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Discrepancies Between Students and Teachers Perceptions of Homework

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Many educators believe that homework contributes to the enhancement of learning and academic achievement and to the development of academic skills and responsibility (Bembenutty, 2009; Cooper, Robinson, & Patall, 2006; Kitsantas & Zimmerman, 2009; Xu, 2005). According to Cooper, *homework* involves tasks assigned to students by school teachers; these tasks are meant to be carried out during noninstructional time (Bembenutty, 2011). Cooper et al. (2006) reported in a synthesis of homework research that the relationship between homework and school achievement is stronger in grades 7–12 than in K–6. Others (e.g., Corno, 1996; Gill & Scholssman, 2004) maintain that homework is not a panacea to problems in schools, suggesting new approaches to integrating homework into the curriculum. However, some classroom teachers perceive homework completion and quality as more valid indicators of student achievement

Summary

For homework to help students improve school achievement and develop responsibility and autonomy in academic endeavors in and out of school, the development of teachers' understanding of students' views about homework and their homework behaviors is critical. Whether the subject of the homework is mathematics, reading, or a second language, teachers' and students' understandings regarding the types of problems that students experience during homework may differ. Discrepancies between students' and teachers' ratings of students' homework behaviors were examined in two subject domains—mathematics and English. Moderating effects of gender on student-teacher ratings were also examined. Participants were 268 tenth graders from a school in China and their math and English teachers. Overall, students' self-ratings of homework behaviors were more negative than teachers' ratings. Male students self-rated or were rated by teachers more unfavorably than their female peers on most measures of homework problems. Discrepancies between students and teachers and across gender were more evident in English than math homework. Although teachers viewed female students as having fewer homework problems than males, when only male students were examined, teachers' and male students' ratings were similar on some measures. The importance of understanding students' homework behaviors was underscored before teachers provided homework interventions. To lessen discrepancies and improve awareness of students' homework behaviors, teachers need to grade and provide feedback on students' homework.

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than standardized assessment results (Guskey, 2007). Although consensus in support of homework use has yet to be attained, it remains a pervasive pedagogical strategy in schools.

Many students, especially older students, perceive homework assignments as having little intrinsic or utility value (Bryan & Nelson, 1994). It has been documented that students' motivation for school tasks declines among older students (Hong, Peng, & Rowell, 2009; Wigfield et al., 1997). Similarly, negative attitudes toward homework are frequently observed in older students; thus, the decrease in their motivation to complete homework does not seem to be surprising (Good & Borphy, 2003; Warton, 2001). On the other hand, a good proportion of middle and high school students do think that homework is necessary and it helps them develop academic skills and increase achievement (Xu, 2005). Teachers who dispense daily homework assignments are rated higher than teachers with no homework assigned when students rate teaching effectiveness (Dudley & Shawver, 1991), indicating that at a minimum, students regard homework as an important part of schooling.

Teachers' and Students' Perceived Homework Behaviors

The degree of match between children's preferred ways of doing homework and parents' perceptions about their children's preferences is positively related to children's attitudes toward homework and homework achievement (Hong & Lee, 2003). Chinese parents in Hong Kong exhibited a fairly high level of awareness of their children's preferred ways of doing homework, and the accuracy of parental awareness of their children's homework behavior predicted homework performance (Hong & Lee, 2003). However, differences in teachers' and students' perceptions of homework problems have not been investigated.

When teachers design homework assignments, teachers' understanding of students' homework problems would help them develop assignments that meet each individual student's

readiness and needs. To generate homework more relevant to students, teachers need to have an understanding of homework difficulties that students are experiencing and the reasons students do not complete their assignments. As students' views of homework value and homework effort are positively related to their achievement (Hong et al., 2009; Xu, 2005), understanding sources of decreased interest in completing homework is a critical step to improving homework performance. Teachers with a good understanding of students' homework experiences can improve the quality and relevance of homework and lessen the homework problems that students experience. The current research on student-teacher discrepancies in perceptions of student homework behaviors is an endeavor to provide information that can be used to raise teachers' awareness of the issue and to improve homework performance in students.

Gender and Domain Differences in Homework

Girls expend more effort and are more persistent in academic activities than boys. This tendency is demonstrated among students with learning and behavioral problems (Fulk, Brighan, & Lohman, 1998), average students (Martin, 2004), and academically gifted students (Hong & Aqui, 2004). Regarding homework, girls exhibit more desirable work habits and attitudes toward homework as they report more frequently having worked to manage their workspace, organized their assignments in a certain order before working on homework, and spent more time doing homework than boys (Harris, Nixon, & Rudduck, 1993; Xu, 2006). Whereas boys seem to prefer to work in batches or at the last minute, girls work more consistently and produce neater and more detailed homework (Harris et al., 1993; Younger & Warrington, 1996).

Gender differences in homework behaviors seem to be consistent across studies, favoring girls. The question remains whether the findings equally apply to different subject domains. Students

do not view learning tasks of all subjects as equally interesting or important to them (Bong, 2001). Domain differences in intrinsic motivation have been evidenced (Gottfried, Fleming, & Gottfried, 2001). Likewise, students' motivation to complete homework differs in varying degrees across various subjects. For instance, students spend more time and effort on math homework than English homework (Trautwein, Lüdtke, Schnyder, & Niggli, 2006). The relationship between school achievement and time spent on homework is significantly higher for math than for reading under fixed-error assumptions (Cooper et al., 2006). In this study, gender moderation of student-teacher differences in the perceptions of homework problems were examined in two subject domains in an effort to fill the gap in empirical literature.

Homework and Chinese Students

How students view learning and achievement is influenced by the values and norms held by students, teachers, and parents. Not only do Chinese teachers assign a large amount of homework, but Chinese parents want their children to be given large amounts (Ebbeck, 1996). It is likely that Chinese teachers and parents perceive additional practices and reviews provided by homework as a useful contribution to students' achievement at school. Research on homework with Chinese students is pertinent due to the high level of interest in homework by teachers and parents (Dandy & Nettelbeck, 2002) and to the high level of academic achievement of Chinese students as compared to students of Western countries (e.g., Chen & Stevenson, 1995). Recently, China has been undergoing significant economic and sociocultural changes (Webber, Wang, & Zhu, 2003; Yao, 2006). How these changes might influence Chinese students' as well as teachers' views about homework is unknown at present. This study provides recent views about homework from Chinese students' and teachers' standpoints.

Purpose of the Study

Homework is a joint effort, involving student, educator, and parent. To address the lack of research examining views about students' homework experiences, we focused on both students' and teachers' perceptions about homework problems that students experience. When students and teachers have different views about students' homework experiences, efforts to reduce homework problems can be compromised. Previous studies have investigated students' homework problems, with some literature providing homework help for students encountering problems (Margolis, 2005). Margolis and McCabe (2004) listed a few possible causes of homework problems, including difficulty of assignments, lack of self-regulatory skills, and environmental difficulties. Others found amount and quality of homework (Vockell, 1993); negligence, inattention, and avoidance (Power, Werba, Watkins, Angelucci, & Eiraldi, 2006); lack of organization skills (Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008); and lack of motivation to complete homework (Hong et al., 2009) as some of the reasons for unsuccessful homework completion.

Of the various homework behaviors discussed in literature, the current study examined four—negligence, competency, attitude, and performance—to determine the discrepancy between students' and teachers' perceptions about homework problems. Student homework behaviors on these four constructs are more observable than other homework behaviors, such as procrastination or workspace management, that only parents or guardians can observe. The study also explored reasons for incomplete assignments by directly asking students and teachers to respond to questions about amount, difficulty, tardiness, lack of interest, and extracurricular activities—all have been forwarded in the literature as possible reasons for unsuccessful homework completion (e.g., Hong, Milgram, & Rowell, 2004; Langberg et al., 2008; Margolis, 2005; Vockell, 1993). Although gender differences in homework behaviors have been rather consistent, favoring female students, whether or not male and female students' behaviors are

viewed similarly by students and teachers has not been studied. Thus, we examined moderating effects of gender on student-teacher differences in various homework problems and reasons for homework incompletion. Specifically, we examined (a) student-teacher differences in their perceptions of students' homework behaviors, (b) student gender differences in homework behaviors rated by students and teachers, and (c) whether student-teacher differences were moderated by student gender. The three research questions were examined in two subject domains—mathematics and English as a foreign language—to determine if there were discernible differences across domains. Patterns of effects across the two domains were compared descriptively based on the findings from each domain.

Method

Participants

Participants were 268 tenth graders (127 males; 141 females) from a school in a major metropolitan city in China. This school serves grades 10–12. Students from 5 of the 10 classes in grade 10 participated. At the beginning of the school year, students were assigned to these classes with the purpose of achieving similar achievement levels across classes on major subject matters. Tenth graders have 8 classes each day, 5 morning and 3 afternoon classes; each day consists of math and English classes and the length of class time for all subject matters is uniform. Students mostly do their homework in the evening. Students reported that they spent 6.51 (*SD* = .66) days per week and 53 (*SD* = 21.52) minutes per day for math homework, and 6.67 (*SD* = .66) days per week and 32 (*SD* = 13.64) minutes per day for English homework.

Six teachers, 3 math teachers (2 males and 1 female) and 3 English teachers (2 females and 1 male), who taught the participating classes rated their individual students' homework behaviors. Teaching experiences (years) of math and English teachers were 7, 14, and 15 years and 7, 16, and 19 years, respectively. The

3 math teachers reported that approximately 30 minutes of homework had been assigned 5 days (1 teacher) or 6 days (2 teachers) per week. The 3 English teachers reported 25-, 30-, or 40-minute long assignments, respectively, 6 days per week. Teachers used identical texts and curriculum.

Intraclass correlations were computed to determine if a multilevel analysis was proper for the data from 5 classes (Muthén, 1997). Intraclass correlations ranged from |.0002| to |.0362| in student and teacher ratings of mathematics and English homework behaviors, indicating no class effects; thus, multilevel analysis was not used.

Measures

Homework Problems Questionnaire: Teacher Form (HPQ: Teacher) and Homework Problems Questionnaire: Student Form (HPQ: Student). Two versions of HPQ (Hong & Lee, 2006a, 2006b)—for math and English homework—were employed for the student form. The two student versions were identical in item contents except for the designation of subject domain in the directions. The directions included the word "mathematics" or "English" five times. A sample item and five response alternatives were explained before Item 1 was presented on the second page of the questionnaires. The student form was longer (more subscales and items) than the teacher form, but to match items across the student and teacher forms, we used only 20 items that belonged to both forms. Each item of the student form began with "I." The teacher form began with "This student . . ." at the top of the questionnaire, followed by Item 1, Item 2, and so on.

Examples of items of the student form are: "I don't pay attention when homework assignments are presented or discussed" (*negligence*, 3 items); "I don't understand homework instructions" (*competence*, 3 items); "I dislike doing homework" (*attitude*, 3 items); and "I copy homework from my friends" (*performance*, 4 items). Four confirmatory factor analyses (CFA) were performed for a psychometric evaluation of the scale. Each CFA with four

constructs of homework behaviors and respective items showed that the model fit was reasonable in student self-ratings of math and English homework behavior, respectively: comparative fit index (CFI) = .925 and .943, standardized root mean-square residual (SRMR) = .048 and .047, and root mean-square error of approximation (RMSEA) = .048 and .064. The model fit indices for teacher ratings of students' math and English homework behaviors, respectively, were, CFI = .951 and .953, SRMR = .032 and .027, and RMSEA = .110 and .115, indicating marginal to reasonable fit. Reliability coefficients (Rho) based on the four-factor model for student self-ratings were .75 and .87 for math and English homework, respectively, and for teacher ratings were .96 and .97 for math and English homework, respectively.

The 7 items of the student and teacher forms for *reasons for homework incompletion* were: "a large amount of homework assigned each night"; "difficulty of homework"; "laziness or tardiness"; "lack of interest in homework" (e.g., "don't care whether or not the homework is done"); "school-related activities (e.g., sports, clubs)"; "out-of-school activities (e.g., lessons, sports, clubs, job, volunteer work, organizational involvement)"; and "social relationships."

Participants responded to each item by rating themselves on the following 5-point scale: (1) *Almost never*, (2) *Sometimes*, (3) *About half of the time*, (4) *Most of the time,* and (5) *Almost always*. Similar to Rho, internal consistency estimates (coefficient alpha) of scores on homework problems for the student form in math and English and for the teacher form in math and English were .76, .85, .96, and .97, respectively.

Procedure

A teacher who taught Research and Studies (a new course, not related to the two subjects under investigation) in the selected 5 classes, coordinated data collection. There was a week interval between the two student forms—math and English. The teacher had informed students of the research purposes and questionnaire directions in her own regularly scheduled classes a few days ahead

of data collection. A homeroom period (ordinarily used for daily announcements or self-study) was used for data collection. On the day of data collection, the teacher visited each homeroom class and distributed questionnaires at the same time (a few minutes apart). Although students were told that their study participation was voluntary, all students who were present completed the questionnaires. In the homeroom, math/English teachers were not present while students were completing questionnaires. To collect math and English teachers' ratings, copies of the teacher form were handed to participating teachers the day after students' data were collected, with a return due within one week.

Data analysis. To examine research questions, multivariate repeated measures analyses of variance were performed with one within-subject variable (student vs. teacher rating), one between-subjects variable (gender), and multiple measures from the Homework Problem Questionnaire. The four subscales (negligence, competence, attitude, and performance) were tested separately from reasons for homework incompletion, because the former regards homework problems, whereas the latter concerns reasons for problems. When multivariate interactions were significant, univariate interaction effects were tested, followed by simple effects when warranted. Otherwise, main effects were tested followed by univariate multiple comparisons using conservative significance levels for multiple testing. Assumptions for repeated measures analysis were met, except for a few univariate equality of variance, in which case, the results were carefully examined for variances and sample sizes for groups being compared.

Results

The means and standard deviations of four subscales of homework problems and seven items on reasons for homework incompletion are presented in Table 1 by gender for student ratings and teacher ratings in math and English subjects. In general, male students self-rated or were rated by teachers higher (i.e., rated more negatively) than female students, and students rated

themselves more negatively than teachers. Significance tests are provided in the section below. Correlations among student and teacher ratings of the four indicators of homework behavior (see Table 2) and reasons for homework incompletion (see Table 3) for math and English homework are presented next. Correlation coefficients were consistently higher among teacher ratings than among student ratings, indicating that homework problems and reasons for not completing assignments were viewed similarly by teachers across items more so than by students.

We present student-teacher differences (Research Question A), gender differences (B), and interaction effects between student-teacher ratings and gender (C) in their perceptions of students' homework behaviors in two sections: mathematics and English as a foreign language.

Mathematics Homework

Homework problems. A statistically and substantially significant difference between students' self-ratings and teachers' ratings of student homework behaviors was found in math homework, $F(4, 263) = 19.79$, $p < .0005$, with a η_p^2 of .23, a large effect size (Huck, 2000). Follow-up univariate analyses for teacher-student differences revealed that a statistically significant difference was indicated in students' attitudes toward homework, $F(1, 266) = 24.99$, $p < .0005$, $\eta_p^2 = .09$, a medium effect size. Students' self-ratings were more negative than teachers' (see Table 1 for means). Differences between students' and teachers' ratings on homework negligence ($p = .41$), incompetence ($p = .08$), and performance ($p = .10$) were not significant.

The gender difference was also statistically significant, $F(4, 263) = 3.46$, $p = .009$, $\eta_p^2 = .05$, a small effect size. Follow-up univariate analyses indicated that statistically significant differences were demonstrated in negligence, $F(1, 266) = 8.01$, $p = .005$, $\eta_p^2 = .03$, and attitude, $F(1, 266) = 6.82$, $p = .01$, $\eta_p^2 = .03$. Males, more so than females, forgot to bring their homework and were not attentive when homework was presented. Males rated themselves as having more negative attitudes toward homework than

Table 1

Means and Standard Deviations of Homework Problems and Reasons for Homework Incompletion by Gender for Student and Teachers Ratings in Mathematics and English Subjects

		Student Rating			Teacher Rating		
		Male	Female	Total	Male	Female	Total
Homework Problem							
Negligent	Math	1.79 (.60)	1.62 (.59)	1.70 (.60)	1.85 (.73)	1.65 (.78)	1.74 (.76)
	Eng	1.92 (.75)	1.67 (.54)	1.79 (.66)	1.85 (.80)	1.27 (.48)	1.54 (.71)
Incompetence	Math	1.82 (.62)	1.76 (.53)	1.79 (.57)	1.94 (.72)	1.83 (.78)	1.88 (.76)
	Eng	1.94 (.73)	1.87 (.60)	1.90 (.66)	1.78 (.83)	1.28 (.54)	1.52 (.73)
Poor attitude	Math	2.29 (.97)	2.01 (.78)	2.15 (.89)	1.86 (.77)	1.75 (.83)	1.80 (.80)
	Eng	2.26 (.97)	2.08 (.87)	2.17 (.92)	1.83 (.87)	1.26 (.56)	1.53 (.78)
Poor performance	Math	2.15 (.53)	2.09 (.52)	2.12 (.52)	2.07 (.72)	1.20 (.73)	2.03 (.72)
	Eng	2.19 (.69)	1.98 (.56)	2.08 (.63)	1.89 (.85)	1.30 (.52)	1.58 (.76)
Reasons for Homework Incompletion							
Amount	Math	2.96 (1.33)	3.03 (1.28)	3.00 (1.30)	2.09 (.76)	2.10 (.76)	2.10 (.76)
	Eng	2.79 (1.30)	2.99 (1.31)	2.90 (1.31)	1.97 (.84)	1.45 (.66)	1.70 (.79)
Difficulty	Math	2.83 (1.19)	3.02 (1.10)	2.93 (1.14)	2.19 (.70)	2.18 (.64)	2.19 (.67)
	Eng	2.57 (1.15)	2.40 (1.03)	2.48 (1.09)	1.86 (.89)	1.38 (.66)	1.61 (.81)
Tardiness	Math	2.24 (1.10)	1.98 (1.09)	2.10 (1.10)	2.04 (.96)	1.72 (.89)	1.87 (.94)
	Eng	2.35 (1.21)	1.98 (1.05)	2.16 (1.14)	1.87 (.97)	1.24 (.60)	1.54 (.85)
Lack of interest	Math	2.15 (1.29)	1.74 (1.05)	1.94 (1.18)	1.98 (.93)	1.86 (.90)	1.92 (.92)
	Eng	2.47 (1.29)	2.03 (1.22)	2.24 (1.27)	1.75 (.97)	1.23 (.62)	1.48 (.84)
In-school activities	Math	1.86 (.92)	1.93 (.90)	1.90 (.91)	1.93 (.98)	1.87 (.97)	1.90 (.97)
	Eng	1.69 (.84)	1.94 (.81)	1.82 (.83)	1.76 (.95)	1.24 (.61)	1.49 (.83)
Out-of-school activities	Math	1.61 (.94)	1.60 (.87)	1.60 (.90)	1.83 (.90)	1.70 (.83)	1.76 (.87)
	Eng	1.66 (.93)	1.69 (.86)	1.68 (.89)	1.70 (.90)	1.21 (.57)	1.44 (.78)
Social relation	Math	1.97 (1.18)	1.79 (.98)	1.87 (1.08)	1.87 (.89)	1.79 (.98)	1.83 (.94)
	Eng	1.95 (1.08)	1.72 (.89)	1.83 (.99)	1.28 (.68)	1.17 (.46)	1.22 (.58)

Note. ***N*** **= 268; 127 male students; 141 female students.**

Table 2

Correlations Among Student (Upper Triangle) and Teacher (Lower Triangle) Ratings of Four Homework Behavior Constructs for Math and English Homework

	1	2	3	4	5	6	7	8
Mathematics Homework								
1. Negligence	–	.30	.41	.47	.41	.28	.34	.34
2. Competence	.89	–	.46	.32	.22	.55	.38	.27
3. Attitude	.88	.89	–	.42	.39	.53	.67	.44
4. Performance	.85	.89	.89	–	.24	.37	.42	.53
English Homework								
5. Negligence	.43	.43	.45	.43	–	.38	.56	.41
6. Competence	.49	.51	.55	.52	.84	–	.60	.53
7. Attitude	.52	.53	.54	.51	.86	.90	–	.61
8. Performance	.47	.48	.49	.48	.86	.88	.92	–

Note. **All correlation coefficients are statistically significant, $p < .001$. $N = 268$.**

females (see Table 1). However, the mean scores are all below 3 (on a 5-point scale). That is, in general, students' homework behaviors are perceived as more desirable than undesirable by Chinese teachers as well as students.

The interaction between gender and student/teacher on the combined homework behavior in mathematics was not statistically significant, $p = .33$, indicating the moderating effect of gender in the analysis of teacher-student differences in their views about students' homework behaviors in mathematics was not significant.

Reasons for homework incompletion. The student-teacher difference was statistically and practically significant, $F(7, 260) = 19.79$, $p < .0005$, $\eta_p^2 = .40$. Univariate analyses showed a statistically significant difference in three of the seven items, $p \leq .009$. Students' self-rating on average was higher than teachers' rating on the amount of homework as a reason for homework incompletion, $\eta_p^2 = .28$. Students' mean self-rating on homework difficulty was higher than teachers' rating, $\eta_p^2 = .24$. Again, students' rating of tardiness was higher than teachers' rating, $\eta_p^2 = .03$. Student-

Table 3

Correlations Among Student (Upper Triangle) and Teacher (Lower Triangle) Ratings of Seven Reasons for Homework Incompletion for Math and English Homework

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mathematics Homework														
1. Amount	–	.64**	.18**	.25**	.20**	.23**	.19**	.44**	.22**	.14*	.21**	.12*	.22**	.19**
2. Difficulty	.68**	–	.21**	.27**	.14*	.19**	.14*	.29**	.27**	.18**	.18**	.08	.21**	.18**
3. Tardiness	.69**	.69**	–	.42**	.13*	.09	.18**	.14*	.14*	.53**	.41**	.01	.06	.15*
4. Lack of interest	.65**	.62**	.72**	–	.14*	.17**	.20**	.11	.11	.35**	.47**	.09	.23**	.23**
5. In-school activity	.66**	.59**	.72**	.78**	–	.69**	.30**	.26**	.10	.02	.12*	.48**	.41**	.19**
6. Out-of-school activity	.62**	.57**	.70**	.75**	.79**	–	.39**	.16*	.12*	.05	.10	.40**	.44**	.19**
7. Social relation	.60**	.56**	.68**	.75**	.79**	.81**	–	.11	.12*	.21**	.12*	.26**	.30**	.46**
English Homework														
8. Amount	.23**	.32**	.30**	.26**	.22**	.24**	.29**	–	.40**	.15*	.27**	.19**	.21**	.11
9. Difficulty	.34**	.33**	.35**	.31**	.29**	.31**	.36**	.78**	–	.24**	.31**	.10	.12*	.15*
10. Tardiness	.28**	.34**	.39**	.37**	.36**	.38**	.44**	.78**	.77**	–	.54**	.06	.11	.25**
11. Lack of interest	.31**	.33**	.43**	.38**	.37**	.41**	.42**	.69**	.75**	.81**	–	.02	.15*	.19**
12. In-school activity	.35**	.33**	.43**	.38**	.40**	.42**	.44**	.71**	.73**	.75**	.76**	–	.60**	.29**
13. Out-of-school activity	.30**	.36**	.42**	.40**	.42**	.42**	.51**	.71**	.74**	.75**	.78**	.79**	–	.46**
14. Social relation	.31**	.33**	.37**	.34**	.36**	.37**	.38**	.36**	.43**	.43**	.38**	.44**	.40**	–

*$p < .05$. **$p < .01$. $N = 268$.

teacher differences in lack of interest, in-school and out-of-school activities, and social relationships were not significant (see Table 1 for means).

The gender effect was also statistically significant, $F(7, 260) = 3.78$, $p = .001$, $\eta_p^2 = .09$. Of the seven items, two showed statistically significant gender differences, tardiness ($p = .001$) and lack of interest ($p = .003$). Males rated their tardiness higher than females, $\eta_p^2 = .04$. Likewise, males showed a lack of interest in homework more so than females, $\eta_p^2 = .03$. No significant differences were observed in the amount of homework, level of difficulty, in-school and out-of-school activities, and social relationships (see Table 1).

The interaction between gender and student-teacher ratings on seven reasons for not completing mathematics homework was not statistically significant, $p = .25$.

English Homework

Homework problems. A statistically significant difference was found between students' self-ratings and teachers' ratings of students' multivariate *homework* behaviors scores in English homework, $F(4, 263) = 29.32$, $p < .0005$, $\eta_p^2 = .30$. Follow-up univariate analyses demonstrated that student-teacher differences were statistically significant different in all four subscales, all $p < .0005$, η_p^2 ranging from .07 to .26, with students consistently self-rating their homework problems higher (more negatively) than teachers (see Table 1). The gender difference was also significant in both multivariate, $F(4, 263) = 14.56$, $p < .0005$, $\eta_p^2 = .18$, and univariate analyses, with the latter showing statistically significant differences in all four subscales, all $p < .0005$, η_p^2 ranging from .07 to .16. Male students consistently self-rated their homework problems higher than female students (see Table 1).

Meanwhile, the interaction between gender and student-teacher ratings was also statistically significant in the combined homework behavior scores, $F(4, 263) = 4.88$, $p = .001$, $\eta_p^2 = .07$. Univariate tests for interaction effects demonstrated statistical significance in all four subscales, all $p \leq .003$, η_p^2 ranging from

.03 to .06. That is, although students viewed themselves as having more homework problems than teachers viewed them as having, and male students reported having more homework problems than female students, students-teacher differences were moderated by gender. The pattern of interactions indicated that teachers, in general, viewed male students as having more homework problems than females. However, the difference between student-teacher ratings among only male students was not significant in some measures. This pattern was tested statistically to determine statistical significance for each gender as well as at the student and teacher level separately (i.e., simple effects).

At each of the student- and teacher-level ratings of homework negligence, gender difference was statistically significant, $p \leq .001$. When only students' mean ratings were compared, male students reported having more homework negligence problems than female students. Similarly, teachers rated male students more negatively than female students (see Table 1). However, when only male students were examined, differences between students' and teachers' ratings of homework negligence were not statistically significant, $p = .42$. When it came to female students, the student-teacher difference was significant, $F(1, 140) = 49.06$, $p < .0005$, $\eta_p^2 = .26$; female students' mean self-rating was significantly more negative than teachers' mean rating of female students (see Table 1).

The pattern of findings on the homework incompetence subscale was similar to the above, although a gender difference was found only at the teacher level, $p < .0005$. Teachers again rated male students as more incompetent than females (see Table 1). When only male students were examined, differences between students' and teachers' ratings were not statistically significant, $p = .09$. However, when only female students were examined, the difference was statistically significant, $p < .0005$, $\eta_p^2 = .40$. Female students' mean self-rating was more negative than teachers' mean rating of female students (see Table 1).

For the homework attitude scale, a gender difference was found again only at the teacher level, $p < .0005$. Teachers rated male students as having more negative attitudes than female stu-

dents. At each of the male and female students' levels, the difference between students' and teachers' ratings was statistically significant, $p < .0005$; students rated themselves more negatively (disliked homework more) than did teachers (see Table 1).

Concerning students' homework performance, the gender difference was statistically significant in each of the student and teacher ratings, $p \leq .007$. Male students self-rated as having more homework performance problems than female students. Teachers also rated male students as having significantly more performance problems than females. At each gender level, the difference between students' and teachers' ratings was statistically significant, $p < .001$; students viewed themselves as having more performance problems than viewed by the teachers (see Table 1).

In brief, results of significance testing and mean scores demonstrate that differences between students' and teachers' ratings were larger with female students than with males, with students rating themselves more negatively than teachers. However, when only male students were examined, no student-teacher differences were found in homework negligence and competence. Gender differences were larger in teacher ratings than in student ratings, favoring female students. However, when only students' self-ratings were examined, no significant gender difference was found in competence and attitude.

Reasons for homework incompletion. A statistically and substantially significant difference was demonstrated between students' and teachers' views about the reasons for homework incompletion in the English subject, $F(7, 260) = 37.81$, $p < .0005$, $\eta_p^2 = .50$. Follow-up univariate analyses revealed that statistically significant differences were found on all seven items, $p \leq .002$. However, the student-teacher differences on three (homework amount, in-school extracurricular activities, and out-of-school extracurricular activities) of the seven items were moderated by students' gender (interaction and simple effects are reported below). We continue here to report four items that did not reveal significant univariate interaction effects. The student-teacher difference was significant on homework difficulty, tardiness, lack of interest, and social relationship, all $p < .0005$, η_p^2 ranging from

.18 to.31. As Table 1 presents, students rated themselves more negatively than teachers on these four reasons for not completing English homework.

Student gender differences were also significant in the reasons for homework incompletion, $F(7, 260) = 5.82$, $p < .0005$, $\eta_p^2 = .14$. Univariate gender differences indicated that three of the seven items (homework difficulty, tardiness, and lack of interest) were significantly different, with male students consistently self-rating and being rated by teachers more negatively than female students, $p < .0005$, η_p^2 ranging from .05 to.11 (see Table 1 for means).

As mentioned earlier, the interaction between gender and student/teacher ratings on the reasons for homework incompletion was significant in a multivariate analysis, $F(7, 260) = 6.25$, $p < .0005$, $\eta_p^2 = .14$, and in univariate analyses on three items (large homework amount and in-school and out-of-school extracurricular activities), all $p < .001$, η_p^2 ranging from .05 to .10.

When only students' ratings were examined for the amount of homework as a reason for incompletion, male and female students did not differ significantly, $p = .20$. However, when only teachers' ratings were tested, male students were rated more negatively than females, $p < .0005$, $\eta_p^2 = .11$. When male and female students were separately examined for the differences between teacher and student ratings, students rated themselves more negatively than teachers on homework amount at each student gender level, $p < .0005$ (see Table 1 for means).

In-school and out-of-school extracurricular activities as reasons for homework incompletion were examined next, finding that the patterns of the simple effects were similar in both measures. Gender differences were found in teacher ratings on in-school activities and out-of-school activities, $p < .001$. Gender differences were not found when only students' ratings were examined. When student gender was tested separately, the student-teacher rating difference was observed only among female students, with female students rating themselves more negatively on these reasons than teachers, $p < .0005$. When only male students were examined, student-teacher differences were not observed (see Table 1).

In brief, differences between students' and teachers' ratings were larger with female students than with male students, with students rating themselves more negatively than teachers. However, when only male students were examined, no student-teacher differences were found in in-school and out-of-school activities. Gender differences were larger in teacher ratings than in student ratings, favoring female students. However, when only students' self-ratings were examined, no significant gender difference was demonstrated in homework amount and in-school and out-of-school extracurricular activities as reasons for not completing homework.

Discussion

The patterns of student-teacher and gender differences revealed across multiple homework behavior measures were remarkably similar, although some distinctly different patterns were observed across math and English subjects. We discuss student-teacher differences first, followed by gender differences and moderating effects of gender in student-teacher rating differences.

Student-Teacher Differences in Their Ratings of Students' Homework Behaviors

Homework problems. Students' self-ratings on their homework behaviors were more negative than teachers' ratings of students' homework behaviors. In mathematics, students and teachers shared similar views on students' homework negligence, competence, and performance, although student reports on their attitudes toward homework were more negative than the teachers' perceptions of students' attitudes. That is, in math homework, Chinese teachers were well aware of students' homework behaviors except for attitudes toward homework.

In English homework, however, students consistently perceived themselves as having more homework problems than did teachers. The discrepancies found in math and English home-

work might have come from differences in the nature of homework contents of the two subjects. Math content tends to be more structured than English content; thus, it may be relatively straightforward for math teachers to evaluate their students' competence, performance, and negligence. On the other hand, math teachers might have gathered and graded homework more consistently than English teachers, thus the former might have been aware of students' homework behaviors more so than the latter. Teachers in this study were not required to formally record students' performance on homework assignments; therefore, it was difficult to discern how their approaches to homework grading differed and whether, or to what extent, grading methods might have accounted for the differences in their evaluation of students' homework problems.

Reasons for homework incompletion. In math homework, students reported that they received too many and too difficult assignments and thought of themselves as lazy or tardy with homework more so than did their teachers. Effect sizes of these differences indicate that students' and teachers' views about homework amount and difficulty differ to a very large extent.

More student-teacher differences were observed in English than in mathematics homework. In addition to amount and difficulty as reasons for homework incompletion found in mathematics, tardiness, lack of interest, and social relationship were also reasons that showed student-teacher gaps in English homework. As observed in the analysis of homework problems, English teachers' perceptions about the reasons for homework incompletion were not as close to their students' perceptions as were those by mathematics teachers. Again, homework nature and content structure and teachers' homework assignment practice may be part of the reasons for discrepancies between mathematics and English subjects. The mathematics subject may be considered highly important in Chinese society, whereas English as a second language may not reach that level of importance. Although the reasons reported by students are not fully informative, it demonstrated that the homework behaviors depend on subject domains (e.g., Trautwein et al., 2006).

The current research tackled perceptual discrepancies between students and teachers regarding homework problems that have not been studied. A high level of parental awareness of children's preferred ways of doing homework has been shown to be associated with high achievement and positive attitudes toward homework, and the trend has been found in the U.S., China, and Korea (Hong & Lee, 2003; Hong, Milgram, & Perkins, 1995). Although the current study did not directly relate the degree of discrepancy with student achievement, it can be speculated that teachers' awareness and understanding of their students' homework problems will only help teachers provide necessary and relevant assistance to students.

Gender Differences and Moderating Effects

Homework problems. Overall, male students self-perceived homework behaviors more negatively than their female counterparts. In English homework, gender discrepancies were more prominent; not only negligence and attitudes but also competence and performance difficulties differed. The discrepancies were largely due to teachers' ratings in that they perceived female students' behaviors more favorably than male students' on all four homework-problem measures.

Although students had somewhat similar views as teachers, favoring female students in some homework behaviors, no gender differences were observed in English homework when only students' self-ratings were examined. When only male students were rated for their homework behaviors, some measures did not demonstrate student-teacher rating differences. However, when only female students were examined, they consistently self-rated as having more homework problems than were noted in teachers' ratings in all four homework-problem measures. The higher sense of responsibility and work ethics that girls impose on themselves (Mau & Lynn, 2000; Warrington, Younger, & Williams, 2000) might have resulted in the girls' consistently low self-ratings.

Reasons for homework incompletion. In both subjects, males rated higher on tardiness and lack of interest in homework

than did female students, but not in homework amount, difficulty, in-school and out-of-school activities, or social relationships. The two items showing gender differences were behaviors that students have direct control over. Leung (1996) found that girls are more likely to attribute their failure to lack of ability and lack of effort. In this study, however, boys, more so than girls, attributed their homework problems to lack of effort (tardiness) and lack of interest. This finding may indicate that males, as compared to females, realize that they are not completing homework and that they are responsible for homework outcome, thus making internal attributions.

However, in English homework, more boys thought that homework difficulty, an external factor, was one of the reasons for not completing homework than did girls. Female students have a higher interest in learning the language than do males (Skaalvik & Skaalvik, 2004; Watt, 2004), whereas findings on mathematics vary (e.g., Wigfield et al., 1997). Male students might have believed that their homework problems in English were beyond their control (English is difficult) from their experiences with English more so than females. Beyer (1997) found that gender differences in causal attributions depended on the type of the subject matter, supporting the current findings to a degree.

When only students' ratings were examined, males and females did not differ in three measures of reasons—homework amount, in-school activities, and out-of-school activities. When only teachers' ratings were examined, however, teachers rated female students more favorably than male students on the same three reasons. That is, teachers were consistently more critical of male students' homework problems as well as the reasons for incompletion. When only female students were examined, females reported that extracurricular activities were part of the reason for homework incompletion significantly more than teachers reported this; and teachers thought that male students had more extracurricular activities than females. Along with other homework behaviors for which teachers rated male students less favorably, Chinese teachers may view male students as being involved in extracurricular activities more than females, thus

preventing them from completing homework assignments. As indicated earlier, however, male and female students self-rated similarly. One may speculate that these findings replicate teacher biases toward gender found in various classroom studies (Jones & Myhill, 2004).

In summary, students and teachers rated female students more favorably than males, despite no gender differences being found in some measures. This trend replicates a number of previous studies on homework in the U.S. and other Western countries, in which females exhibit more desirable homework behaviors and complete and submit quality homework more than males (Harris et al., 1993; Xu, 2006). Male students may require additional attention and assistance from teachers for homework. Homework support and supervision should be provided by teachers as well as parents. Xu (2006) stresses the need for families to be involved in male students' homework by helping children organize and monitor their homework progress and providing a home environment conducive to home study.

Note that although there are gender and student-teacher differences in perceived homework problems, the mean scores were all below 3 (on a 5-point scale) in the current Chinese sample. This indicates that students' homework behaviors are perceived on average as more desirable than undesirable by Chinese teachers as well as by students. In addition, unlike the findings that students perceive homework assignments as having little intrinsic or utility value (Bryan & Nelson, 1994), in a recent study (Hong et al., 2009) Chinese students reported that homework is useful, although they dislike homework. Comparisons between students and teachers from China and those from other countries would be an interesting topic for future research.

Limitations and Future Research

The findings should be interpreted with caution due to the use of self-report data. Although the self-report approach is relevant for understanding participants' thoughts and perceived behaviors, research using other observation approaches (e.g., interviews)

is desired along with analysis of self-perceptions. Because the main focus of the study was to compare students' and teachers' perceptions of homework behaviors, we selected the indicators of homework problems that are relatively easily observable by teachers. Other constructs such as intrinsic and extrinsic motivation, self-efficacy, and self-regulation are important for homework research. However, for the purpose of the current study these constructs were not included. Efforts should be made to examine various indicators of homework problems in future investigation. The seven reasons for homework incompletion were examined using a single-item measure to maintain an adequate length of the questionnaire. Studies with additional items for each category are warranted.

Participants in the current study are from a large metropolitan area in China. Thus, the sample may not represent students and teachers from rural and small urban cities in China as well as those from other countries. In this study, 6 teachers rated 268 students' homework behaviors. The student-teacher differences found in the study could be attributed to the current teacher sample. Replication studies with a range of teachers from China and other countries are needed to further understand student-teacher gaps in perceived homework problems.

Conclusions

In general, Chinese teachers rated students' homework behaviors more favorably than students themselves. This finding can also be interpreted as students being more critical of themselves in viewing their homework behaviors, thus self-rating more negatively. There may be a cultural implication in these findings. Students from Asian countries exhibit less confidence in academic performance than students from some Western countries, even though their actual performance scores are higher than those of Western students (Leung, 2002; Shen, 2002). We speculate that Chinese students in the study might have been more self-critical than their teachers, as they established must-achieve goals, but

felt that they were not accomplishing them. It is also possible that standards set by students and teachers might be different. The important point is that discrepancies exist between students' and teachers' perceptions of student behaviors and that these discrepancies are problematic in efforts to improve homework performance.

Similar to teachers' ratings, male students self-rated their homework behaviors more negatively than did female students. However, gender differences were not consistent in all measures, with some showing no gender difference especially when only students' ratings were examined. These findings point to the need for understanding gender biases that might occur not only in perceptions but in actual practices of homework assignments and grading.

The findings that the moderating effects of gender were observed only in English homework and that student-teacher discrepancies were observed more in English than in math homework indicate that perceptions about students' homework behaviors may be domain-dependent. Due to the differences in the nature of the two subjects, the discrepancies in students' homework behaviors found in this study may not be surprising. On the other hand, similar perceptual patterns were found across the two subjects (e.g., female students were rated more favorably than males in both subject domains), supporting the idea that some of the student-teacher difference and gender difference about homework behaviors may apply to various domains.

References

Bembenutty, H. (2009). Self-regulation of homework completion. *Psychology Journal, 6,* 138–153.

Bembenutty, H. (2011). The last word: An interview with Harris Cooper—Research, policies, tips, and current perspectives on homework. *Journal of Advanced Academics, 22,* 342–351.

Beyer, S. (1997). *Gender di*f *erences in causal attributions of imagined performance on English, history, and math exams.* Retrieved from ERIC database. (ED413552)

Bong, M. (2001). Between- and within-domain relations of academic motivation among middle and high school students: Self-efficacy, task value, and achievement goals. *Journal of Educational Psychology, 93,* 23–34.

Bryan, T., & Nelson, C. (1994). Doing homework: Perspectives of elementary and middle school students. *Journal of Learning Disabilities, 27,* 488–499.

Chen, C., & Stevenson, H. W. (1995). Motivation and mathematics achievement: A comparative study of Asian-American, Caucasian-American, and East Asian high school students. *Child Development, 66,* 1215–1234.

Cooper, H., Robinson, J. C., & Patall, E. (2006). Does homework improve academic achievement? A synthesis of research, 1987–2003. *Review of Educational Research, 76,* 1–62.

Corno, L. (1996). Homework is a complicated thing. Section 4: Grading the policymakers' solution. *Educational Researcher, 25,* 27–30.

Dandy, J., & Nettelbeck, T. (2002). The relationship between IQ, homework, aspirations and academic achievement for Chinese, Vietnamese and Anglo-Celtic Australian school children. *Educational Psychology, 22,* 267–276.

Dudley, S., & Shawver, D. L. (1991). The effect of homework on students' perceptions of teaching effectiveness. *Journal of Education for Business, 67,* 21–25.

Ebbeck, M. (1996). Parents expectations and child rearing practices in Hong Kong. *Early Child Development and Care, 119,* 15–25.

Fulk, B. M., Brighan, F. J., & Lohman, D. A. (1998). Motivation and self-regulation: A comparison of students with learning and behavior problems. *Remedial and Special Education, 19,* 300–309.

Gill, B. P., & Schlossman, S. L. (2004). Villain or savior? The American discourse on homework, 1850–2003. T *eory Into Practice, 43,* 174–181.

Good, T. L., & Brophy, J. E. (2003). *Looking in classrooms* (9th ed.). Boston, MA: Allyn & Bacon.

Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence: A longitudinal study. *Journal of Educational Psychology, 93,* 3–13.

Guskey, T. R. (2007). Multiple sources of evidence: An analysis of stakeholders' perceptions of various indicators of student learning. *Educational Measurement: Issues and Practice, 26,* 19–27.

Harris, S., Nixon, J., & Rudduck, J. (1993). School work, homework and gender. *Gender and Education, 5,* 3–14.

Hong, E., & Aqui, Y. (2004). Cognitive and motivational characteristics of adolescents gifted in mathematics. *Gifted Child Quarterly, 48,* 191–201.

Hong, E., & Lee, K. (2003). Parental awareness of their children's homework motivation and preference and its relationship to achievement. *International Journal of Adolescence and Youth, 11,* 231–249.

Hong, E., & Lee, K. (2006a). *Homework Problems Questionnaire: Student form.* Las Vegas: University of Nevada, Las Vegas.

Hong, E., & Lee, K. (2006b). *Homework Problems Questionnaire: Teacher form.* Las Vegas: University of Nevada, Las Vegas.

Hong, E., Milgram, R. M., & Perkins, P. G. (1995). Homework style and homework behavior of Korean and American Children. *Journal of Research and Development in Education, 28,* 197–207.

Hong, E., Milgram, R. M., & Rowell, L. L. (2004). Homework motivation and preference: A learner-centered adaptive homework approach. T *eory Into Practice, 43,* 197–204.

Hong, E., Peng, Y., & Rowell, L. L. (2009). Homework self-regulation: Grade, gender, and achievement-level differences. *Learning and Individual Di*f *erences, 19,* 269–276.

Huck, S. W. (2000). *Reading statistics and research* (3rd ed.). New York, NY: Longman.

Jones, S., & Myhill, D. (2004). Seeing things differently: Teachers' construction of under-achievement. *Gender and Education, 16,* 531–546.

Kitsantas, A., & Zimmerman, B. J. (2009). College students' homework and academic achievement: The mediating role of self-regulatory beliefs. *Metacognition and Learning, 4,* 97–110.

Langberg, J. M., Epstein, J. N., Urbanowicz, C. M., Simon, J. O., & Graham, A. J. (2008). Efficacy of an organization skills intervention to improve the academic functioning of students with attention-deficit/hyperactivity disorder. *School Psychology Quarterly, 23,* 407–417.

Leung, F. K. S. (2002). Behind the high achievement of East Asian students. *Educational Research & Evaluation, 8,* 87–108.

Leung, J. J. (1996). Some gender differences in academic motivational orientations among secondary school students. *Educational Research Quarterly, 20,* 17–32.

Margolis, H. (2005). Resolving struggling learners' homework difficulties: Working with elementary school learners and parents. *Preventing School Failure, 50,* 5–12.

Margolis, H., & McCabe, P. (2004). Resolving struggling readers' homework difficulties: A social cognitive perspective. *Reading Psychology, 25,* 225–260.

Martin, A. J. (2004). School motivation of boys and girls: Differences of degree, differences of kind, or both? *Australian Journal of Psychology, 56,* 133–146.

Mau, W., & Lynn, R. (2000). Gender differences in homework and test scores in mathematics, reading and science at tenth and twelfth grade. *Psychology, Evolution and Gender, 2,* 119–125.

Muthén, B. (1997). Latent variable growth modeling with multilevel data. In M. Berkane (Ed.), *Latent variable modeling with applications to causality* (pp. 149–161). New York, NY: Springer Verlag.

Power, T. J., Werba, B. E., Watkins, M. W., Angelucci, J. G., & Eiraldi, R. B. (2006). Patterns of parent-reported homework problems among ADHA-referred and non-referred children. *School Psychology Quarterly, 21,* 13–33.

Shen, C. (2002). Revisiting the relationship between students' achievement and their self-perceptions: A cross-national analysis based on TIMSS 1999 data. *Assessment in Education: Principles, Policy & Practice, 9,* 161–184.

Skaalvik, S., & Skaalvik, E. (2004). Gender differences in math and verbal self-concept, performance expectations, and motivation. *Sex Roles, 50,* 241–252.

Trautwein, U., Lüdtke, O., Schnyder, I., & Niggli, A. (2006). Predicting homework effort: Support for a domain-specific, multilevel homework model. *Journal of Educational Psychology, 98,* 438–456.

Vockell, E. L. (1993). Why schools fail and what we can do about it. T *e Clearing House, 66,* 200–205.

Warrington, M., Younger, M., & Williams, J. (2000). Student attitudes, image and the gender gap. *British Educational Research Journal, 26,* 393–407.

Warton, P. M. (2001). The forgotten voices in homework: Views of students. *Educational Psychologist, 36,* 155–165.

Watt, H. M. G. (2004). Development of adolescents' self-perceptions, values, and task perceptions according to gender and domain in 7th- through 11th-grade Australian students. *Child Development, 75,* 1556–1574.

Webber, M. J., Wang, M., & Zhu, Y. (2003). *China's transition to a global economy.* Gordonsville, VA: Palgrave Macmillan.

Wigfield, A., Eccles, J. S., Yoon, K. S., Harold, R. D., Arbreton, A. J. A., Freedman-Doan, C., & Blumenfeld, P. C. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: A 3-year study. *Journal of Educational Psychology, 89,* 451–469.

Xu, J. (2005). Purposes of doing homework reported by middle and high school students. *Journal of Educational Research, 99,* 46–55.

Xu, J. (2006). Gender and homework management reported by high school students. *Educational Psychology, 26*, 73–91.

Yao, S. (2006). On economic growth, FDO and exports in China. *Applied Economics, 38,* 339–351.

Younger, M., & Warrington, M. (1996). Differential achievement of girls and boys at GCSE: Some observations from the perspective of one school. *British Journal of Sociology of Education, 17,* 299–313.