

Purposes for Doing Homework Reported by Middle and High School Students

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ABSTRACT The author examined purposes for doing homework perceived by 920 students in Grades 5–12. Through an exploratory factor analysis, 8 homework purposes were reduced to 2 factor structures: Intrinsic Reasons and Extrinsic Reasons. Both factors related positively to students' use of homework management strategies. However, only Intrinsic Reasons was related to lower frequency of incomplete homework and to higher self-reported grade. Each factor was further subjected to a $2 \times 2 \times 2$ (Grade \times Gender \times Homework Help) analysis of variance. Older students and students who did not receive homework help were more likely to disagree that they did homework for extrinsic reasons. The effect of homework help on Intrinsic Reasons was apparent among only the boys.

Key words: family involvement, gender differences, high school, homework, and middle school

An increasing amount of scholarship has focused on the views of teachers and parents toward homework (Epstein & Van Voorhis, 2001; Hoover-Dempsey et al., 2001). However, children's views remain noticeably absent from much contemporary homework literature (Bryan, Nelson, & Mathur, 1995; Leung, 1993; Warton, 2001; Xu & Yuan, 2003).

One such neglected area relates to purposes for doing homework as perceived and classified by children. Epstein and Van Voorhis (2001), for example, outlined 10 purposes for doing homework: practice, preparation, participation, personal development, parent-child relations, parent-teacher communications, peer interactions, policy, public relations, and punishment. Those purposes were largely derived from surveys and interviews with teachers and from workshops with educators; thus, they were perceived and identified by adults. Warton (2001) similarly argued that those purposes reflect an adult point of view. Some of the reasons, for example, such as policy, public relations, and prompting parent-teacher communications may be of little priority or relevance to the children involved.

Homework views ascribed by teachers and parents exert important but more distal influences on student homework behavior than do children's own views (Bryan et al., 1995;

Cooper, Lindsay, Nye, & Greathouse, 1998; Leung, 1993; Warton, 2001). Thus, it is important for one to examine the purposes that students perceive for doing homework to determine whether those purposes are related to their homework behavior and academic achievement. Such an examination is particularly important at the middle and high school level, "as students grow older their own attitudes about homework . . . play an increasingly important role in how much homework they complete and in their class grades" (Cooper et al., p. 81).

Moreover, as "the most critical outcomes associated with parental involvement in homework may be found in the attitudes, ideas, and behaviors enacted by students in the course of school learning" (Hoover-Dempsey et al., 2001, p. 204), and as "research has largely overlooked the influence of children's developmental level on the stated purposes of homework" (Warton, 2001, p. 156), there is a critical need for researchers to examine whether children's perceived purposes for doing homework are influenced by grade level, gender, and family homework involvement.

Related Research

Two lines of related research informed the present investigation. One line of research compares purposes of homework as perceived by students, parents, and teachers on the basis of interview and observation data. The second line of research examines the roles and views of teachers and parents on children's homework attitudes and behavior according to survey data.

Purposes of Homework Perceived by Students, Parents, and Teachers

According to the first line of research, whereas children share some purposes for doing homework with adults, they often do homework for other reasons that may be of little

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priority or relevance to their parents and teachers. One study (Xu & Corno, 1998) compared perceived reasons for doing homework among students, their parents, and their teachers. The participants were 6 third-grade students from one urban elementary school, along with their parents who volunteered. The families came from diverse cultural backgrounds; 9 of the 12 parents held advanced degrees. The boys and girls were 8 years old, and some had the same teachers. Xu and Corno collected data through (a) open-ended interviews with the students, parents, and teachers; (b) videotaped observations of homework sessions; and (c) stimulated-recall interviews with parents, following each homework session.

This study revealed that the parents and teachers shared similar views about purposes for doing homework, namely, that homework was a way to reinforce school learning (e.g., "to understand better what's going on in the classroom") and to develop self-regulatory attributes (e.g., "You have to have responsibility to complete daily assignments"). As for the children in the study, a majority of them were aware of the role that homework played in helping them better understand their lessons (e.g., "learn more," "write better," and "do math better"). However, they seemed unaware of their parents' view that homework could foster the development of desirable attributes. Instead, the children's predominant reason for completing homework was to win approval from their parents and teachers. For example, one girl said she wanted her father to be proud of her; it made her feel good when he told her that all of her homework was right.

To provide a greater perspective on how perceived reasons for doing homework may evolve over time, on the basis of open-ended interviews in one urban middle school, Xu and Yuan (2003) examined the way that homework was perceived by teachers, along with students and their parents from diverse cultural backgrounds. One reason that teachers, students, and families gave for doing homework was the review, practice, and reinforcement of what students learned in class. Another reason, shared only by teachers and parents, was the development of personal responsibility and study skills (e.g., "I look on homework as a way to have kids own their own learning, and really learn how to set their own pace, and manage their time and energy, and plan what they have to do"). Only a minority of the students interviewed explicitly mentioned that purpose (e.g., "Homework helps you improve study skills," and "It makes you more responsible and independent").

Students noted that they did homework for another purpose as well, that is, to meet the expectation of their significant others. One boy remarked, "My dad says I have to get good grades, so I do homework even if I don't feel like it."

Parent Influence on Children's Attitudes and Behavior

Whereas no study has examined explicitly whether family involvement in homework influences children's perceived purposes for doing homework, the second line of research

implies that parents can exert influence on children's attitudes and behavior regarding homework. Cooper et al. (1998) examined relationships between student, parent, and teacher attitudes toward homework. The respondents included 709 students (Grades 2, 4, 6, 7, 8, 10, 11, and 12), their parents, and 82 teachers from three school districts (one rural, one metropolitan, and one suburban). The authors posed five identical questions to the 424 upper grader students (Grades 6–12) in their sample, as well as to their parents and 52 teachers related to them. Two questions focused on affective reactions toward homework—whether it was liked or disliked and whether it increased or decreased interest in school. The three other questions focused on perceived benefits of homework—whether it helped students learn, develop study skills, or manage their time. The authors combined the five items in a single Homework Attitudes scale, with scores ranging from 0 (*very negative attitude toward homework*) to 14 (*very positive attitude toward homework*). The alpha reliability coefficient for the scale was .77.

The results revealed that teacher attitudes ($M = 10.15$, $SD = 2.35$) were more positive than parent attitudes ($M = 9.30$, $SD = 2.78$), which, in turn, were more positive than student attitudes ($M = 6.36$, $SD = 3.15$). The results also revealed significant positive correlations between parent and student attitudes ($r = .23$). A series of multiple-regression analyses, incorporating four independent variables (standardized test scores, parent attitudes, teacher attitudes, and amount of homework assigned), showed further that student attitudes toward homework were predicted only by parent attitudes.

The importance of parents' role also was evident in another study (Leone & Richards, 1989) that employed a technique called "experience sampling" (Csikszentmihalyi & Larson, 1987) to investigate students' subjective experiences while doing homework. The sample consisted of 401 students in Grades 5–9 who were randomly selected from two communities (one urban and working class, and the other suburban and middle to upper middle class). The researchers asked the students to carry an electronic pager for 1 week. When signaled every 2 hr between 7:30 a.m. and 9:30 p.m., students completed brief reports on where they were, with whom they were, and what they were doing and thinking. They also rated the affective responses that they experienced at that moment on 7- or 10-point scales.

Students rated their levels of positive affect, motivation, and attention lower during homework than they did during other activities (e.g., maintenance and leisure), regardless of age and gender. Students said that they were most attentive to homework when they completed it with a parent, rather than with a peer or on their own; this occurred across age, gender, and socioeconomic levels. In addition, older boys (Grade 9) were more likely to do homework with one parent than were the younger boys (Grades 5–8) and girls overall (Grades 5–9). Those students most likely to do homework with parents were high achievers (high grade point averages), who spent "more time on homework

as they got older despite the accompanying negative affect, while the remaining [low-achieving] students did even less [homework] in the higher grades, perhaps to avoid the negative experience" (Leone & Richards, 1989, p. 544).

Xu and Corno (2003) linked middle school family involvement in homework to self-regulation in homework completion, one of the major purposes for doing homework held by adults (Chen & Stevenson, 1989; Cooper, 1989; Epstein & Van Voorhis, 2001; Xu & Corno, 1998; Xu & Yuan, 2003). The authors defined self-regulation in homework completion in terms of five features: setting up an appropriate environment for homework, managing homework time spent, and control of attention, motivation, and potentially interfering emotions.

The authors collected data through a homework survey of 121 students in Grades 6–8 from diverse cultural backgrounds in one urban middle school. The survey incorporated a set of questions concerning the five features of homework management strategies that students might use to aid homework completion. Alpha reliability coefficients for each scale were adequate, ranging from .61 for managing time to .79 for focusing attention.

The authors found that family involvement in homework related to two of the five features for managing homework: arranging the environment and controlling emotion, the two features that students at Grades 6–8 reported giving less attention to on their own rather than the other features. That finding suggested that middle school students benefit from clear expectations regarding how to arrange the homework environment, as well as from adults showing them how to cope when doing homework becomes difficult or distractions arise.

To summarize, the first line of research, based on interview and observation data, suggests that whereas children and adults share some purposes for doing homework, each group holds to some homework purposes that are of low priority or little relevance to the other group. The research further suggests that students' perceived purposes (e.g., fostering development of desirable attributes) may be linked to certain developmental stages. Meanwhile, the second line of research, based on survey data, implies that parents might influence children's attitudes and behavior that are related to homework purposes. That finding is consistent with the results from one recent review on parent involvement in homework in which parents' involvement related positively to student achievement, attitudes, and self-regulation (Hoover-Dempsey et al., 2001).

The purposes of the present study are threefold. First, to determine how middle and high school students would perceive and classify a set of homework purposes drawn from relevant literature, I conducted an exploratory factor analysis to ascertain the underlying factor structure of these homework purposes. Second, I assessed whether each derived factor related to student homework behavior and academic achievement. Third, I examined whether each derived factor was influenced by grade level, gender, and family homework

involvement. Although previous research implies that parents can influence children's attitudes and behavior related to homework purposes (Cooper et al., 1998; Hoover-Dempsey et al., 2001; Leone & Richards, 1989; Xu & Corno, 2003), this study is the first to directly link family homework involvement and children's perceived purposes for doing homework. In addition, there is a need for researchers to examine whether each derived factor related to grade level and gender, as student-perceived purposes for doing homework might be influenced by their developmental stages (Warton, 2001; Xu & Corno, 1998; Xu & Yuan, 2003), and as some theoretical perspectives (Covington, 1998; Deslandes & Cloutier, 2002; Harris, Nixon, & Rudduck, 1993; Jackson, 2003) suggest, that compared with boys, girls generally hold more positive attitudes toward homework (e.g., a stronger work ethic and higher levels of self-reliance).

Method

Participants

The participants in this study were 920 students in Grades 5–12 in three rural public schools in a southern state. The three schools were in a feeder pattern: one middle school enrolled 921 fifth and sixth graders and another middle school enrolled 951 seventh and eighth graders; the high school enrolled 1,869 ninth through twelfth graders. Overall, 30.5% of the student body received free or reduced-price meals.

I selected a sample of students that was somewhat representative of the student population in the schools. I selected English classes for survey administration because they were required for all students in the schools. The types of English classes offered in the high school influenced the final decision on the sample size. Unlike the two middle schools, there were English honor classes conducted at each grade level in the high school. To ensure that honor students were not overrepresented or underrepresented, the principals or assistant principals randomly selected one honor English class and four regular English classes in each of Grades 9–12 and five English classes in each of Grades 5–8.

Of the 920 respondents in the sample, 52.9% were boys and 47.1% were girls. The sample included 114 fifth graders, 142 sixth graders, 131 seventh graders, 107 eighth graders, 105 ninth graders, 100 tenth graders, 123 eleventh graders, and 98 twelfth graders. The sample included 89.8% Caucasians, 3.2% Latinos, 3.0% multiracial students, 1.8% Asian Americans, 1.4% African Americans, and .8% Native Americans.

Survey Instrument

I first shared the survey with the school principals in January 2002 and secured approval to administer it. The teachers in the three participating schools administered the survey during mid-February through early March 2002.

The students indicated their gender and grade level in the survey, which took about 30 min to administer. Teachers also asked the students, "Is there anyone at home to help you do homework?"; 69% of the students answered "yes," and 31% answered "no."

Of major interest in the survey were eight statements that related reasons for doing homework (see Table 1). The statements ranged from reinforcing school learning and developing a sense of responsibility and good discipline to gaining adult and peer approval.

Some of the statements derived from case studies of families doing third-grade homework (Xu, 1994; Xu & Corno, 1998) and from interviews with middle school students, their parents, and teachers (Xu & Yuan, 2003). Others were drawn from related literature on perceived reasons for doing homework assignments (Chen & Stevenson, 1989; Cooper, 1989; Epstein & Van Voorhis, 2001; Warton, 2001). A four-point Likert-type scale accompanied each statement on which students selected a response from (1) *strongly agree*, (2) *agree*, (3) *disagree*, or (4) *strongly disagree*.

Other variables included the five features of homework management strategies that students might use to aid homework completion (Xu & Corno, 2003). Those features consisted of (a) arranging the environment (5-item scale, e.g., "finding a quiet place" and "turning off the TV"), (b) managing time (4-item scale, e.g., "setting priorities and planning ahead" and "keeping track of what remains to be done"), (c) focusing attention¹ (5-item scale, e.g., "daydreaming during a homework session" and "playing around with other things while doing my homework"),

(d) monitoring motivation (3-item scale, e.g., "praising myself for good effort" and "praising myself for good work"), and (e) monitoring and controlling emotion (6-item scale, e.g., "calming myself down" and "cheering myself up and telling myself that I can do it"). A 5-point scale accompanied each item on which students selected a response from (1) *routinely*, (2) *often*, (3) *sometimes*, (4) *rarely*, or (5) *never*. Alpha reliability coefficients for each scale in the previous study were .66, .61, .79, .75, and .72, respectively (Xu & Corno, 2003). For the present study, the corresponding coefficients were .73, .76, .83, .84, and .67.

Another homework behavior variable related to what extent the students completed their homework, addressed with the question, "How often do you come to class without homework?" The teachers asked the students to select a response from: (1) *usually*, (2) *often*, (3) *seldom*, or (4) *never*. The students' responses were 6%, 15%, 57%, and 21%, respectively.

In addition to the variables relating to homework behavior, the teachers also asked the students about their level of academic achievement, by selecting one choice that best described their grades across school subjects for the previous 2 years, including (1) *mostly A's*, (2) *mostly B's*, (3) *mostly C's*, (4) *mostly D's*, or (5) *below D*. I adapted that survey item from the National Education Longitudinal Study of 1988 (NELS: 88). The only difference was that in NELS: 88, the students reported their grades in specific subjects (e.g., English), whereas the students in this survey reported their grades across school subjects. The students' responses in this sample were mostly A's (30%), mostly B's (43%),

TABLE 1. Factor Loadings From the Two-Factor Rotation of Homework Reasons

Purposes for doing homework	Total sample (<i>N</i> = 883)		Grades 5–8 (<i>n</i> = 469)		Grades 9–12 (<i>n</i> = 414)	
	1	2	1	2	1	2
Doing homework helps develop a sense of responsibility.	.829	.104	.806	.165	.860	.025
Doing homework helps you learn to work independently.	.804	.122	.782	.130	.829	.107
Doing homework helps you learn study skills.	.769	.167	.761	.117	.784	.196
Doing homework helps develop good discipline.	.748	.122	.711	.091	.792	.201
Doing homework reinforces school learning.	.735	.090	.731	.050	.739	.121
Doing homework brings you family approval.	.152	.872	.149	.854	.144	.890
Doing homework brings you teacher approval.	.106	.823	.100	.813	.106	.832
Doing homework brings you peer approval.	.132	.816	.104	.809	.149	.816
Eigenvalue	3.543	1.714	3.342	1.694	3.752	1.772
Percentage of the variance	44.288	21.421	41.781	21.177	46.894	22.148

Note. 1 and 2 represent Factors 1 and 2.

mostly C's (22%), mostly D's (4%), and below D (2%). That percentage breakdown was related closely to statistics in NELS:88, where the corresponding percentages for English, for example, were 31%, 38%, 23%, 6%, and 2%.

Although the data about student achievement—along with the other homework behavior variables—were not obtained following the survey, as they would need to be for a causal analysis using these variables as dependent variables, obtaining this information from the same survey permitted an estimate of the correlations between students' perceived purposes for doing homework and their homework behavior and between their perceived purposes for doing homework and their academic achievement. Observed correlations between the variables would suggest that the perceived purposes for doing homework go hand in hand with homework behavior and academic achievement.

Data Analysis

I first conducted a factor analysis of the eight reasons for students doing homework. I then computed Pearson correlations between each derived factor and student homework behavior and between each factor and student academic achievement. Finally, I subjected each derived factor to a $2 \times 2 \times 2$ (Grade \times Gender \times Family Homework Help) ANOVA. I coded gender at two levels: Level 1 for boys and Level 2 for girls. I coded family homework help at two levels: Level 1 for students who said they did not receive any family homework help and Level 2 for students who said they did receive help. In addition, I recoded the student grade-level variable at two levels: Level 1 for middle school students (Grades 5–8) and Level 2 for high school students (Grades 9–12).

Results

An Exploratory Factor Analysis of Homework Purposes

Three quarters of the students (75.2%–77.9%) agreed or strongly agreed that doing homework helped them (a) develop a sense of responsibility, (b) learn to work independently, (c) learn study skills, and (d) reinforce school learning. Six out of 10 students (60.5%) agreed or strongly agreed that homework helped develop good discipline.

In addition, whereas 4 out of 10 students agreed or strongly agreed that doing homework brought them teacher approval (46%) and family approval (41.2%), only one fourth of the students (28.1%) agreed or strongly agreed that homework brought them peer approval.

I subjected the eight homework purpose statements to a principal components factor analysis with a varimax rotation to facilitate interpretation.² Separate analyses on the responses of middle school students (Grades 5–8) and of high school students (Grades 9–12) revealed the same two-factor structure and similarly high factor loadings for both factors (see Table 1). Subsequently, I combined all middle

school students and high school students. Two factors emerged from the analysis on the responses of the entire sample of the students with eigenvalues greater than 1, together accounting for 65.7% of the variance in the items. Table 1 groups the items by their largest factor loadings.

Five items loaded heavily on Factor 1 (44.3% of the variance), including doing homework to (a) develop a sense of responsibility, (b) learn to work independently, (c) learn study skills, (d) develop good discipline, and (e) reinforce school learning. The loadings of these items ranged from .74 to .83. The remaining three items loaded strongly on the second factor (21.4% of the variance), including doing homework to gain teacher, family, and peer approval; loadings ranged from .82 to .87. On the basis of the item groupings, I labeled Factor 1 Intrinsic Reasons for Doing Homework, and Factor 2 Extrinsic Reasons for Doing Homework because these two factors distinguished students according to whether they did homework for its inherent value or to seek approval from their significant others. The loadings of all eight reasons were above .71 (50% overlapping variance), which is considered excellent (Comrey & Lee, 1992; Tabachnick & Fidell, 2001).

According to the results of the factor analysis, I reduced the eight homework purposes to two scales for use in subsequent analyses. I combined the five items in Table 1 related to Intrinsic Reasons into a single scale, along with the three items related to Extrinsic Reasons. Alpha reliability coefficients for the two scales were .84 and .80, respectively.

Intrinsic and Extrinsic Reasons, Homework Behavior, and Achievement

The mean score for Intrinsic Reasons was 2.10 ($SD = .68$); mean score for Extrinsic Reasons was 2.80 ($SD = .82$). One-way, within-subjects ANOVA revealed a significant difference between Intrinsic Reasons and Extrinsic Reasons, with a large effect size, $F(1, 882) = 552.52, p < .001, \eta^2 = .385$. Inasmuch as lower scores indicated a stronger agreement of that factor, the students more likely agreed that they did homework for intrinsic reasons than for extrinsic reasons.

I computed Pearson correlations to estimate between each factor and the five features of homework management strategies. Zero-order correlations between each factor and homework management strategies were all statistically significant (see Table 2), with medium-sized correlation coefficients between Intrinsic Reasons and homework strategies (ranging from .306 to .447), and small-sized correlation coefficients between Extrinsic Reasons and homework strategies (ranging from .082 to .257).

I also conducted Pearson correlations between each factor and the frequency of students who went to class without completed homework. Zero-order correlation was $-.271 (p < .01)$ between Intrinsic Reasons and the frequency of incomplete homework and $-.054 (p > .05)$ between Extrinsic

Reasons and the frequency of incomplete homework (see Table 2). The results suggested that students who were identified more with Intrinsic Reasons for doing homework were less likely to attend class without completed homework, whereas there was no relationship between Extrinsic Reasons and homework completion.

I computed Pearson correlations further between each factor and student self-reported grade. Zero-order correlation was .223 ($p < .01$) between Intrinsic Reasons and self-reported grade and $-.037$ ($p > .05$) between Extrinsic Reasons and grade (see Table 2). The results suggested that students who identified more with Intrinsic Reasons were more likely to earn higher grades than were students who identified more with Extrinsic Reasons, whereas there was no relationship between Extrinsic Reasons and grade.

Family Homework Help, Gender, and Intrinsic and Extrinsic Reasons

A three-way ANOVA with Intrinsic Reasons as the dependent variable, and grade level, gender, and family homework help as the independent variables yielded a significant main effect for gender, $F(1, 873) = 26.99, p < .001, \eta^2 = .030$, and for family homework help, $F(1, 873) = 13.86, p < .001, \eta^2 = .016$ (see Table 3). Those main effects were qualified, however, by a significant interaction between gender and family homework help, with a small effect size, $F(1, 873) = 4.98, p < .05, \eta^2 = .006$ (see Figure 1).

An examination of Figure 1 indicates that among girls, those who received homework help ($M = 1.95, SD = .56$) and those who did not ($M = 2.04, SD = .61$) held a similar view toward Intrinsic Reasons for doing homework, $F(1, 413) = 2.26, p = .13, \eta^2 = .005$. By contrast, the effect of family homework help was apparent among boys—those who received homework help ($M = 2.11, SD = .66$) were more likely to mention that they did homework for Intrinsic Reasons than were those students who

received no homework help ($M = 2.39, SD = .85$), $F(1, 464) = 15.49, p < .001, \eta^2 = .032$.

The second 3-way ANOVA with Extrinsic Reasons as the dependent variable and grade level, gender, and family homework help as the independent variables yielded a significant main effect for grade level, $F(1, 882) = 21.00, p < .001, \eta^2 = .023$, and for family homework help, $F(1, 882) = 6.66, p = .01, \eta^2 = .007$ (see Table 4). Again, in both cases, the effect size measures were small. Comparison of means for Extrinsic Reasons indicated that high school students (Grades 9–12; $M = 2.97, SD = .77$) more likely disagreed that they did homework for extrinsic reasons than did middle school students (Grades 5–8; $M = 2.66, SD = .83$). In addition, students who did not receive family homework help ($M = 2.97, SD = .83$) more likely disagreed that they did homework for extrinsic reasons than did those who received homework help ($M = 2.72, SD = .80$).

Discussion

Summary and Interpretation of Findings

My first goal was to determine how middle and high school students would classify a set of homework purposes drawn from relevant homework literature. The results revealed that the eight homework purposes could be divided into two clear factor structures that accounted for a high percentage of the total variance in this sample. I classified five items into Intrinsic Reasons, the first factor, and the remaining three items into Extrinsic Reasons, the second factor.

The two factor structures were in line with interview and observation data from previous studies (Xu & Corno, 1998; Xu & Yuan, 2003), which showed that children perceived homework as a way to reinforce school learning (an intrinsic reason), as well as to seek approval from adults (an extrinsic reason). Although third graders were not aware that homework could foster the development of desirable

TABLE 2. Product-Moment Correlations Between Each Factor and Homework Behavior/Achievement (n varies from 854 to 898)

	Factor 1 (Intrinsic Reasons)	Factor 2 (Extrinsic Reasons)
Homework behavior/achievement		
Homework management strategies		
Arranging environment	.430**	.142**
Managing time	.447**	.184**
Focusing attention	.306**	.082*
Monitoring motivation	.414**	.257**
Monitoring and controlling emotion	.370**	.213**
Frequency of not completing homework	-.271**	-.054
Self-reported overall grade	.223**	-.037

* $p < .05$. ** $p < .01$.

TABLE 3. ANOVA Summary Table for Analysis of Intrinsic Factor by Grade, Gender, and Family Homework Help

Source	SS	df	MS	F	η^2
Grade	1.744E-04	1	1.744E-04	.000	.000
Gender	11.843	1	11.843	26.991***	.030
Family homework help (FHH)	6.083	1	6.083	13.863***	.016
Grade \times Gender	.445	1	.445	1.014	.001
Grade \times FHH	.517	1	.517	1.177	.001
Gender \times FHH	2.187	1	2.187	4.983*	.006
Grade \times Gender \times FHH	.186	1	.186	.424	.000
Error	383.071	873	.439		

Note. ANOVA = analysis of variance.
* $p < .05$. *** $p < .001$.

attributes (Xu & Corno), some middle school students were aware of this fact (Xu & Yuan). That discrepancy might be attributed to the fact that the children in these two studies were at different developmental stages. That explanation is consistent with the findings from Warton (1997) who reported that about three fourths of the sixth graders in her study understood that homework was their responsibility, as opposed to less than half of the second graders. Thus, my findings, similar to the extant literature, suggest that as children move from elementary school to middle and high school, they view the development of desirable attributes as a valued intrinsic reason for doing homework. That finding is substantiated further by the outcome in which students in this sample more likely agreed that they did homework for intrinsic, rather than extrinsic, reasons.

My second goal was to examine whether Intrinsic Reasons and Extrinsic Reasons were associated with homework behavior and achievement. The results revealed a statisti-

cally significant relationship between each factor and the five features of homework management strategies, with medium-sized correlation coefficients between Intrinsic Reasons and homework strategies, and small-sized correlation coefficients between Extrinsic Reasons and homework strategies. In addition, the results suggested that the students who were more identified with Intrinsic Reasons were more likely to come to class with homework and to earn a higher grade, whereas there was no relationship between Extrinsic Reasons and homework completion, and between Extrinsic Reasons and self-reported grade. Although correlational in nature, the results suggested the important role of Intrinsic Reasons in promoting desirable homework behavior and academic achievement.

My third goal was to determine whether Intrinsic Reasons and Extrinsic Reasons were influenced by gender, grade level, and family homework help. For Intrinsic Reasons, a significant interaction occurred between gender and homework help; the girls' score on Intrinsic Reasons was not affected by homework help. Conversely, the effect of homework help was apparent among the boys; those who received help more likely mentioned that they did homework for intrinsic reasons than did boys who did not receive help. In addition, older students and students who did not receive such help more likely disagreed that they did homework for extrinsic reasons.

Consonant with extant literature that suggests that parents may influence children's attitudes and behavior related to homework purposes (Cooper et al., 1998; Hoover-Dempsey et al., 2001; Leone & Richards, 1989; Xu & Corno, 2003), this study further suggests that family homework help may relate to children's perceived purposes for doing homework intrinsically (for boys) and extrinsically (for boys and girls). It makes sense that students who received family homework help would be less likely than students who did not receive help to disagree that they did homework to seek approval from significant others (see the three items under Extrinsic Reasons in Table 1). Given the 4-point, Likert-type scale (1 = *strongly agree*, 2 = *agree*, 3 =

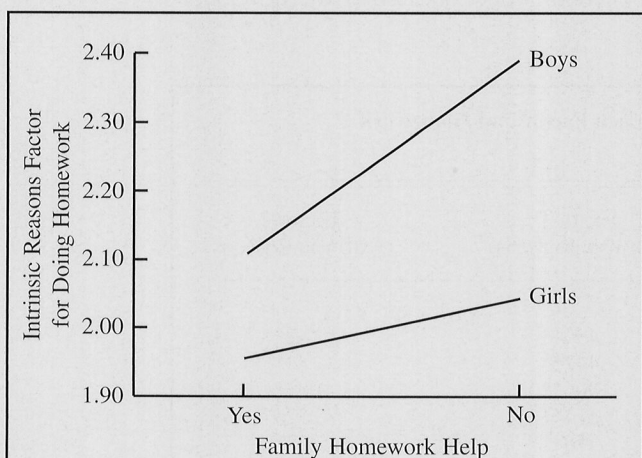


FIGURE 1. Mean scores of Intrinsic Reasons factor as a function of family homework help (yes vs. no) and gender (boys vs. girls).

TABLE 4. ANOVA Summary Table for Analysis of Extrinsic Factor by Grade, Gender, and Family Homework Help

Source	SS	df	MS	F	η^2
Grade	13.352	1	13.352	20.996***	.023
Gender	1.199	1	1.199	1.886	.002
Family homework help (FHH)	4.236	1	4.236	6.662**	.007
Grade \times Gender	1.475	1	1.475	2.319	.003
Grade \times FHH	.164	1	.164	.257	.000
Gender \times FHH	.594	1	.594	.935	.001
Grade \times Gender \times FHH	.519	1	.519	.816	.001
Error	560.857	882	.636		

Note. ANOVA = analysis of variance.

** $p < .01$. *** $p < .001$.

disagree, and 4 = *strongly disagree*), one can argue that homework help is desirable for the following two reasons: (a) Those who received homework help held more neutral attitudes toward Extrinsic Reasons for homework ($M = 2.72$, $SD = .80$) than did those with negative attitudes who did not receive help ($M = 2.97$, $SD = .77$) and (b) Extrinsic Reasons for doing homework was related positively, although to a small degree, to students' use of homework management strategies.

Why would family homework help play a role in boys' intrinsic reasons in particular? According to the means for Intrinsic Reasons for boys and girls, the boys ($M = 2.17$, $SD = .71$), as a group, reported lower intrinsic reasons for doing homework than did girls ($M = 1.94$, $SD = .61$). One possible explanation is that girls, as a group, expressed relatively higher intrinsic reasons for doing homework, and, thereby, were less likely to be influenced by family homework help. Another possible explanation related to boys' preference for adults as their homework companions, as informed by Hong and Milgram's (1999) finding that "more males than females preferred to be motivated by parents" while doing homework (p. 262), which was based on their survey of 491 seventh graders in Korea and the United States. Taken together, the two explanations converge on one point, suggesting that middle and high school boys especially may need and benefit from family involvement in homework.

Implications

How should one judge the magnitude of the significant differences found in this study? Compared against the criteria recommended by Cohen for interpreting eta squared (.01 = small, .059 = medium, and .138 = large; cited in Huck, 2000), most of the effect sizes found in this study evidently were small (η^2 ranged from .006 to .030), except for the significant difference found between the mean scores for Intrinsic and Extrinsic Reasons ($\eta^2 = .385$). The magnitude of these small differences ranged roughly from

one fifth to one third of a standard deviation on the dependent measures.

However, in the context of more familiar phenomena in the behavioral sciences, weak relationships can have value (Gage, 1985). For example, some highly publicized differences were equally small in magnitude, including the difference between high school boys and girls in mathematics performance (Hyde, Fennema, & Lamon, 1990) and the difference between men and women in physical aggression (Eagly & Steffen, 1986). Thus, one can argue that the significant differences found in this study, although small, should not be taken lightly either. Family involvement in homework may be influenced by a range of variables, including types of homework help, frequency of help, quality of help as perceived by children, as well as student aptitude and personality factors (Xu & Corno, 2003). Despite those possible influences, because there were small significant differences associated with homework help suggests something about its practical significance. Instead of using the magnitude of significant difference as the sole criterion for judging practical significance, researchers need to consider the parsimony of variables involved in informing practice (as this is considered a major requirement for developing theory), particularly as family homework help influences other desirable student outcomes (Hoover-Dempsey et al., 2001; Xu & Corno, 2003).

Cooper and Valentine (2001) offered several explanations for the consistent finding that homework is more closely associated with achievement in middle and high grades than in elementary grades: (a) Younger children are less able than are older children to cope with internal and external homework distractions; (b) younger children appear to have less effective study habits, thus diminishing the amount of improvement in achievement that might be expected from homework assignments; and (c) middle and high school teachers assign homework to improve time-management skills less often than do elementary school teachers, focusing more on the materials covered on achievement tests.

Another possible explanation, informed by the present study, is that middle and high school students do homework more for intrinsic rather than extrinsic reasons, thus showing more interest and desire in the inherent value of the task at hand and, consequently, increasing the amount of improvement in achievement that might be expected from homework assignments. In other words, there is a possible linkage between perceived purposes for doing homework, more immediate homework behavior, and subsequent academic achievement. That hypothesis was substantiated, to some extent, by associational evidence from this study that students' intrinsic reasons for doing homework were related to their various homework management strategies, homework completion, and self-reported grade.

One important implication drawn from this study is that middle and high school boys in particular need, and can benefit from, family homework involvement. This is a timely message for those who are concerned with family homework involvement at the middle and high school level, especially when families seem to be more involved in girls' homework than boys' homework. For example, Cooper, Lindsay, and Nye (2000) found that secondary school parents of female students reported more direct involvement in homework than did parents of boys. Triggered by their finding, I conducted a supplementary analysis with the data from the present study. The results revealed a similar pattern, in which 72.3% of the girls, compared with 65.3% of the boys, reported that they received family homework help. Chi-square analysis revealed a statistically significant gender difference, $\chi^2(1, N = 907) = 5.13, p < .05$.

Limitations

My findings are limited in generality. Students attended three rural public schools, and only 10% of them came from different cultural backgrounds. Nevertheless, the percentage of students who received homework help from family members in this study (69%) was similar to that of the large, nationally representative sample of participants (71%) in the National Education Longitudinal Study of 1988 (Horn & West, 1992). In addition, the average ACT composite score for the high school students in this sample in 2002 (20.9) was close to the 2002 national average of 20.8 (ACT, 2002).

Further Research

Further research is needed to validate the homework survey instrument that I used with populations of students from diverse cultural backgrounds and in urban settings, as well as with populations of gifted students and students with learning disabilities. Researchers need to continue this line of research to identify conditions that appear to affect changes in the way that students view their homework, particularly variables that mediate family involvement in homework (e.g., family attitudes toward homework, frequency of help,

and student aptitude). In addition, there is a need for incorporating student-perceived purposes for doing homework as an outcome variable and as a mediating variable that may influence students' homework behavior and their subsequent academic achievement. This line of research is important, particularly in light of (a) findings that variables such as family homework involvement may influence student-perceived purposes for doing homework, which, in turn, may influence homework management strategies, homework completion, and academic achievement and (b) findings from another study (Cooper et al., 1998) reporting that parent attitudes influence student attitudes, which, in turn, influence the amount of homework that students complete and their academic achievement.

In addition to the confirmatory investigations outlined above, exploratory investigations are equally needed in this area for in-depth examinations of how, under what conditions, and for whom (not just whether) variables such as family homework involvement (e.g., parent-perceived purposes of homework, meanings ascribed to involvement, and the nature and the types of involvement) influence student-perceived purposes for doing homework, homework behavior, and academic achievement. Qualitative case studies that are based on observations of homework sessions at home, combined with multiple perspectives obtained from students, parents, and teachers from diverse cultural backgrounds over time would be particularly helpful in deepening our understanding in this area. For example, researchers could study "the microlevel processes that go on in homes while homework is being carried out" (Cooper et al., 2000, p. 484) to examine how, and under what circumstances, middle and high school boys in particular might benefit from family involvement in homework, and, consequently, what implications may be drawn for parent support and supervision in homework in relation to gender differences.

NOTES

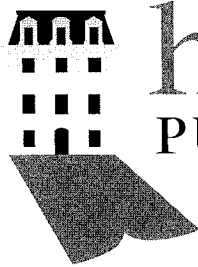
1. I recoded all items in this category to reverse the direction of the score.
2. I first subjected nine homework purpose statements to a factor analysis. However, the initial factor analysis with the nine items revealed that the factor loadings of one item (i.e., "Doing homework helps get a good grade") with Factor 1 and Factor 2 were low (i.e., .403 with Intrinsic Reasons and .200 with Extrinsic Reasons). Because that item loaded less than .450 on both factors, I did not include it in the subsequent analysis.

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