.71$, $p < .01$; Type C: $t = 4.81$, $p < .001$; Type D: $t = 3.24$, $p < .01$;

Type E: t = 4.07, $p < .001$; Type G: t = 2.84, $p < .01$). For Type H and Type F, the urban and suburban teachers rated each of them similarly (Type H: t = 1.17, $p = .244$; Type F: t = −.55, $p = .956$).

In summary, Chinese teachers' attitudes toward the hypothetical students did not vary across gender, age, teaching level, and teaching experience. Only the school location had the significant influences. When the hypothetical students possessed at least one of the two desirable characteristics, namely athleticism and brilliancy, the urban school teachers tended to rate the students more positively than their suburban counterparts did. But if the hypothetical students were both nonathletic and average, the urban school teachers rated them as low as suburban school teachers did. Accordingly, desirable characteristics such as brilliance and athleticism stimulated higher positive attitudes among the urban school teachers in comparison with their suburban counterparts.

To Explore Whether Gender Stereotypes Exist in the Teachers' Perceptions and Ratings of the Hypothetical Students

Eight chi-square comparisons were performed to examine whether the teachers were more likely to perceive certain stimulus character as one gender or another. All of the eight chi-square tests were significant, indicating that the teachers did not classify any of the eight characters equally to be "boy", "girl", or "either" (see Table 1 for the result). After the selection of "either" was excluded, another eight chi-square tests were carried out (see Table 2 for the result). Three characters were found almost equally designated by the teachers as boys or girls including brilliant-studious-athletic (Type A) students (boys, 29.1%, girls, 29.7%), average-studious-athletic (Type D) students (28.7%, girls, 31.1%), and average-nonstudious-nonathletic (Type F) students (boys, 23.5%, girls, 29.1%). For each of the remaining five types of stimulus characters, the teachers did not equally assign it to be boys or girls. Three stimulus characters were considered more frequently to be boys: the brilliant-nonstudious-athletic (Type C) students

Table 2. The Chi-square test results comparing the teachers' designation of gender with the "either" selections excluded.

Cluster	Type of Students	Perceived Gender		X^2	p
		Boy, n (%)	Girl, n (%)		
Cluster 1	Type A: Brilliant-Studious-Athletic	98 (49.5%)	100 (50.5%)	.02	.887
	Type C: Brilliant-Nonstudious-Athletic	195 (82.6%)	41 (17.4%)	100.49	.000***
	Type E: Brilliant-Nonstudious-Nonathletic	118 (59.3%)	81 (40.7%)	6.88	.009**
Cluster 2	Type D: Average-Studious-Athletic	97 (48.0%)	105 (52.0%)	.317	.574
	Type G: Brilliant-Studious-Nonathletic	34 (15.5%)	186 (84.5%)	105.02	.000***
	Type B: Average-Nonstudious-Athletic;	186 (81.6%)	42 (18.4%)	90.95	.000***
Cluster 3	Type H: Average-Studious-Nonathletic	46 (23.2%)	152 (76.8%)	56.75	.000***
Cluster 4	Type F: Average-Nonstudious-Nonathletic	80 (44.7%)	99 (55.3%)	2.02	.156

* $p < .05$, ** $p < .01$, *** $p < .001$.

were 4.7 times more likely to be viewed as boys than as girls, the brilliant-non-studious-nonathletic (Type E) students were 1.5 times more likely to be perceived as boys than as girls, and the average-nonstudious-athletic (Type B) students were 4.4 times more likely to be seen as boys than as girls. In contrast, brilliant-studious-nonathletic (Type G) students were 5.5 times more likely to be perceived as females than as males, and the average-studious-nonathletic (Type H) students were 3.3 times more likely to be seen as girls than as boys.

For Cluster 1 students, whereas Type A students were equally possible to be viewed as boys or as girls, Type C students were primarily perceived as boys, which suggests that the teachers perceived their most favored cluster of students more often as males than as females. For the four types of Cluster 2 students (Type E, D, G and B), the overall frequencies of the gender assignations by the teachers to "boy", "girl", and "either" were 435, 414, and 508 respectively, which means a ratio of 1.1:1.0:1.2. Accordingly, the teachers regarded their secondly favored cluster as equally possible to be males or females in general. But when the data for the four types of the characters in Cluster 2 were analyzed separately, only average-studious-athletic (Type D) students were perceived equally as boys or girls. The teachers tended to view some students (Type E and Type B students) in this cluster more likely to be males, whereas others (Type G students) more likely to be females. Both Type E and Type G students were non-athletic and academically brilliant students, but the former made no much effort in learning (see Table 1) whereas the latter were studious. Therefore, just like how the teachers perceived the students in Cluster 1, the teachers viewed male students as more likely to be capable of achieving academically without making much effort, while female students as more likely to have to achieve academically by studying hard.

Cluster 3 and Cluster 4 students were the two groups of hypothesized characters who achieved neither academically nor athletically and were least favored by the teachers. The teachers were equally possible to perceive them to be boys or girls when they were nonstudious (Type F students), whereas they markedly more frequently viewed the students as girls when they were studious (Type H students).

To investigate the influence of teachers' gender on their perception of the hypothesized students' gender, eight cross-tabulation analyses were conducted and no significant difference was found (for all eight analyses, $p > .1$). Accordingly, for any type of the eight hypothesized students, male and female teachers showed the same pattern in designating the students to "boy", "girl", or "either".

In order to examine whether the teachers perceived the students of one gender as more brilliant, more athletic, or more studious than the other, six new variables were produced first. The variable "brilliance score for males" was conducted like this: if a teacher designated "boy" to a type of student with the characteristic of "brilliant" (Type A, C, E, and G), a score "1" was assigned to the variable "brilliance score for males," otherwise a score "0" was assigned to that variable. In the same way, the "brilliance score for females" was assigned a score

"1" if a teacher designated "girl" to these four types of brilliant students. By adding up the scores assigned to each variable, the maximum score for each case in each variable would be 4, when all of the four types of students with the characteristic of "brilliant" were assigned by the teacher as one gender. In the same way, the "athleticism score for males", the "athleticism score for females", the "studiousness score for males", and the "studiousness score for females" were calculated. Four paired-samples t-tests were carried out to compare between male and female students in the brilliance score, the athleticism score, and the studiousness score, which showed that the teachers regarded the female students as brilliant as the male students (t = 1.39, $p = .166$), and perceived the male students to be more athletic than the female students (t = 10.27, $p < .001$), and viewed the female students as more studious than their male counterparts (t = 9.55, $p < .001$).

For each type of the eight characters, a 2 × 3 two-way ANOVA was performed with teachers' gender (male vs. female) and the gender that the teachers designated to the character (boy vs. girl vs. either) as the two predictor variables and the global desirability score as the criterion variable. The eight two-way ANOVAs detected no interaction effects. And no main effect for teachers' gender was detected. Significant main effects were detected for the gender that the teachers designated to Type A (F = 3.15, $p < .05$) and Type C (F = 5.97, $p < .01$). The LSD post-hoc analysis revealed that, for Type A students, the teachers ascribed significantly higher mean global desirability score to boys than to girls (30.1 vs. 25.6, $p < .05$). The LSD post-hoc analysis for Type C students also found the male students were ascribed significantly higher mean global desirability score than females (29.3 vs. 19.1, $p < .001$). In addition, the teachers ascribed significantly higher mean global desirability score to Type C students designated as "either" than to those designated as "girl" (27.2 vs. 19.1, $p < .05$).

Overall, the male students were considered as more athletic, whereas the females were viewed as more studious. Male students were more likely than their female counterparts to be considered as both brilliant and nonstudious, whereas female students were more likely than male students to be perceived as both nonathletic and studious. More students in the most favored cluster were perceived as males, whereas more students in the third ranked cluster were perceived as females. And for the students in the most favored cluster, the teachers assigned higher desirability scores to male students than to female students.

4. Discussion

This study revealed a greatly different preference pattern from the ones obtained in the previous studies with American and South Korean teacher samples. Whereas American and South Korean teachers responded more positively to athleticism than to academic brilliance, Chinese teachers perceived brilliance and athleticism as basically equally favorable characteristics of their students. The students who were both brilliant and athletic (Cluster 1 students), no matter they were studious or not, were both ranked highest by Chinese teachers. For the

students who were brilliant but not athletic or vice versa (Cluster 2 students), the teachers perceived them as less favorable to those who were not only brilliant but also athletic. But these students were still ranked higher than those who were neither brilliant nor athletic (Cluster 3 and 4 students). Studiousness was only rated favorably over nonstudiousness for the two lowest ranked clusters of students (Cluster 3 and 4 students) who were neither brilliant nor athletic, where the studious students (Cluster 3 students) were ranked slightly higher than the nonstudious students (Cluster 4 students). However, with regard to the suburban teachers, this slight difference was even not statistically significant. Only urban teachers distinguished studious students (Cluster 3 students) from nonstudious students (Cluster 4 students) if they were neither brilliant nor athletic. Overall, Chinese teachers in the present study showed a significant preference for the achievements over the efforts of their students, but they did not distinguish between intellectual and athletic achievements. In contrast to the athleticism-oriented attitudes of American and South Korean teachers, Chinese teachers ranked their students with relatively more balanced attitudes in valuing between academic achievements and athletic capacities.

Although Chinese secondary educators have been inclined to burden their students with heavy homework (Chen, 2011; Li, Niu, & Zou, 2000; Liao, 2013; Zhao & Yuan, 2006), and a variety of studies found that Eastern Asian teachers believe in the importance of the effort for the academic success (Chen & Stevenson, 1995; Henderson, Marx, & Kim, 1999; Kim, 1997; Wu, 2006), this research suggests that if a student is able to achieve in academics and/or athletic fields, spending more time on studying does not increase or decrease his teachers' preference in general.

In this study, the brilliant-studious-nonathletic (Type G) students, who were least preferred by American and Korean teachers (Cramond & Martin, 1987; Lee et al., 2004; McCoach & Siegle, 2007), were ranked second to the most favorable students. Chinese teachers showed a much more positive attitude toward this type of students were often stereotyped as "nerds" in Western cultures, or as Cramond and Martin (1987) pointed out, the stereotypes of the gifted students. For American and Korean teachers, spending more time on academic study at the cost of athleticism was significantly devalued, no matter the students achieve academic success or not. Nevertheless, like American and South Korean teachers, Chinese teachers also tended to designate this type of students as girls, which suggest that they may share similar gender-stereotypes.

The Chinese teachers, no matter they were males or females, hold relatively more positive attitudes toward male students than toward female students. This conclusion is supported by several evidences. Firstly, for the students in the most highly ranked group (Cluster 1), the teachers ascribed more positive traits and thus the higher desirability scores to the male students than to female students. Secondly, the teachers assigned more boys than girls to the first-ranked cluster, and fewer boys than girls to the third-ranked cluster, whereas they perceived students in other two clusters (Cluster 2 and Cluster 4) as equally possible to be

boys and girls. In particular, Chinese teachers ascribed a higher proportion of students to "boy" than to "girl" for those students (Type C) who can achieve both academically and athletically without making much effort in studying. Thirdly, although the overall ratio of boy to girls in Cluster 2 were almost 1:1, the brilliant-nonstudious students in Cluster 2 were considered more likely to be boys, whereas the brilliant-studious students in this cluster were more likely believed to be females. These results indicate that Chinese teachers tended to view the male students as more likely to be the kind of "smart" ones who, although did not study very hard, could still succeed in academics, and to assume female students as more likely to achieve academically by means of hardworking and at the cost of athleticism.

The Chinese teachers in this study did not show overt anti-intellectualism as their Western and South Korean counterparts did which was revealed by previous studies (Carrington & Bailey, 2000; Cramond & Martin, 1987; Lee et al., 2004). They showed more balanced attitudes toward academic brilliance and athleticism, with a slight slant toward the former inasmuch as the academic brilliance was rated somewhat higher than the athleticism for the nonstudious students in Cluster 2. However, whereas Chinese teachers did not place athleticism over brilliance, the achievements of the students in general (no matter it is academic or athletic), not the studiousness, were the major determinant of their preference. This result-oriented or product-oriented attitude was similar to the inner logic of the athleticism-orientation of American and Korean teachers. Moreover, Chinese teachers' achievement-oriented education showed a more perfectionistic nature in contrast to their western counterparts. Chinese teachers favored students who were able to achieve in both academic and athletic fields over those students who could only achieve in just one field. This perfectionistic pattern of preferences to some extent explains the paradoxical phenomenon that students in Confucian Asian countries achieved much more highly in academics but at the same time kept lower senses of self-confidence and self-efficacy on their academic performance (Lee, 2009; Stankov, 2010; Wilkins, 2004), whereas their western counterparts did not show such paradox. Stankov (2010) suggested that the Confucian culture is a two-edged sword that drives students toward high achievement while giving rise to negative psychological outcomes. A series of studies have reported how the highly stressful learning pressures influenced the psychological health of the secondary school students in China (Li, Niu, & Zou, 2000; Zhao & Yuan, 2006; Guo, Cui, & Yan, 2010). Moreover, because the athletic-brilliant students were ranked vastly higher than the brilliant students without athleticism, especially those non-athletic students who were also studious, this study suggests an implicit anti-intellectualism among Chinese teachers. In other words, Chinese teachers thought highly of the students who were smart and thus did not have to work hard for their academic achievement.

In general, most demographic factors such as gender, years of teaching, level of teaching (in junior or senior high school), and the location of school (suburban or urban school) do not significantly affect Chinese teachers' attitudes to-

ward their students. The patterns of ranking the eight types of hypothetical students are quite similar across teachers with different demographic factors. However, it deserves to point out that, compared with their suburban counterparts, the urban school teachers ranked the eight types of students with relatively greater differences. They designated significantly higher desirability scores to students who were academically and/or athletically successful than did their suburban counterparts. These results may be explained by the factor that Chinese urban schools have been under a much higher pressure in promoting the achievements of students. Dislike what is happening in the United States that the prestigious school districts are more likely located in the suburban areas, prestigious secondary schools in China have always been set up in urban areas (Zeng, 2012). And in recent years, an increasing number of Chinese families have migrated from the villages and the suburban areas to the cities to seek better education for the youngsters (Guo & Guo, 2013, Liang, 2006). The teachers in the urban areas therefore are expected by the parents to focus on the performances of the students. As a result, we can understand why the teachers in the suburban areas showed less positive attitudes toward their students than their urban counterparts did. The suburban students might not appear to be as ambitious as their urban peers who were under higher expectations. The difference in the pattern of preference between the teachers from urban and suburban areas to some extent reflects the unbalanced situation of Chinese secondary education in an era of urbanization.

The results obtained in this study bring insights to both Eastern and Western educators. The Confucian culture that values the academic performance of the students may serve as a reference for the Western teachers to reflect on their unbalanced attitudes toward the athleticism and the academic brilliance. Despite the fact that there is a term "shudaizi"(bookworm) in the context of Chinese society which is used to belittle the brilliant-studious-nonathletic students, just like the label "nerds" does in American society, the Confucian culture to a great extent is capable of tempering such stereotyped attitudes. For Chinese secondary educators, they need to be aware of their perfectionism and remind themselves to be more positive when looking at the students who are average in academics and not good at sports. The Confucian culture emphasizes the importance of education and respects students being successful in academic performance, but it has a side of authoritarianism (He, 2000; Montesquieu, 2004) that breeds perfectionism (Zi & Zhou, 2006), and discourage creativity (Kim, 2007). We anticipate that more Chinese educators are willing to pay more attention to the students who do not achieve much in the schools, and realize that these students can as well possess positive traits as the brilliant and the athletic students do. In the same vein, this study suggests Chinese suburban secondary educators make more effort in keeping positive attitude toward their students in general.

Both the Eastern and the Western secondary educators should be aware of their tendency to associate the brilliance of female students with studiousness.

The actual influence of gender on the relationship between brilliance and studiousness warrants some further investigations. However, no matter whether the brilliant female students are more likely to be studious or not, they should not be stereotyped as less desirable because of their studiousness.

Even though South Korea and China are both regarded as countries dominated by Confucian cultures, the present study detected a salient different pattern of attitudes toward the secondary students from South Korean educators. The pattern of the attitudes of the South Korean teachers was more similar to that of the American teachers than that of the Chinese teachers. The researchers of this study generally agree with Lee et al.'s (2004) explanation for the similarity between the South Korean and the American teachers in their patterns of preferences. They argued that contemporary South Korea should be considered as a developed country like the United States, and the teachers in this economically successful society were less appreciative of academic brilliance and show more admiration for athleticism (Lee et al., 2004). However, a difference in the method between the present study and Lee et al.'s (2004) investigation has to be taken into account. Lee et al.'s study adapted Tannenbaum's (1962) original attitude questionnaire that was developed in American culture, whereas the present study developed a new questionnaire in Chinese schools according to Tannenbaum's procedure. This localized new questionnaire is quite different from the original American version in that it contains a greater number of positive descriptions of brilliant students. This phenomenon reveals a fact that Chinese participants showed more positive attitudes toward the brilliant students when asked to describe them with personality traits. Therefore, it is warranted to conduct a similar investigation in South Korea with a new questionnaire developed with teacher samples in that country, thus the patterns of preference in the three countries can be compared more appropriately.

5. Conclusion

In summary, the present study illustrated Chinese secondary school teachers' pattern of preference toward their students, which is quite different from the patterns obtained from the previous studies using American and South Korean teacher samples, but still shares some similarity with them in the tendency of associating girls' brilliance with studiousness and designating boys to the most favored groups. Further explorations are needed for a deeper understanding of these similarities and differences. Now that the formation of the attitudes is due to a variety of factors such as the cultural inheritances, social structures, and personal experiences (Aronson, Wilson, & Akert, 2010), we therefore anticipate a series of empirical, theoretical, and interventional studies and believe such efforts will benefit educational practices in both Eastern and Western cultures. Particularly, in terms of anti-intellectualism, is it just related to certain cultures, or is it a phenomenon that appears when a society is highly developed and wealthy? The follow-up studies in the future would probably answer these questions.

The authors believe that keeping an eye on anti-intellectualism in educational practices always benefits society for its sustainable development.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix 1: List of 42 Desirable, 6 Undesirable, and 24 Neutral Traits

1.	爱好体育锻炼(like sports)	(Desirable)
2.	志向很高(be high in aspirations)	(Desirable)
3.	被老师喜欢(teacher's favorite)	(Desirable)
4.	思维敏捷清晰(quick-witted)	(Desirable)
5.	谦虚(humble)	(Desirable)
6.	守纪律(disciplined)	(Desirable)
7.	只会读书，无其他长处(only good at study, no other strengths)	(Undesirable)
8.	讲义气(be loyal to friends)	(Neutral)
9.	爱惹事生非(be a troublemaker)	(Undesirable)
10.	有凝聚力(be cohesive)	(Desirable)
11.	喜欢表现自己(be fond of showing himself)	(Neutral)
12.	严肃(solemn)	(Neutral)
13.	性格古怪(eccentric)	(Undesirable)
14.	好胜心强(competitive)	(Neutral)
15.	爱吹牛(boastful)	(Undesirable)
16.	追逐时尚(be followers of fashions)	(Neutral)
17.	呆板迟钝(dull)	(Undesirable)
18.	沉默寡言(silent)	(Neutral)
19.	性格内向(introversive)	(Neutral)
20.	富于幽默感(humorous)	(Desirable)
21.	其貌不扬(average-looking)	(Neutral)
22.	顺从(obedient)	(Neutral)
23.	瘦(thin)	(Neutral)
24.	高傲(proud)	(Neutral)
25.	学习勤奋(diligent)	(Desirable)
26.	安静(quiet)	(Neutral)
27.	受同学欢迎(popular)	(Desirable)
28.	合群(sociable)	(Desirable)
29.	身体健康(healthy)	(Desirable)
30.	精力充沛(be energetic)	(Desirable)
31.	有礼貌，举止得体(be polite and well-behaved)	(Desirable)
32.	有气质(elegant)	(Desirable)
33.	学习方法好(have good methods in learning)	(Desirable)
34.	有耐心(patient)	(Desirable)
35.	有创新精神(creative)	(Desirable)

Continued

36.	知识面广(have a wide range of knowledge)	(Desirable)
37.	各方面平衡发展(balanced in the development)	(Desirable)
38.	豁达开朗(optimistic)	(Desirable)
39.	乐于助人(helpful)	(Desirable)
40.	有毅力(persistent)	(Desirable)
41.	好奇心强(be full of curiosity)	(Desirable)
42.	上课注意听讲(focus on learning in classes)	(Desirable)
43.	直率磊落(straightforward and upright)	(Desirable)
44.	自制力强(have high level of self-control)	(Desirable)
45.	注重打扮(pay much attention to dressing)	(Neutral)
46.	戴眼镜(wear spectacles)	(Neutral)
47.	表达能力强(good at verbal expressions)	(Desirable)
48.	爱参加各种课外活动(have interest in extra-curriculum activities)	(Desirable)
49.	有责任感(responsible)	(Desirable)
50.	把几乎所有时间都用在学习上 (spend almost all of the time in learning)	(Neutral)
51.	对异性有吸引力(be attractive)	(Neutral)
52.	兴趣广泛(have wide range of interests)	(Desirable)
53.	情绪稳定(emotionally stable)	(Desirable)
54.	身体强壮(strong)	(Desirable)
55.	不爱参加社会工作(dislike participating in social work)	(Undesirable)
56.	做事效率高(be efficient in doing things)	(Desirable)
57.	有辩论天才(have a talent for debate)	(Desirable)
58.	有勇气(courageous)	(Desirable)
59.	自信(self-confident)	(Desirable)
60.	有忘记时间的倾向(often forget time)	(Neutral)
61.	有城府(sophisticated)	(Neutral)
62.	实事求是(seek truth from facts)	(Desirable)
63.	爱沉思(contemplative)	(Desirable)
64.	有正义感(have a sense of justice)	(Desirable)
65.	动作潇洒(be natural and unrestrained)	(Desirable)
66.	心事重重(be preoccupied)	(Neutral)
67.	有个性(have a strong personality)	(Neutral)
68.	不太喜欢文科(dislike liberal art courses)	(Neutral)
69.	有魄力(be bold and resolute in action)	(Desirable)
70.	有反抗精神(have the spirit of resistance)	(Neutral)
71.	不看重分数(don't care about academic achievements)	(Neutral)
72.	是完美主义者(perfectionistic)	(Neutral)

Appendix 2: A Sample of the Teacher's Survey of Attitudes toward the 8 Types of Hypothetical Students

	STIMULUS CHARACTERS							
	Type G		Type H		Type E		Type F	
ITEMS	Pupil G is a *brilliant* high school student who is always among the highest in class in all academic subjects. Pupil G spends *more* time at home studying school subjects and doing homework than do most students. Pupil G *is not sports-minded* and does not participate in many athletic activities at school.		Pupil H is a *average* high school student who receives *fair* grades in all academic subjects. Pupil H spends *more* time at home at home studying school subjects and doing homework than do most students. Pupil H *is not sports-minded* and does not participate in many athletic activities at school.		Pupil E is a *brilliant* high school student who is always among the highest in class in all academic subjects. Pupil E spends *no more* time at home studying school subjects and doing homework than do most students. Pupil E *is not sports-minded* and does not participate in many athletic activities at school.		Pupil F is a *average* high school student who receives *fair* grades in all academic subjects. Pupil F spends *no more* time at home studying school subjects and doing homework than do most students. Pupil F *is not sports-minded* and does not participate in many athletic activities at school.	
This type is most probably:	Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )	
Select "Yes" or "No" for each descriptive phrase followed each type of student with a mark of √	Yes	No	Yes	No	Yes	No	Yes	No
1. 爱好体育锻炼(like sports)								
2. 志向很高(be high in aspirations)								
3. 被老师喜欢(teacher's favorite)								
4. 思维敏捷清晰(quick-witted)								
…								

	STIMULUS CHARACTERS							
	Type C		Type D		Type A		Type B	
ITEMS	Pupil C is a *brilliant* high school student who is always among the highest in class in all academic subjects. Pupil C spends *no more* time at home studying school subjects and doing homework than do most students. Pupil C is *sports-minded* and participates in many athletic activities at school.		Pupil D is a *average* high school student who receives *fair* grades in all academic subjects. Pupil D spends *more* time at home at home studying school subjects and doing homework than do most students. Pupil D is *sports-minded* and participates in many athletic activities at school.		Pupil A is a *brilliant* high school student who is always among the highest in class in all academic subjects. Pupil A spends *more* time at home at home studying school subjects and doing homework than do most students. Pupil A is *sports-minded* and participates in many athletic activities at school.		Pupil B is a *average* high school student who receives *fair* grades in all academic subjects. Pupil B spends *no more* time at home studying school subjects and doing homework than do most students. Pupil B is *sports-minded* and participates in many athletic activities at school.	
This type is most probably:	Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )		Boy ( ) Girl ( ) Either Boy or Girl ( )	
Select "Yes" or "No" for each descriptive phrase followed each type of student with a mark of √	Yes	No	Yes	No	Yes	No	Yes	No
1. 爱好体育锻炼(like sports)								

Continued

2. 志向很高(be high in aspirations)
3. 被老师喜欢(teacher's favorite)
4. 思维敏捷清晰(quick-witted)

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