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Gender, Family Help, and Homework Management Reported by Rural Middle School Students

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This study linked gender, family help, and grade level to 5 features of homework management reported by 238 rural middle school students. The 5 features studied were setting an appropriate work environment; managing time; and controlling attention, motivation, and potentially interfering emotions. No significant differences were found across grade levels on any of the 5 homework management indices. Compared with boys, girls reported more frequently working to budget time, to be self-motivating during homework, and to control potentially interfering emotions. Students who received family help, compared to those who did not, reported more frequently working to manage their workspace, to be self-motivating during homework, and to control potentially interfering emotions. The article discusses these findings in the context of recent theoretical frameworks and empirical studies. In addition, it suggests directions for future research and practice related to homework management for rural middle school students.

A major purpose of homework is to help students develop good study habits and desirable self-regulatory strategies, such as better time organization and greater self-direction (Cooper, 1989; Corno, 1994; Epstein & Van Voorhis, 2001; Warton, 2001; Xu & Yuan, 2003). Few studies have examined this view empirically, however, particularly at the middle school level (Bali, Demo, & Wedman, 1998; Epstein & Pinkow, 1988; Xu, 2004).

Xu and Corno (2003) recently investigated the role of family homework help on a range of homework management strategies reported by urban middle school students. The results suggested that parents, across socioeconomic lines, can continue to assist their adolescents in responsibly completing homework. However, that study involved a limited sample in one urban middle school. In addition, no data were available about whether the use of homework management strategies related to gender differences in students.

The present study used the same methodology to relate gender, family help, and grade level to the same five homework management strategies studied previously. The present sample focused on rural middle school students. This line of research is important as rural students tend to have lower educational aspirations (e.g., Arnold, Newman, Gaddy, & Dean, 2005; Cobb, McIntire, & Pratt, 1989; Haller & Virkler, 1993; Hu, 2003) and place less importance on academics (Ley, Nelson, & Beltyukova, 1996; Stern, 1994), which may influence the way they approach their homework. Furthermore, as theory (e.g., Covington, 1998; Deslandes & Cloutier, 2002; Jackson, 2003) and research (e.g., Benson, 1988; Harris, Nixon, & Rudduck, 1993; Hong & Milgram, 1999) imply that gender may play a significant role in homework attitudes and behavior, there is a need to examine whether gender is related to homework management strategies, and consequently what implications might be drawn from this line of research.

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Related Literature

Our investigation was informed by three lines of related literature. The first line examines the role of family involvement on the development of homework management strategies. The second points to the need to examine the use of homework management strategies in rural settings. Finally, the third line of literature suggests possible gender differences in managing middle school homework.

Family Assistance with Homework Management

Studies show that middle school students, across a range of socioeconomic backgrounds, continue to struggle with distractions while doing homework (Beentjes, Koolstra, & van der Voort, 1996; Benson, 1988; Leone & Richards, 1989; Patton, Stinard, & Routh, 1983; Pool, van der Voort,

Beentjes, & Koolstra, 2000; Wober, 1992). These include both external distractions in the home environment (e.g., television and telephone, siblings coming in and out of the room, and noise from vacuum cleaners, washing machines, and doorbells) and internal distractions (e.g., feeling tired or restless, wandering attention, and mood swings). In addition, students are faced with other unique demands often associated with doing homework, being expected to assume increasing responsibility in arranging their learning environment, in managing time, and in monitoring their homework activities (Cooper, 1989; Corno & Xu, 2004; Xu, 2004; Xu & Corno, 1998, 2003). These demands continue to present a challenge for middle school students to follow through on their homework assignments. Indeed, sixth graders in one upper-middle-class suburban community (Benson, 1988) requested that

> [p]arents should monitor the telephone and answer the door during study time; turn off appliances and control the volume of the television, radio and stereo located near study areas; remove brothers and sisters as well as pets; [and] request that other family members keep yelling and crying to a minimum during the study period. (p. 371)

Fortunately, other studies provide some evidence that families from different backgrounds can assist their children by helping them learn how to structure the work environment (e.g., provide seats and writing surfaces), and cope with external distractions (e.g., keep visitors away and turn off nearby television sets) and internal distractions (e.g., remind children to keep focused on their homework and assure them that they can complete even difficult parts) (Chandler, Argyris, Barnes, Goodman, & Snow, 1986; Leone & Richards, 1989; McCaslin & Murdock, 1991; McDermott, Goldman, & Varenne, 1984).

Results reported by McCaslin and Murdock (1991) implied that middle school children could learn from parents how to manage internal distractions through monitoring their motivation and emotions, even when parents have limited formal education. Researchers interviewed parents and children from one sixth-grade class in one city in the Midwest over homework interactions.

In one family, the father motivated his son to do homework by visualizing distal goals—a good job some day (high-paying, with regular 9-5 schedule), combined with an expression of regret that he himself had not used education opportunities to advance his career potential. He also encouraged his son to control negative emotions that arose during homework (Corno, 2001; Kuhl, 2000). For example, when his son was upset with homework because it did not come right way, he would tell the boy to calm down, cool off, and relax, so that he could get back on track, focus his mind, and get to the bottom of the problem. As a result, it appeared that the boy had internalized some of his father's motivation and coping strategies. He became aware of the potential consequences of frustrated coping (e.g., that refusing to ask for help could result in a poor or failing grade). Realizing the self-destructiveness of anger, the boy also began to learn to control his emotions, as illustrated in his statement, "I don't feel like doing the work. But I keep doing it" (McCaslin & Murdock, 1991, p. 229).

Recently, Xu and Corno (2003) conducted a survey study of urban middle school students, which explicitly linked family involvement in homework to a broad spectrum of homework management strategies. The respondents were 121 students in a public school in New York City in grades 6-8. The sample consisted of 43.5% Latinos, 24.3% African Americans, 20.9% multiracial students, 9.6% Caucasians, and 1.7% Asians. The survey included a set of questions concerning five features of homework management, including setting up an appropriate environment for homework, managing time spent on homework, and control of attention, motivation, and potentially interfering emotions.

These middle school students reported taking significantly more initiative in time management, focusing attention, and monitoring motivation than they did in arranging their environment or in monitoring and controlling their emotions. The data further revealed no reliable differences across grade levels on the five features of homework management. Among students who received family homework help, helper's educational level also appeared unrelated to any of the five features. On the other hand, family involvement in homework was related to two of the five features of managing homework: namely, arranging the environment and controlling negative emotions, the two features that the students in this sample reported giving less attention to on their own than the other features. Specifically, students who received homework help, compared to those who did not, reported more frequently working to manage their workspace and were more careful about monitoring and controlling emotions.

Taken together, this line of literature suggests the important role that family involvement can play in the development of homework management strategies. Middle school students still benefit from clear expectations regarding how to arrange the homework environment, as well as from adult assistance in showing them how to cope when doing homework becomes difficult and distractions are a problem. It further suggests that adolescents can internalize various homework management strategies modeled by their parents, related to dealing with external and internal distractions (e.g., arranging the physical environment and monitoring one's emotions).

Educational Aspirations and Homework Management in Rural Settings

Educational aspirations of rural youth lag behind those of their nonrural counterparts (Arnold et al., 2005; Cobb et al., 1989; Eider, 1963; Haas, 1992; Haller & Virkler, 1993; Hektner, 1995; Hu, 2003; Kampits, 1996; Kannapel & DeYoung, 1999; Khattri, Riley, & Kane, 1997; McCraken & Barcinas, 1991; Stern, 1994). Cobb et al. (1989) compared educational aspirations of high school students in rural, suburban, and urban areas, based on a nationally representative sample of seniors. The data revealed that rural students did not aspire to postsecondary educational opportunities as frequently as urban and suburban students did. When asked what the lowest level of education they would be satisfied with, 39.2% of rural students reported that they would be satisfied with high school graduation or below, as compared with 25.7% of urban students and 26.6% of suburban students.

In another study involving a nationally representative sample, Hu (2003) examined educational aspirations and postsecondary access by students in urban, suburban, and rural schools. Using 10th graders as a baseline population, the study found that higher percentages of rural students had aspirations for high school or below (16.6% for rural, in contrast to 11.0% for urban and 10.6% for suburban students) and for 2-year college education (33.1% for rural, in contrast to 27.1% for urban and 29.3% for suburban students), and lower percentages of rural students had aspirations for 4-year college education or beyond (50.2% for rural, in contrast to 61.9% for urban and 60.2% for suburban students). It further revealed that smaller percentages of students in rural schools were enrolled in postsecondary institutions (51.1% for rural, in contrast to 57.4% for urban and 58.8% for suburban students).

Relevant findings from other studies have further indicated that rural students place less value on academics (Ley et al., 1996; Stern, 1994). For example, in a study of 2,355 students from 21 rural high schools in 21 states, Ley et al. (1996) asked students to indicate the importance of 21 attributes relating to their personal goals after high school. The study found that these students placed more importance upon personal qualities (e.g., being dependable and having the ability to get along with others) and less importance upon specific areas of academic achievement (e.g., being proficient with basic English skills and math skills).

It follows, then, that lower educational aspirations and less importance placed on academics could lead to a sense that "school isn't for me" (Haas, 1992). More specifically, they could further lead to a sense that "homework isn't for me," as alluded to in one survey of 210 high school seniors in seven rural Tennessee high schools (Reddick & Peach, 1993). The study found that whereas 91% of the students indicated that homework was directly related to what they were taught in class that day, only 37% felt that homework was beneficial, and only 21% felt it was reasonable in terms of work required for its completion. These results imply that this "homework isn't for me" attitude may play a role in homework behavior (e.g., how and to what extent to complete assignments). Indeed, this view was supported by the findings from one survey of the parents of 570 rural fifth graders (Reetz, 1991), in which the majority of parents reported that they were more concerned about helping children establish independent study habits than assisting them with the academic content of their homework.

This line of literature suggests that, compared with urban students, rural students have lower educational aspirations, place less value on academics, and have lower academic motivation. This approach may lead them to think that homework is not for them, which, in turn, may influence their homework completion behaviors and homework management strategies.

Gender Differences in Homework

The third line of literature relevant to the present study suggests possible gender differences in managing middle school homework. First, from a sociological perspective, girls are often viewed to have a stronger work ethic than boys (Mau & Lynn, 2000; Warrington, Younger, & Williams, 2000) and higher levels of self-reliance (Deslandes & Cloutier, 2002). Harris et al. (1993) attribute this gender difference to what they call the "regime" in the home and the communities where the students live, where males tend to maintain a clear distinction between time at work and time away from work when they can relax and are looked after by their womenfolk. On the other hand, females are viewed as organizers, who manage the family's interface with the outside world, and the primary homemaker, even though they also often hold down full- or part-time jobs. Consequently, this gender regime is carried over into how students of both genders generally approach homework, with boys making a strong distinction between school and home, and girls being more organized and ready to expend greater efforts on homework (Harris et al., 1993; Mau & Lynn, 2000).

From the psychological perspective of self-worth theory (Covington, 1992, 1998), students are concerned about protecting their sense of self-worth as much or more than succeeding academically. This perspective further posits that, compared with girls, boys are more competitive. When their ability is called into question, boys are more likely to turn to defensive strategies such as procrastination, intentional withdrawal of effort, and avoiding the appearance of working (Jackson, 2002, 2003). For example, putting off work until the last minute can be used, either to suggest superior ability ("I can do this faster than other kids."), or to provide an excuse for poor performance that deflects attention away from a potential lack of ability. Either explanation maintains

self-worth. Likewise, boys may seek to protect their self-worth strategically by withdrawing effort, thereby conveying the impression that they are able to succeed academically, but they simply choose not to.

Taken together, these two perspectives suggest that compared with boys, girls generally hold more positive attitudes toward homework, are less concerned about self-worth in relation to homework, and expend greater effort on doing homework. This hypothesis is supported by emerging evidence from relevant homework studies. Harris et al. (1993) examined students' view of homework, based on interviews with 57 students in three semirural comprehensive schools in England. The students were in their last year of compulsory school, year 11, and were age 16. The results revealed that these girls were more prepared to regularly organize their homework time than boys, who seemed less committed to working regularly and preferred to work in batches. The boys reported that they "usually do [their homework] at the last minute or not at all," whereas "the girls have got more sense to plan it out" (p. 9). These findings paralleled a similar observation by Younger & Warrington (1996) that girls and boys generally adopted different approaches to homework, "with girls working more steadily and consistently, producing work which was neater, more detailed and coherently planned, and showing more effort and resilience" (p. 310).

Hong and Milgram (1999) examined cultural and gender differences in students' preferred and actual homework styles. The participants were 272 U.S. seventh graders (134 males and 138 females) and 219 Korean seventh graders (115 males and 104 females). Homework Preference Questionnaire and Homework Questionnaire were used to measure each participant's preferred homework style and actual homework style, respectively. These elements of homework style included sound, light, temperature, structure, order, and mobility.

A few gender differences were observed in this study. More male students than female students in both countries expressed a preference for doing—and reported actually doing—their homework assignments when they involved tactile learning (e.g., using one's hands to design or build) or kinesthetic learning (e.g., involving actual experience). In addition, more females than males reported doing homework in a bright environment and organizing their homework assignments in a certain order.

These studies, relating to possible gender differences in some homework behavior, raise the interesting question as to whether there might be gender differences in other related self-regulatory behavior while doing homework. For example, in one survey study of 93 sixth graders in an upper-middle-class suburban school (Benson, 1988), all respondents reported facing homework distractions at one time or another. In addition, the students offered a variety of strategies to deal with these varied distractions. Most noted self-awareness, self-discipline, and parental support (e.g., lowering the television volume or removing siblings from the study area). Unfortunately, no data were available as to whether there were gender differences in identifying and dealing with these homework distractions. Such data would have been particularly interesting since the study found "some students are more annoyed by homework interruptions than others" (Benson, 1988, p. 371), implying that there might be individual differences in managing homework distractions.

This third line of literature suggests that gender may play a role in managing middle school homework (e.g., planning and organizing homework assignments). However, whereas theoretical perspectives (Covington, 1992; 1998; Deslandes & Cloutier, 2002; Harris et al., 1993; Jackson, 2002, 2003; Warrington et al., 2000) imply that there may be gender differences in homework management, some studies (Harris et al., 1993; Hong & Milgram, 1999) revealed gender differences in one or two types of homework strategies (e.g., organizing time or homework assignments), while other studies (Benson, 1988; Leone & Richards, 1989; Patton et al., 1983) did not explicitly link gender to related homework strategies.

Thus, there is a need to explicitly link gender to a broad spectrum of homework management strategies that can be operationalized and compared across different grade levels. There is also a need to correlate family homework help with these homework management strategies in rural settings, as rural students may place less value on academics and have lower academic motivation, especially since middle and high school homework often focuses on the materials covered on achievement tests (Cooper & Valentine, 2001). These issues are addressed in the present study.

Method

Participants

The participants in the present study were 238 students in one public middle school in eastern central Tennessee. The school was located in a rural community, 79 miles away from the nearest metropolitan area. The economic base of the community comprised manufacturing, farming, and, increasingly, service industries. The community comprised roughly about 22,000 residents, with a median household income of approximately $35,000 and a median value per housing unit of $90,000. The average household contained 2-3 residents and 5-6 rooms. About 80% of the residents owned the place where they lived. In addition to the middle school (grades 7-8) in this sample, the community had six elementary schools (grades K-4), another middle school (grades 5-6), and a high school (grades 9-12).

The middle school in this study enrolled 951 students in grades 7-8, 35% of whom were eligible for free or re-

Table 1
Five Features of Homework Management

Feature	Definition	Item[a]	Scale α^c	Scale α^d
Arranging environment	Efforts to arrange the work environment	Finding a quiet area Removing things from the table Making enough space for me to work Turning off the TV Finding an area where I can get help from others	.66	.66
Managing time	Efforts to budget time to meet deadlines	Setting priorities and planning ahead Keeping track of what remains to be done Reminding myself of the remaining available time Telling myself to work more quickly when I lag behind	.61	.72
Focusing attention[b]	Efforts to discriminate task-relevant information from distractions	Daydreaming during a homework session Starting conversations unrelated to what I'm doing Playing around with other things while doing my homework Stopping homework to watch my favorite TV show Stopping work on homework to play	.79	.82
Monitoring motivation	Efforts to maintain or enhance homework intentions	Praising myself for good effort Praising myself for good work Reassuring myself that I am able to do homework when I feel it is too hard	.75	.81
Monitoring and controlling emotion	Efforts to prevent or control negative affect or redirect emotional response	Telling myself to pay attention to what needs to be done Taking a break Calming myself down Asking my parents or other family members for help Calling my friends for help Cheering myself up and telling myself that I can do it	.72	.66

[a] Response categories for each item were 1 = Routinely, 2 = Often, 3 = Sometimes, 4 = Rarely, and 5 = Never.
[b] All items in this category were recoded to reverse the direction of the score.
[c] Alpha reliability coefficients for each scale in the earlier study of urban middle school students (Xu & Corno, 2003).
[d] Alpha reliability coefficients for each scale in the present study of rural middle school students.

duced-price meals. Per pupil expenditure for the school year 2001-2002 was $5,570 for the community, as compared with $6,349 for the state and $7,899 for the nation. The new academic wing of the school included 42 classrooms, a science lab, eight teacher workrooms, and an office complex. This academic wing joined a renovated building previously used by the high school, which contained a cafeteria, a library, a computer lab (with space for 30 students), an auditorium, a gymnasium, a counseling center, and additional office space.

Care was given to select a sample of students to be representative of the student population in the middle school. English classes were selected for survey administration since they were required for all students. The principal was asked to randomly select five English classes in both grade 7 and grade 8.

Of the 238 respondents in the sample, 49.6% were male (118) and 50.4% were female (120). The sample included 131 seventh graders and 107 eighth graders (91.9% Caucasians, 4.7% Latinos, 1.7% multiracial students, .9% Asian Americans, .4% African Americans, and .4% Native Americans). The racial/minority breakdown in this sample was comparable to that of the community.

Survey Instrument

We first shared the survey with the principal in early January 2002 and secured approval to administer it. The teachers administered the survey in their classes in mid-February 2002.

In the survey, which took about 30 minutes to administer, the students indicated their gender and grade level. They also answered questions about whether they had received homework assistance from parents or other family members during the school year. Sixty-nine percent of students reported that they had received family assistance with homework.

Of major interest in this survey were the five features of homework management strategies that students may use to aid homework completion regardless of the task's content or difficulty (Xu & Corno, 2003). The survey was informed by previous case study observations of families doing homework together (Corno, 2000; Xu, 1994; Xu & Corno, 1998) and other literature on favorable conditions for doing homework at the elementary and middle school level (Chandler et al., 1986; Delgado-Gaitan, 1992; Leone & Richards, 1989; McCaslin & Murdock, 1991; McDermott et al., 1984). These features included: (a) arranging the environment (a five-item scale, e.g., "finding a quiet place" and "turning off the TV"), (b) managing time (a four-item scale, e.g., "setting priorities and planning ahead" and "keeping track of what remains to be done"), (c) focusing attention[1] (a five-item scale, e.g., "daydreaming during a homework session" and "playing around with other things while doing my homework"), (d) monitoring motivation (a three-item scale, e.g., "praising myself for good effort" and "praising myself for good work"), and (e) monitoring and controlling emotion (a six-item scale, e.g., "calming myself down" and "cheering myself up and telling myself that I can do it"). Possible responses for each item were *routinely* (scored 1), *often* (scored 2), *sometimes* (scored 3), *rarely* (scored 4), and *never* (scored 5). Reliability coefficients (Cronbach's alpha) are shown in Table 1.

The survey also included two items on parents' education. These two items asked, "What is your father's highest education?" and "What is your mother's highest education?" Possible responses for both items were *finished elementary school* (scored 6 years), *some secondary schooling* (scored 9 years), *high school graduate* (scored 12 years), *some college* (scored 14 years), *bachelor's degree* (scored 16 years), *some graduate courses* (scored 17 years), and *graduate degree* (scored 19 years). A composite variable for parental level of education was then constructed by averaging the educational levels for the father and the mother ($M = 14.14$, $SD = 3.23$).

[1]Reversed scored.

Data Analysis

We conducted multivariate analysis of covariance (MANCOVA) because (a) there were five dependent variables, which share a common conceptual meaning (Stevens, 2002); and (b) we wanted to control for parental level of education. A three-way MANCOVA estimated effects of gender, family help, and grade level on the five features of homework management shown in Table 1. The analysis controlled for parental level of education by including the following composite variable as a covariate: the mean years for the father's and mother's highest education. Finally, significant multivariate findings were followed up using separate univariate tests.

Independent variables. Gender was coded at two levels: 1 (male) and 2 (female). Grade level was coded at two levels: 1 (seventh graders) and 2 (eighth graders). In addition, family help was coded at two levels: 1 (students who did not receive homework help) and 2 (students who received homework help).

Dependent variables. The dependent variables were mean scores on the five homework features—arranging the environment, managing time, focusing attention, monitoring motivation, and monitoring and controlling emotion (see Table 1). Intercorrelations among these five features, shown in Table 2, ranged from .19 (monitoring emotion and focusing attention) to .56 (managing time and arranging the environment). All 10 correlations were statistically significant (see Table 2), suggesting common linkages across these strategies for managing homework, consistent with theoretical discussions (see Corno, 2001) and previous empirical findings (see Xu & Corno, 2003).

Results

Levels of Homework Management across the Five Features

A one-way within-subjects analysis of variance revealed significant differences among the five features of homework management ($F = 11.53$, $df = 4/884$, $p < .001$, $\eta^2 = .050$). An adjusted Bonferroni post-hoc comparison detected specific differences among features: Students reported significantly more efforts in arranging the workspaces ($M = 2.74$, $SD = .84$), managing time ($M = 2.78$, $SD = .89$), and focusing attention ($M = 2.79$, $SD = .97$) than they did in monitoring motivation ($M = 3.10$, $SD = 1.07$) or in monitoring and controlling emotions ($M = 3.01$, $SD = .74$).

Gender, Homework Help, Grade Level, and the Five Features of Homework Management

The assumptions of homogeneity of variance-covariance and homogeneity of regression slopes were tested in a

Table 2
Product Moment Correlations for Study Variables (N *from 215 to 238)*

	1	2	3	4	5	6	7	8	9
1. Gender	—								
2. Grade	-.02	—							
3. Family help	.02	-.04	—						
4. Parental educational level	.04	-.21**	.05	—					
5. Arranging environment	-.08	.11	-.20**	-.15*	—				
6. Managing time	-.15*	.05	-.08	-.15*	.56**	—			
7. Focusing attention	-.20**	.05	-.15*	-.10	.39**	.50**	—		
8. Monitoring motivation	-.17*	.06	-.20**	-.08	.41**	.38**	.31**	—	
9. Monitoring and controlling emotion	-.20**	.11	-.22**	-.08	.49**	.41**	.19**	.55**	—

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

preliminary MANCOVA. Box's Test indicated homogeneity of variance-covariance, $F(105,22852) = 1.217$, $p = .065$. Thus, Wilks's Lambda was used as the test statistic for the multivariate tests. The MANCOVA's test for homogeneity of regression revealed no significant slope differences on the parents' education covariate across gender, grade, or family help groups—Wilks's Lambda = .80, $F(35,802) = 1.270$, $p = .138$.

The full MANCOVA results—using the five features of homework management as the dependent variables; gender, grade level, and family help as independent variables; and parental educational level as a control variable—showed that gender, grade level, and family help did not interact (Wilks's Lambda = .985, $F(5,193) = .578$, $p = .717$, multivariate $\eta^2 = .015$). The results also showed no interaction between gender and grade level (Wilks's Lambda = .994, $F(5,193) = .238$, p = .945, multivariate $\eta^2 = .006$), grade and family help (Wilks's Lambda = .987, $F(5,193) = .514$, p = .765, multivariate $\eta^2 = .013$), or gender and family help (Wilks's Lambda = .950, $F(5,193) = 2.034$, $p = .076$, multivariate $\eta^2 = .050$).

In addition, there was no significant effect for the parental educational level covariate—i.e., self-responsibility for homework appeared unrelated to parental educational level in this sample (Wilks's Lambda = .976, $F(5,193) = .942$, $p = .455$, multivariate $\eta^2 = .024$). Furthermore, the results showed no significant main effect for grade level (Wilks's Lambda = .975, $F(5,193) = .981$, $p = .431$, multivariate $\eta^2 = .025$). On the other hand, there was a significant main effect for both gender (Wilks's Lambda = .922, $F(5,193) = 3.287$, $p = .007$, multivariate $\eta^2 = .078$) and family help (Wilks's Lambda = .919, $F(5,193) = 3.392$, $p = .006$, multivariate $\eta^2 = .081$).

We performed separate univariate tests to clarify the significant multivariate findings. The alpha level was adjusted to $\alpha = .01$ since five dependent variables were analyzed. Univariate tests showed statistically significant effects of gender on three of the five dependent variables: managing time ($F(1,197) = 7.107$, $p = .008$, partial $\eta^2 = .035$), monitoring motivation ($F(1,197) = 9.625$, $p = .002$, partial $\eta^2 = .047$), and monitoring and controlling emotion ($F(1, 197) = 11.795$, $p = .001$, partial $\eta^2 = .056$).

Thus, gender appeared unrelated to students' efforts to set up an appropriate environment for doing homework and to focus attention. Gender did relate to budgeting time, to be self-motivating during homework, and to controlling potentially interfering emotions. Table 3 presents adjusted group means and standard deviations from this analysis.

Comparison of adjusted group means for budgeting time indicated that girls ($M = 2.65$, $SD = .94$) reported more frequently working to manage their time during homework than boys ($M = 2.99$, $SD = .93$). Similarly, girls ($M = 2.94$, $SD = 1.12$) took more initiative in monitoring their motivation than boys ($M = 3.42$, $SD = 1.11$). Girls ($M = 2.88$, $SD = .78$) were also found to be more careful about monitoring and controlling emotions than boys ($M = 3.25$, $SD = .77$).

Univariate tests were also performed to compare effects of the two levels of family homework help (no vs. yes) on each of the five dependent variables. The results showed

Table 3
Adjusted Group Means and Standard Deviations for the Five Features of Homework Management

Characteristics		*N*	Environment *M (SD)*	Time *M (SD)*	Attention *M (SD)*	Motivation *M (SD)*	Emotion *M (SD)*	MANCOVA Results
Grade	Seventh	114	2.70 (.88)	2.75 (.95)	2.77 (1.02)	3.08 (1.13)	2.97 (.78)	Wilks's Λ = .975 R^2 = .025
	Eighth	92	2.95 (.86)	2.90 (.93)	2.92 (1.01)	3.28 (1.11)	3.15 (.77)	
		F =	4.090	1.275	.973	1.618	2.832	
		η^2 =	.020	.006	.005	.008	.014	
Gender	Boys	102	2.94 (.86)	2.99 (.93)	2.99 (1.00)	3.42 (1.11)	3.25 (.77)	Wilks's Λ = .922* R^2 = .078
	Girls	104	2.71 (.87)	2.65 (.94)	2.70 (1.02)	2.94 (1.12)	2.88 (.78)	
		F =	3.819	7.107*	4.343	9.625*	11.795*	
		η^2 =	.019	.035	.022	.047	.056	
Family Help	No	66	3.01 (.80)	2.89 (.87)	2.96 (.94)	3.40 (1.04)	3.22 (.71)	Wilks's Λ = .919* R^2 = .081
	Yes	140	2.64 (.82)	2.76 (.88)	2.73 (.95)	2.96 (1.05)	2.90 (.72)	
		F =	9.712*	1.004	2.782	8.232*	9.279*	
		η^2 =	.047	.005	.014	.040	.045	

*p < .01.

statistically significant effects on three of the five dependent variables; namely, arranging the homework environment (F(1,197) = 9.712, p = .002, partial η^2 = .047), monitoring motivation (F(1,197) = 8.232, p = .005, partial η^2 = .040), and monitoring and controlling emotion (F(1, 197) = 9.279, p = .003, partial η^2 = .045). Thus, family help appeared related to the students' efforts to set up an appropriate environment for doing homework, to be self-motivating during homework, and to control potentially interfering emotions.

Comparison of adjusted group means for arranging the environment (see Table 3) indicated that students who received family help (M = 2.64, SD = .82) reported more frequently working to manage their workspace than those who received no family help (M = 3.01, SD = .80). Similarly, students who received family help (M = 2.96, SD = 1.05) took more initiatives in monitoring their motivation than students who received no family help (M = 3.40, SD = 1.04). In addition, students who received family help (M = 2.90, SD = .72) were more careful about monitoring and controlling emotions than students who received no family help (M = 3.22, SD = .71)

Discussion

The present study examined levels of homework management across the five features: (a) arranging the environment, (b) managing time, (c) focusing attention, (d) monitoring motivation, and (e) monitoring and controlling emotion. In addition, the study explicitly linked gender, grade level, and family help to these homework management strategies while controlling for the parent educational levels of these rural middle school students. It revealed that, on average, the students in this sample reported taking significantly more initiative in arranging their homework environment, managing time, and focusing attention than they did in monitoring motivation or in monitoring and controlling their emotions. It further revealed that gender and family help were related to several homework management strategies.

Specifically, compared with those students who received no family help, students who received family help reported more frequently working to manage their workspace, to be self-motivating during homework, and to control potentially interfering emotions. In addition, compared with boys, girls reported more frequently working to budget time, to be self-motivating during homework, and to control potentially interfering emotions. On the other hand, there were no significant differences across the two grade levels studied on the five features of homework management.

Interpretation of Findings

Similarities across the two samples. The finding that no significant differences were found across middle school grade levels on the five features of homework management was consistent with findings from an urban sample (Xu & Corno, 2003). Also in line with these findings, results from the present sample of rural middle school students showed that family help may continue to play an important role in the following two features of homework management: how to arrange the homework environment and how to monitor and control potentially interfering emotions. These convergences from two quite different samples imply that middle school students may still benefit from family help in these two features of homework management, and that during middle school years, moving up to a higher grade by and in itself does not mean that students are ready to take more initiative in managing their homework.

Differences across the two samples. In the previously studied urban sample (Xu & Corno, 2003), the urban students reported taking significantly more initiative in time management, focusing attention, and monitoring motivation than they did in arranging their environment or in controlling their emotions. On the other hand, the rural students in the present sample reported taking significantly more initiative in arranging their homework environment, managing time, and focusing attention than they did in monitoring motivation or in controlling their emotions. Whereas both rural and urban middle school students took significantly less initiative in controlling their homework emotions, one area of difference across these two samples was that urban students took significantly less initiative in arranging their environment, while rural students took significantly less initiative in monitoring their motivation.

In addition, unlike the urban school sample, the finding from the present rural school sample suggests that family help may make a difference relating to another feature of homework management: how to be self-motivating during homework. How do we explain these differences across these two samples?

One possible explanation was that rural students may have lower academic motivation insofar as they express more hesitancy about graduating from high school and going on to college (Arnold et al., 2005; Cobb et al., 1989; Eider, 1963; Haas, 1992; Haller & Virkler, 1993; Hektner, 1995; Hu, 2003; Kampits, 1996; Kannapel & DeYoung, 1999; Khattri et al., 1997; McCraken & Barcinas, 1991; Stern, 1994), and they place less importance on academics (Ley et al., 1996; Stern, 1994). This explanation was, to some extent, substantiated by the finding that rural students took significantly less initiative in monitoring motivation while doing homework. Consequently, it may be that rural middle school students are more likely to be receptive to and benefit from family help about how to keep themselves motivated during homework. This is an important hypothesis for further study.

As to the finding that urban students took significantly less initiative in arranging their environment, there are two possible explanations. First, unlike the urban school students, who often lived with other siblings and their parents in two-bedroom apartments in a large city, the rural students in this sample tended to have their own rooms at home (e.g., in this community, the average household contained 2.5 residents and 5.6 rooms). As a result, they were in a better position to cope with distractions that occurred (e.g., television, telephone calls, and siblings) than the urban students in more congested settings. It may have been easier for the rural students to create an environment conducive for doing homework.

Another possible explanation is that the urban middle school students in the previous sample (Xu & Corno, 2003), about half of whom were from Latino families, may have been more likely to integrate homework activities with other ongoing family activities during after-school hours (e.g., housekeeping tasks and leisure activities). There is some evidence from other research that it is in the Latino culture to emphasize collectivism (e.g., interdependent relations, social responsibility, and the well-being of the whole family) rather than individualism (e.g., individual fulfillment and choice) (Trumbull, Rothstein-Fisch, Greenfield, & Quiroz, 2001). One hypothesis is that urban Latino students may take less initiative to arrange the homework environment themselves, if they feel they have limited control over their homework surroundings. To the extent that it is more consistent with white, rural American culture to emphasize individualism than collectivism, it makes sense that the rural middle school students in the present study, who were largely Caucasian, would report taking more initiative to arrange their homework environments.

Gender differences. What can be made of the findings that rural middle school girls reported taking more initiative than their male counterparts in the majority of homework management strategies examined (i.e., to budget time, to be self-motivating during homework, and to control potentially interfering emotions)? As the present study is the first to link gender to a broad range of homework management strategies at the middle school level, these findings were in line

with the theoretical claims (e.g., Covington, 1992, 1998; Deslandes & Cloutier, 2002; Harris et al., 1993; Jackson, 2002, 2003) and related empirical studies (e.g., Harris et al., 1993; Hong & Milgram, 1999) implying that girls tend to hold more positive attitudes toward homework and expend greater effort on doing homework. For example, these findings are consistent with findings that girls are more likely to plan and organize their time while doing homework (Harris et al., 1993; Younger & Warrington, 1996), that girls display more goal-setting and planning strategies (Zimmerman & Martinerz-Pons, 1990), and that girls exhibit higher levels of self-motivation, persistence, and responsibility than boys of the same age (Honigsfeld & Dunn, 2003).

Whereas these findings of gender differences are consistent with related literature, the present study raises the interesting question of whether some gender differences may be influenced by situational demands. For example, in their study of self-regulated learning strategies used by 90 students in grades 5, 8, and 11 in New York City, Zimmerman and Martinerz-Pons (1990) found that girls reported more environmental structuring than boys. However, this gender difference was not observed in the present study. One possible explanation is that students in this sample from a rural area often had their own rooms at home, thus requiring relatively less effort in structuring or restructuring their homework environment than their counterparts in urban settings, who (again) had to share a bedroom with a sibling or a workspace (e.g., the table in the kitchen) with other family members (Xu, 1994; Xu & Corno, 1998). It makes sense to imagine that with relatively less need for arranging the homework environment, there would be no statistically significant difference between the boys and the girls on this scale (although the scale for arranging the environment did show that the girls had a lower mean than that of boys, note that lower numbers reflect more frequent reported use of this strategy rather than less) (see Table 3).

Limitations of the Present Study

The findings from the present study are of limited generalizability because students attended one rural public school, and only about 10% of them came from non-Caucasian backgrounds. Nevertheless, 35% of these students were eligible for free or reduced-price meals, which is comparable to the 2001-2002 national average (Hoffman, 2003). In addition, the mean ACT composite score for the high school in the present rural community (for which the middle school is the only feeder school) was 20.9 in 2002—quite close to the 2002 national mean of 20.8 (ACT, 2002).

Research Implications

Several lines of research are needed to broaden understanding of a range of factors that influence desirable work habits through the reference task of homework. One line of research should further study the nature and kinds of family involvement that best foster each feature of homework management over time and in different settings (Xu & Corno, 2003), particularly with students from diverse cultural backgrounds. This line of research is important, as relevant findings from the present study (i.e., regarding arranging the environment and monitoring motivation) imply that family homework help may be influenced by a number of factors including the homework environment (e.g., house vs. apartment), cultural norms and expectations relating to family help (e.g., collectivism vs. individualism), and students' level of motivation for doing homework (e.g., high vs. low educational aspirations).

As the present study is the first to link gender to a broad spectrum of homework management strategies at the middle school level in a rural school, there is a need to continue this line of research with middle school students in other rural settings, particularly as the present study suggests that gender differences may be further influenced by situational demands (e.g., influences on possibilities for better arranging the homework environment). Similarly, there is a need to conduct related studies in cross-cultural settings, as gender differences have been found in some homework style elements with U.S. and Korean seventh graders (Hong & Milgram, 1999), but not with the Chinese fifth and seventh graders (Hong & Lee, 2000).

Another line of research should explore the nature and types of demands and distractions that rural middle school students encounter in their life contexts (Xu, 2004) and consequently how and under what conditions (not just whether or to what magnitude) family help and gender can play a role in different features of homework management. It would be particularly informative to conduct qualitative case studies that, for example, focus on "the microlevel processes that go on in homes while homework is being carried out" (Cooper, Lindsay, & Nye, 2000, p. 484). This evidence could again then be compared to data from similar case studies of the nature, type, and quality of family homework help in urban schools (Xu & Corno, 1998). Finally, it would be useful for researchers to investigate home, cultural, educational, and mass media influences on gender differences in doing homework (Pajares, 2002).

Practical Implications

Consistent with the findings from a previous homework survey with urban middle school students (Xu & Corno, 2003), along with empirical data from other studies (Brody, Flor, & Gibson, 1999; Chandler et al., 1986; McCaslin & Murdock, 1991), the present study suggests that families from rural backgrounds can continue to play an important role in promoting desirable homework management strategies beyond the elementary years. This is an important mes-

sage, as (a) the kind of direction parents or family members give to preadolescents matters, even if they do not have a higher education, and (b) by middle school level, increasing age (represented by grade in school) alone will not necessarily spur students to take more initiative in managing their homework.

The present study further suggests that rural middle school students may benefit from family help about how to maintain motivation and engagement during homework. Middle schools, in general, and rural middle schools, in particular, might benefit from encouraging families to become involved in structuring and monitoring preadolescents' homework. Again, data from the present study—as well as from a previous study (Xu & Corno, 2003)—and from a large nationally representative sample of participants (Horn & West, 1992), all revealed that about 30% of families were not involved in middle school homework.

The present study revealed that, compared with boys, girls in this rural school more frequently worked to manage their homework in the majority of the features examined. Thus there is a need for families to pay particular attention to boys' homework at the middle school level and to help them monitor their homework progress more closely, especially in monitoring motivation and helping them deal with negative affect while doing homework. Such an approach is important, as parental attitudes toward homework can play a significant role in shaping student attitudes toward homework (Cooper, Lindsay, Nye, & Greathouse, 1998; Xu & Yuan, 2003) and as family help can make a difference in promoting homework management strategies (Xu & Corno, 2003).

It seems likely that families would benefit from guidance from middle schools on how to promote homework management strategies. In particular, families can benefit from guidance on how to cope with potentially interfering emotions, as homework can become an emotionally charged event (Corno & Xu, 2004; Xu & Corno, 1998). Converging evidence from the present and the previous study (Xu & Corno, 2003) suggests that (a) middle school students take significantly less initiative in this feature of homework management than other features and that (b) family help can make a difference in helping students monitor their emotions. This is an important message, as more rural parents reported that they were concerned about helping children establish independent study habits than assisting them with the academic content of their homework (Reetz, 1991). It is also in line with one implication drawn from a nationally representative survey of eighth graders and their parents from which Keith et al. (1993) call for middle schools to "help parents develop a homework routine, with a structured place and time for their child's study" (p. 492). Yet, middle school homework, as compared with elementary school homework, often focuses on the materials covered on achievement tests, not on homework management skills (Cooper & Valentine, 2001).

Finally, "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., 1998, p. 81). If middle schools actively engage homework's key participants—the students themselves—in the homework process, by listening to their own ideas, strategies, and concerns about how to manage their homework, and by providing them with more meaningful and relevant support for efforts at self-regulation, then educators may be able to shape the nature of this role. Such engagement becomes more important, if, as the present study implies, the use of certain homework management strategies may be influenced by gender differences, cultural norms and expectations relating to family help (e.g., collectivism vs. individualism), the relevance of homework to students' future plans (e.g., educational aspirations), and situational demands (e.g. their perceived control over the homework environment).

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