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High School Students' Academic Achievement And Their Mothers' Attitudes And Level Of Education

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HIGH SCHOOL STUDENTS' ACADEMIC ACHIEVEMENT AND
THEIR MOTHERS' ATTITUDES AND LEVEL OF EDUCATION

CLASSEN

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HIGH SCHOOL STUDENTS' ACADEMIC ACHIEVEMENT AND THEIR
MOTHERS' ATTITUDES AND LEVEL OF EDUCATION

BY

NICOLE M. CLASSEN

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

SPECIALIZATION IN SCHOOL PSYCHOLOGY

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

2008

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ABSTRACT

How mothers' level of education and attitudes toward education related to their children's academic achievement was investigated in the present study. One hundred fifteen mothers of high school students participated in this study by completing a questionnaire that evaluated their level of education and their attitudes regarding the importance of education. Their children's grade point averages were also collected. Results indicated that when the mothers had less positive attitudes toward education, mothers' level of education was not related to their children's academic achievement. When mothers reported more positive attitudes toward education and had a high level of education themselves, however, their children's grade point averages were significantly higher than students whose mothers had more positive attitudes toward education and a lower level of education. The prediction that mothers' educational levels would have a more indirect influence on their children's academic performance and that mothers' attitudes toward education would be a more direct influence on their children's academic development was not supported. How the results relate to previous research findings, as well as limitations of this research and future directions, are discussed.

This thesis is dedicated to three high schools who gave the researcher a chance.

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it and get it done!

TABLE OF CONTENTS

Introduction.....	8
Literature Review.....	8
Method.....	23
Results.....	26
Discussion.....	27
References.....	33
Appendix A – Diagram of Study Design	39
Appendix B – Questionnaire Completed By Mothers	40

LIST OF TABLES AND FIGURES

Figure 1 – Bronfenbrenner’s Ecological Systems Theory11

Table 1 – High School Students’ Mean GPAs Based on Mothers’ Level of
Education and Mothers’ Attitudes Toward Education.....43

Table 2 – Analysis of Mothers’ Level of Education and Mothers’ Attitude Towards
Education on Children’s Grade Point Average44

High School Students' Academic Achievement and Their Mothers' Attitudes and Level of Education

This study investigated whether a mother's attitude towards education was a better indicator of the academic achievement of her child in high school than the mother's level of education. Mothers of students in high school participated in this study by completing a questionnaire that evaluated their level of education and their attitudes regarding the importance of education. First, however, current research and theories related to the impact parents have on their children's academic achievement are discussed.

Theoretical Basis for Parents Importance to Education

Researchers have long been interested in factors that can foster academic achievement. Possible factors include not only those related to the school environment, but also influences from other aspects of the student's life, including peer interactions and the student's home setting. Understanding each of these aspects can be difficult, especially when studying the home environment, because multiple variables are involved, such as socioeconomic status, family structure, and family interactions. Researchers do agree that parents are vital to their children's educational and developmental success. Parents interact with their children on many levels, but research is still needed to determine which part of this interaction is the most beneficial to children's academic achievement.

Ecological Systems Theory

One of the most useful theories for understanding the many factors that influence how children develop is the framework proposed by Bronfenbrenner (1986). According

to Bronfenbrenner's ecological systems theory, children develop in a series of interrelated or nested systems. At the center is the child, and the systems or layers surrounding the child represent different settings or influences in the child's life (see Figure 1).

In Bronfenbrenner's theory, the first level or system important for child development includes those settings in which the child has face-to-face interactions because these are settings where the child directly participates. Bronfenbrenner referred to the immediate settings in which a child participates as the microsystem. The home, school, and neighborhood are three commonly mentioned components of the microsystem. Although several settings can make up a child's microsystem, the immediate family setting or home is the most important. Important home or family influences, for example, include the family structure, the resources available to the family, the interactions between family members, and the characteristics, experiences and beliefs of individual family members. Once the child enters school, the school setting becomes another important influence on child development.

The term mesosystem describes the next layer in ecological systems theory. The mesosystem represents the relationships that exist between the different settings in which children directly participate. For example, the relationship parents have with the professionals at the child's school can influence that child's development. If this relationship is positive, then this should result in a positive influence; if the relationship is negative or contentious, then this should have a negative impact on the child's development according to the ecological systems theory.

The exosystem refers to the social structures and settings in which a child does not directly participate but that can still indirectly influence that child's development. A

parent's place of employment is one example. The child may never visit the parent's workplace or even be aware of what the parent does for a living, but what the parent experiences at work (e.g., promotion or being laid off) can have many indirect influences on how the child develops.

Finally, the larger social, cultural, and political context that surrounds a child constitutes the macrosystem. This includes general influences on child development, such as political trends, economic conditions, and culturally based views on education. For example, classrooms can vary based on culture or economic trends. Historically, classrooms within one culture or country change over time based on politics, changes in education practices, technology, and other influences. These changes contribute to the macrosystem and how children develop.

Overall, Bronfenbrenner's theory recognizes that influences on child development exist at many levels and that these can have long-lasting effects on a child's well-being. He proposed that factors at any one level or system can exert an influence on factors at other levels and that these factors can change over time (Bronfenbrenner, 1986). A family with limited financial resources, for example, may find that they need both parents to work or to work multiple jobs. This may make it more difficult for the parents to be actively involved in their children's education. If a child's mother is young or has limited education, she may also find it difficult to establish a good relationship with professionals at the child's school or to appreciate the significant recommendations made by the child's teacher.

Bronfenbrenner's theory reminds us that intervention for students experiencing difficulty in school must not only consider characteristics of individual students, but that

consideration must be also given to the children's real-life settings, as well as to the larger social context in which they participate. Ecological systems theory also suggests that interventions do not always have to address the student directly and that a focus on adjusting the roles, activities, and relationships within the settings or systems of an individual child could promote academic progress. By viewing children in the context of a series of nested systems, the multiple influences that may be operating for a particular child at any given time can be identified.

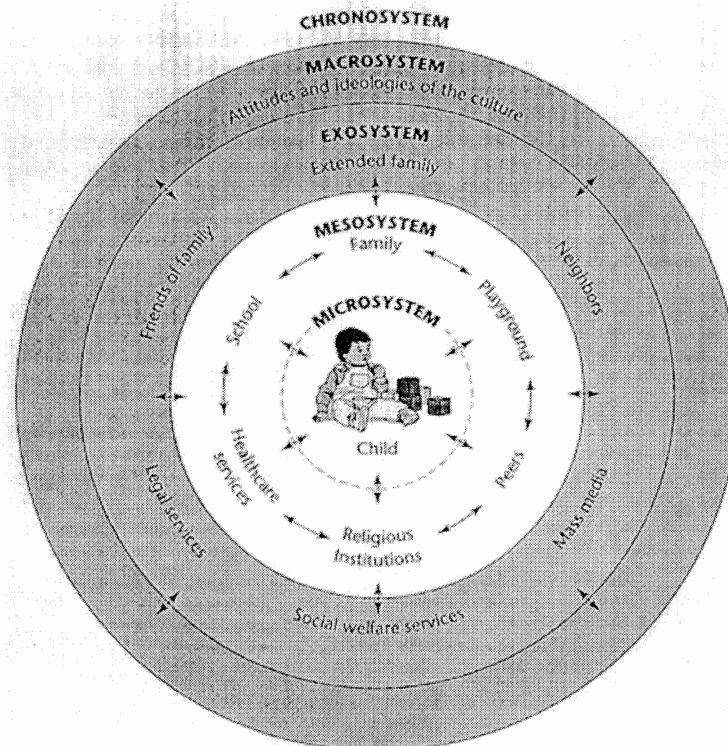


Figure 1. Bronfenbrenner's Ecological System's Theory (Garbarino, 1982)

Applications of Ecological Systems Theory

Bronfenbrenner's theory has been vital to the study of environmental influence on child development, and many researchers have used it as a cornerstone for their work.

One such researcher is Eccles (1983) who applied Bronfenbrenner's theory to study the

impact of expectations on academic achievement, specifically the expectations of students and their parents. According to Eccles, educational expectations are formed as a result of two components. The first is a psychological component which considers the expectations of the student. Eccles (1983) theorized that individuals' expectations are formed based on how they view their abilities to complete the task. Self concept of ability is defined by Eccles (1983) as "...the assessment of one's own competency to perform specific tasks or to carry out role-appropriate behaviors" (p. 82). Expectations are also influenced by the task's difficulty, although Eccles does not suggest any relationship between task difficulty and expectations. For some students, expectations for success may be lower if the task is more difficult; however, some students may enjoy the difficulty of the task and as a result, have higher expectations for their achievement. This refers to the value of the task, which is another factor in the psychological component of this theory. Task value can be measured in three different manners, including how important it is to do well on the task, immediate enjoyment gained from completion of the task, and how important completion of that task is to a future event.

The second component of Eccles's (1983) theory views expectations from a developmental perspective. The expectations of the student can be shaped by others. For example, parents can act as role models. The child observes how the parent approaches a task and the child is then likely to approach tasks in a similar manner. Also, parents can influence their child's ability self-concept, how difficult the child perceives the task to be, and the child's expectations for success. This can occur through evaluative feedback, such as when parents praise children for their hard work or convey their disappointment with their children's inappropriate behavior. Finally, parents influence their child's

expectations for success through the differential experiences they provide. Differential experiences include role models to which the child is exposed, the types of toys or recreational activities in which they participate, and any independence training the child receives. Through these means, parents have the ability to alter their children's expectations and, therefore, their children's academic achievement.

Hoover-Dempsey and Sandler (1995) further expanded on Eccles' ideas by discussing factors that shape the amount and level of parental involvement in their children's education. They asserted that factors like parental education and income do not determine the amount of involvement; instead they proposed three other determining factors. The first is the parent's personal construction of the parental role. Parents will be involved with their children if they believe that is part of the parental construct. They gain this construct by watching others in the parental role, such as their own parents. Hoover-Dempsey and Sandler admitted that while this factor is necessary for parental involvement, it does not necessarily mean that the parent will be involved. For this to occur, two additional factors must be present. The parent must feel that they have the ability to help their children be successful. Either the parent has already been successful at a similar event or has seen others be successful. Or perhaps they have been persuaded by others that they will be successful. Most importantly, the parent must believe that their involvement is important. The final factor that shapes the involvement of parents in their child's academic experience according to Hoover-Dempsey and Sandler is the number of opportunities the parents have to be involved. General opportunities are those provided on a regular basis to the parent, such as special activities at the school. It is important that all three of these factors, belief that involvement is part of the parental

role, understanding that parents have the ability to promote their children's success, and opportunities for involvement, are present in order to encourage parental involvement in their children's academic lives.

Parental Influences on Children's Educational Success

The Ecological Systems Theory suggests that parents can impact their children's educational success, but there is a lack of consensus as far as which specific factors of the parent-child interaction influence academic achievement. Many aspects of parental influence have been researched, including parental expectations and parental involvement, and the results have been encouraging enough that parents have been included in legislation related to education. For instance, the National Educational Goals Panel included the importance of parents in its report and even called for an increase in parent's involvement (1995). One of the six basic principles of the Individuals with Disabilities Education Act (IDEA, PL108-446, 2004) is shared decision making between parents and school professionals when developing goals and objectives for students with disabilities in school. Despite this, there continues to be a lack of parental involvement in education (Snodgrass, 1991). Increased empirical evidence concerning the exact influences of parents on the educational success of their children may help professionals to work more effectively with parents and thereby increase parental participation.

Despite the recognition of the importance of parents in the educational lives of their children, research has not completely explained how or when parents influence children's success at school. For example, much of the research on parental involvement has not consistently defined involvement (Fan and Chen, 2001). For example, Walberg (1986) defined parental involvement as communication between parents and their

children about school; whereas Stevenson and Baker (1987) defined parental involvement as the parent's participation in school activities. Other aspects of parental impact on their children's educational success require further support. While research has looked at parental involvement (Keith & Keith, 1993; Keith, Keith, Bickley, & Singh, 1992; Paulson, 1994; Snodgrass, 1991), parental expectations (Mau, 1995; Peng and Wright, 1994; Steinberg, Dornbusch & Brown, 1992), and parental education (Eccles & Davis-Kean, 2005; Makki, Abd-El-Khlaik, & Boujaoude, 2003; Mehta & Mathur, 1986; Smith, Atkins, & Connell, 2003; Tavani & Losh, 2003), there is a lack at of empirical research into parental attitudes and their impact on children's academic success, specifically for high school students (Patrikakou, 1997). Much research has investigated the importance of parental education on the child's academic success, but there is a lack of research regarding other variables that might impact the success of children in school, such as parental attitudes about learning and education.

Parental Level of Education

A parent's level of education is important due to the opportunities it can provide in the household. On the one hand, those parents who have a higher level of education are more likely to help their children with homework and school work. "...[P]arent's education should influence parent's skills, values and knowledge of the educational system; which, in turn, should influence their educational practices at home and the skills children have to model, as well as the parents' ability to intervene in the educational system on their children's behalf" (Eccles & Davis-Kean, 2005, p. 191). A higher level of education also increases socioeconomic status, or family income (Eccles & Davis-Kean, 2005). This results in the provision of more opportunities and tools for the

student's education (Tavani & Losh, 2003). For example, parents with a higher level of education can afford to take their children to museums or provide technology at home, such as computer programs.

Most research has shown a high correlation between the parent's level of education and the child's performance in school. Smith, Atkins, and Connell (2003) studied the interaction between parental education levels and academic achievement for African American students. They found that students whose parent's had a higher level of education had higher levels of academic achievement when measured by grades and standardized tests. A study of Lebanese children performed by Makki, Abd-El-Khlaik, and Boujaoude (2003) found similar results. Students completed a survey of environmental knowledge and those students whose fathers were more educated scored higher on these surveys. In India, researchers Mehta and Mathur (1986) compared first generation learners, or parents with little or no education, and non-first generation learners who have at least one parent with some education. In their study, parent's level of education was positively correlated with concept test scores and achievement test scores of their children.

Many studies of parental education have specifically looked at the influence that mothers have on their children's academic success. Mothers are typically viewed to be the primary caregivers, and still today are often more involved than fathers in their children's education (Hung, 2005). As a result, there is a keen interest in mothers' relationships to children's school performance. In terms of the mother's level of education, research results have been similar to that of the research on parents in general.

For example, when mothers perceive their children to be competent academically, their children tend to perform higher in school (Pomerantz & Dong, 2006).

In an experiment conducted by Magnuson and McGroder (2002), the researchers provided mothers receiving welfare payment with further educational opportunities. When compared to children of mothers on welfare who did not receive further education, a positive relationship was found between increasing mother's education and their children's academic performance. Campbell (1996) reported that the reading achievement test scores of children from low income families correlated with their mothers' educational level. A study of the Head Start program found that mothers with a higher level of education were more involved in activities with their children at home and in the community. Despite this, it is important to note that maternal involvement did not relate to their children's cognitive development (Bryant, Peisner-Feinberg, and Miller-Johnson, 2000). Other research has shown that even mothers who are low-literate can positively influence their children's academic achievement if the mothers are able to increase their literacy skills successfully (Benjamin, 1993).

Gillies (2006) attempted to explain how mothers' levels of education impact their children's academic success through the emotional investment needed from the mother for a children's academic success. She found that the necessary emotional involvement is more likely to be provided by middle class mothers and that maternal emotional involvement related to children's academic success. In contrast, Gillies (2006) reported that working-class mothers and their children deal with more emotional stress and that emotional investment is focused on keeping the child safe and helping the child deal with

failure. By removing these distractions and stresses from the children's life the child can better focus on their academic work.

Despite the results from the aforementioned studies, researchers also admitted that parental level of education is not always predictive of academic achievement (Hoover-Dempsey and Sandler, 1995). Tavani and Losh (2003) looked at both student expectations for their academic performance and parental education. While they determined that both were related to students' academic achievement, student expectations for success were the stronger predictor of academic achievement. The researchers concluded that parental education may not directly affect a child's performance in school, but it tends to play a role in how children are raised. Similarly, in a study comparing Japanese, Taiwanese, and American students (Stevenson, 1983), the finding that American students were behind Asian students in reading and math could not be explained by parental education levels. Instead, the parent's education shaped the home environment, such as the warmth between the parent and child or the parents' expectations and behaviors towards education. These factors are then directly related to the students' academic achievement. An investigation by Davis-Kean (2005) found that parental education level was related to their child's achievement by impacting the parent's achievement beliefs and home behavior. Englund, Luckner, Whaley, and Egeland (2004) further expanded upon this connection by saying that parental education relates to parents' involvement, expectations, and quality of instruction in regards to their children's academic performance. Each of these factors is then directly related to the student's academic achievement. This research agrees with the theory behind the importance of parental education mentioned earlier, but it also implies that there may be

other parental factors that have significantly larger impacts on academic achievement. One of these factors is parental attitudes toward education.

Parental Attitudes towards the Importance of Education

A parent's attitude towards the importance of education can be viewed in numerous ways, including parental expectations and the emphasis on education in the household. Schaefer (1977) listed numerous ways for adults, specifically parents, to motivate students. These included showing on-going interest in educating themselves, setting high standards for themselves, and emphasizing intrinsic satisfaction. Also, the parent can show interest and approval in their children's academic pursuits, develop a warm relationship with their children, provide direction as well as rewards for academic achievement, and work with the teacher in the interest of the child. The combination of these methods of motivation conveys expectations about the importance of education of the parent to the child.

When considering a parent's expectations, researchers can consider the grades parents expect from their children or even the level of education they expect their children to reach in education. Parents can also convey their attitude towards education by placing its importance above other activities, such as sports or socializing. Parents also relay education's importance by helping their children with homework and by verbally conveying how important it is to do well in school. Research on each of these factors has found that parental attitudes about the importance of education relates to the academic achievement of their children.

Researchers Fan and Chen (2001) performed a meta-analysis on studies which compared parental attitudes and the academic achievement of their children. One

variable focused on in their study was parental involvement, which included parental expectations for their children's education, as well as the value parents place on education. Results of the study found that parental expectations had the strongest relationship to academic achievement when compared to factors measuring parental involvement, such as the parent's supervision at home. Likewise, Davis-Kean (2005) found that parental expectations for their children's education influenced the amount of reading and intellectual stimulation the child received at home, which in turn impacted the standardized test scores of their children. Singh, Bickley, Trivette, and Keith (1995) studied parental aspirations for their children's education, parent-child communication about school, home structure, and parental participation in school activities, all of which are areas of parental involvement. They found that of these factors, parental aspirations had the strongest positive effect on student achievement. Hoover-Dempsey and Sandler (1995) proposed that this positive academic achievement is because of increased cognitive stimulation and emotional support that the child receives at home. If the parents expect their children to perform better in school and to reach a higher level of education, the parents will structure the home to meet the educational needs of their children. Parental expectations can also have a positive effect on the students' expectations for themselves. Patrikakou (1997) hypothesized that parental expectations can be a "...powerful, economic (low-cost), and nonartificial way to intervene to improve an adolescent's academic performance" (p. 20).

Despite the importance of parental expectations for their children's success in school, many researchers have concluded that expectations alone are not sufficient for a child to succeed in school. For example, Cutrona, Cole, Colangelo, Assouline, and

Russell (1994) demonstrated that parental support can also have a positive impact on their children's academic success. Studying college freshmen, this study found that parental support was a predictor of college GPA. In fact, parental support was a stronger predictor of GPA than support from either friends or romantic partners. Perhaps another important factor along with parental support is the parent's attitude towards the importance of education. Children's self-perceptions can be shaped by the importance their parent's assign to their academic success (Eccles, Jacobs, & Harold, 1990). Similarly, when parents place importance on academic success, their children have greater confidence in their academic abilities (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). More specifically, a mother's satisfaction with her child's academic performance impacts children's beliefs about their academic abilities, as well as their self-perceptions (McGrath & Repetti, 2000). One example was seen in a study performed by Klebanov and Brooks-Gunn (1992) which looked at the influence of mothers' attitudes on their daughters' math scores. In middle school, the mothers' attitude was positively correlated with the daughter's math performance. Prior research has supported the idea, therefore, that parental attitudes, which include the parent's expectations for the child, the parent's support of the child, and the importance the parent places on education, can be as influential as the parent's level of education on the child's academic achievement.

The Present Study

The ability of professionals in the school to promote students' academic success depends, in part, on an understanding of the factors or systems that influence academic achievement. Because schools today are increasingly concerned with assisting children

from families of low socioeconomic status or whose parents are not well educated, determining interventions that may benefit these students and that could be provided in the home environment would be crucial to the success of many students. Understanding what characteristics of parents are related to students' academic performance will help in the development of appropriate interventions. In the present study, mothers' attitudes toward education and mothers' level of education were measured in order to determine how these related to their children's academic achievement. Based on Bronfenbrenner's Ecological Systems Theory (1986) that suggests that family members impact one another and that the home environment and the relationship between family members and school personnel influences how children develop, it was expected that student success would be related to mothers with positive attitudes about education. Because a mother's current attitude toward education could influence her child in a direct manner (at the level of the microsystem in Bronfenbrenner's terminology) and her level of education would be a more indirect influence, a stronger relationship was expected between mothers' attitudes about education and their children's academic performance.

Hypotheses

Because of the direct relationship between maternal attitudes on how children develop academically (Bandura, et al., 1996; Fan & Chen, 2001; Klebanov & Brooks-Gunn, 1992), it was expected that mothers' attitudes toward the importance of education would be more predictive of their children's grade point average (GPA) in high school than would mothers' level of education, which has a more indirect relationship with development (e.g., Tavani & Losh, 2003).

Method

Participants

One hundred and fifteen mothers of high school students were recruited with the help of high school teachers and the school psychologist from a special services cooperative in a Midwestern state. The high school students were all from regular education classes of three separate high schools. Although not everyone reported all the demographic information requested, at least 70 of the students participating in the study were girls, while 28 were boys. Of the 98 students who indicated their grade level, 8 were freshman, 54 were sophomores, 27 were juniors, and 9 were seniors. The majority of participating students, 84 out of 86 who specified ethnicity, were Caucasian, while the remaining two students were Asian. Of the mothers who took part in the study, 2 had less than a high school education, 56 received no higher than a high school diploma, 24 earned an associate's degree, 27 completed a bachelor's degree, and 9 achieved a master's degree.

Materials

Information about both independent variables in this study, mother's level of education and mother's attitude towards the importance of education (see Appendix A), were gathered through the use of a questionnaire. The mother's level of education was defined based on her highest educational degree (Tavani & Losh, 2003). Mothers were asked to choose which educational option best described their level of education.

Mothers were asked to respond to the following:

Please circle the highest degree you have obtained.

- (1) *Less than high school* (2) *High School Diploma or GED* (3) *Associates Degree*
(4) *Bachelors Degree* (5) *Masters Degree* (6) *Doctoral Degree*

Mothers who chose items 1 or 2 were considered to have a low level of education. Mothers who chose items 3, 4, 5, 6, or 7 were considered to have a high level of education. Fifty-six of the participating mothers fell into the low level of education category while 59 reported a higher level of education.

The mothers' attitudes towards the importance of education were measured using a modified version of the Parent Attitudes Toward Education Scale (Medinnus, DeVlassie, Stevens, Nunn, and Taylor, 1971). Attitude toward the importance of education was defined by the original authors as the emphasis that parents place on the education of their children and the extent they are willing to go for their children's education. The Parent Attitudes Toward Education Scale was originally created to administer to parents whose children participated in bilingual education programs. The creators suggested that the scale can be given in a number of ways, including a parent interview, group administration, and a mail-out technique. For the present study, a form of the mail-out technique was used and the researcher removed several of the statements which dealt with bilingual education and rephrased various statements in order to be more applicable to the target population. A copy of the scale used in the present study can be found in Appendix B.

The mothers participating in this study were presented with 24 statements relating to their children's education which required the mothers to rate their level of agreement. This section used a 7-point Likert-type scale, with the answers being (1) Strongly Disagree, (2) Disagree, (3) Sometimes Disagree, (4) Unsure, (5) Sometimes Agree, (6) Agree, and (7) Strongly Agree. A higher score on these questions represented a more positive attitude towards education. An example of one of the questions is:

Going to school is a worthwhile experience.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Sometimes Disagree	Unsure	Sometimes Agree	Agree	Strongly Agree

The highest score possible on the survey was 168 and the lowest possible score was 24.

The higher the person's score, the more positive her attitude is toward education. For mothers responding in the present sample, the median score was 136.5.

The child's academic achievement was measured by using each student's cumulative grade point average (GPA) from the previous school year. The average grade point average for the high school students of the mothers responding was relatively high, 3.32 on a 4-point scale.

Procedure

In order to obtain participants for this study, the questionnaire to be completed by mothers and a permission slip were sent home with high school students. Approximately 450 permission slips and questionnaires were sent out. The students were asked to return the questionnaire within one week in order to increase the chance of getting them back (Dillman, 2000). Students GPAs were obtained from their permanent records at school.

Design

The design of this study was a factorial design (See attached diagram in Appendix A). The two independent variables used were the mother's level of education and the mother's attitude towards the importance of education. The dependent variable was the academic achievement (GPA) of their children in high school.

Results

Two levels were created for each of the two independent variables, mothers' level of education and mothers' attitudes toward education. Mothers were considered to have a lower level of education if they had a high school diploma, GED, or less ($n = 56$); mothers were considered to have a higher level of education if they had more than a high school diploma ($n = 59$). The attitudes towards education questionnaire completed by the mothers had a possible maximum total score of 168. The median total score for participants in the present sample was 136.5 and this score was used as a cut-off point for creating two groups. Mothers whose scores were below 136.5 were considered to have less positive attitudes toward education ($n = 58$), and mothers whose scores were above 136.5 were considered to have more positive attitudes toward education ($n = 57$). Table 1 presents the high schools students' GPA based on their mothers' level of education and attitudes toward education.

A two-way analysis of variance was conducted with the grade point average of high school students as the dependent variable and mothers' level of education and attitudes toward education questionnaire as independent variables. At an alpha level of .05, a main effect for mothers' level of education was found, $F(1,111) = 5.125, p = .03$. This main effect was further clarified by a significant interaction between mothers' level of education and the mothers' attitudes toward education, $F(1, 111) = 4.28, p = .04$ (See Table 2). This interaction accounted for 4% of the total variance in the students' grade point average. Results of the simple effect of mother's level of education when they had a less positive attitude toward education indicated that the student's grade point average did not differ much ($M = 3.28, SD = .59$ for lower educational level; $M = 3.30, SD = .79$

for higher educational level), $F(1, 111) = .02, p > .05$. However, when the mothers had a more positive attitude towards education, the results of the simple effect of mothers' level of education showed significant differences in students' grade point averages, $F(1, 111) = 9.46, p < .01$. As indicated in Table 1, if mothers had more positive attitudes toward education and higher levels of education, then their children's grade point averages were significantly higher than when the mothers had more positive attitudes toward education and lower levels of education.

Discussion

The results of this study did not support the hypothesis that mothers' attitudes towards education would be a better predictor of their children's grade point averages than the mother's level of education. Instead, an interaction was found between attitudes toward education and level of education. When mothers had less positive attitudes toward education, their level of education was not related to their children's grade point averages. For mothers with more positive attitudes toward education, however, those with higher levels of education had children whose grade point averages were significantly higher than students whose mothers reported lower levels of education. The prediction that mothers' educational level would have a more indirect influence on their children's academic performance and that mothers' attitudes toward education would be a more direct influence on their children's academic development, therefore, was not supported.

Numerous previous researchers have reported significant correlations between parents' educational level and their children's performance in school (e.g., Benjamin, 1993; Bryant et al., 2000; Campbell, 1996; Magnuson & McGroder, 2002; Makki et al.,

2003; Mehta & Mathur, 1986; Smith et al., 2003). Other researchers found that parental attitudes about education were also related to children's school achievement (e.g., Cutrona, 1994; Davis-Kean, 2005; Fan & Chen, 2001; Hoover-Dempsey & Sandler, 1995). So, it is not surprising that students whose mothers had higher levels of education and more positive attitudes toward education had the highest grade point averages in the present study.

Why was the prediction that maternal attitudes alone would be more directly related to students' GPA not supported in the present research findings? In their meta-analysis, Fan and Chen (2001) concluded that parental attitudes are most related to children's performance in school when measuring parental involvement in educational activities. Earlier, Hoover-Dempsey and Sandler (1995) suggested that parents with better attitudes toward education structure the home environment to meet the educational needs of their children. Cutrona (1994) reported that amount of parental support was related to college students' academic accomplishments. Previous researchers reporting a relationship between parental attitudes and students' academic achievement, therefore, were measuring attitudes in an active manner based on parental behavior. The present study measured attitudes in a more passive manner through a questionnaire that assessed what mothers thought about education and not what mothers did to express these attitudes. The previous research studies cited above also did not directly compare parental attitudes with the parents' level of education. It may be that better educated parents are better prepared and more comfortable with being more academically involved and can structure the home setting to better support the educational needs of their children. Previous researchers have reported parents' educational level influences how

children are raised and how parents shape the home environment (Davis-Kean, 2005; Stevenson, 1983). Because of their experiences and success in school, better educated parents may be able to express their positive attitudes toward education in manner that facilitates their children's success in school.

The present results found that mothers with low levels of education but positive attitudes toward education had children with lower GPAs than students of comparable mothers with higher educational levels. Mothers with lower levels of education but more positive attitudes toward education may express their positive attitudes in a manner that does not impact their children's academic achievement. For example, they may promote their children attending school and want them to do well in school, but do not have the academic skills, knowledge of what to do, confidence to be involved in school activities, or resources to help their children perform better in school. This relates to the theory proposed by Hoover-Dempsey and Sandler (1995). They suggested that it is not educational level or income that results in parental involvement in children's school life. Rather, parental involvement is determined by the "construction of parental role" that must include the belief that involvement in their child's education is part of the parental role, the understanding that parents have the ability to promote their children's academic success, and having opportunities for involvement in their children's academic experiences. Hoover-Dempsey and Sandler suggested that all three of these necessary conditions come about as a result of previous experiences of the parents. Because they have less experience as students, mothers with lower levels of education may be missing one or more of these criteria and thus cannot construct a parental role that adequately represents their positive attitudes toward education. Future researchers can investigate

the relationship between parental attitudes and level of education and children's academic achievement in more detail.

Although statistically significant, the interaction between mothers' attitudes toward education and their educational level accounted for very little of the variance in their children's GPAs, lending further support to reports that many factors besides parental characteristics influence how well children perform in school (Hoover-Dempsey & Sandler, 1995; Stevenson, 1983; Tavani & Losh, 2003). Several theorists have agreed that children's environments can influence multiple aspects of their development (e.g., Bronfenbrenner, 1986; Eccles, 1983), but they also suggested that other factors, such as characteristics of children themselves, impact development. For instance, Eccles (1983) asserted that the child's self-concept is a determining factor on educational outcomes. Tavani and Losh (2003) concluded that students' expectations for success in school were more important than parental expectations for their children's success. Bronfenbrenner (1986) suggested that characteristics of children influence how others directly interact with them both at home and school. Other than GPA, however, no information about the students that could be related to school success was collected in the present study and what other factors contributed to students' GPAs could not be determined.

Limitations

It is important to note several limitations of this study. One limitation is that mothers participating in the present study expressed mostly positive attitudes toward education and the range of attitudes reported was very limited. How representative these attitudes are of mothers of high school students in general is unknown. Also, attitudes were measured with a questionnaire. How a positive response bias or response set may

have influenced the results is unknown. More direct measures of parental involvement, such as attendance at parent-teacher conferences or amount of time spent on homework with their children, were not made. Only one questionnaire was used and this was a modified version of a questionnaire developed for parents of bilingual students because it was difficult to locate scales of parental attitudes toward education. The validity of this scale as used in the present study is unknown. Additionally, based on their overall high grade point average (over 3.0 on a 4-point scale), the high school students whose mothers completed the questionnaire may not be representative of the high school population in general. Only students and their mothers from three schools in one Midwestern state participated in the present study, further limiting generalization of the results. Finally, no conclusions related to cause and effect can be made because this was non-experimental research.

Future Directions

Future research is needed that further clarifies how characteristics of parents influence how children perform in school using larger and more representative samples. Based on the results from the present study, future research could also investigate how parental education level specifically relates to direct measures of parental behavior that reflect their attitudes toward education, such as how active parents are in attending school functions, helping with their children's homework, etc. Multiple measures of attitudes could be assessed and compared. Relevant characteristics of children could also be included in this research, such as how students' expectations and self-concepts relate to parental attitudes and educational level in predicting students' school success.

Conclusion

The present summary highlights that mothers with both a high level of education and more positive attitude towards education tend to have children who are the most successful in school. The results of the present study further indicate, however, that no one background factor is predictive of whether or not a student succeeds in school and that many variables undoubtedly directly and indirectly relate to academic achievement. Researchers, educators, and parents must work together to ensure that all relevant factors are understood and used effectively to promote children reaching their full academic potential. Future research in this area is needed.

References

- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*, 1206-1222.
- Benjamin, L. A. (1993). *Parents' literacy and their children's success in school: Recent research, promising practices, and research implications* (Educational Research Report No. ED/OERI-93-8OR-93-3081). Washington D. C.: Office of Educational Research and Improvement
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*, 723-742.
- Bryant, D., Peisner-Feinberg, E., and Miller-Johnson, S. (2000, April). *Head Start parents' roles in the educational lives of their children*. Paper presented at the meeting of the Annual Conference of the American Educational Research Association, New Orleans, LA.
- Campbell, F. A. (1996, June). *Family factors associated with high and low reading and mathematics scores in children from low income families*. Paper presented at the Head Start National Research Conference, Washington, DC.
- Cutrona, C. E., Cole, V., Colangelo, N., Assouline, S. G., & Russell, D. W. (1994). Perceived parental support and academic achievement: An attachment theory perspective. *Journal of Personality and Social Psychology, 66*, 369-378.
- Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology, 19*, 294-304.

- Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first generation college student. *Journal of College Student Development, 46*, 223-236.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York: Wiley & Sons.
- Eccles, J. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.) *Achievement and Achievement Motives: Psychological and Sociological Approaches*. San Francisco: W. H. Freeman and Company.
- Eccles, J. S. & Davis-Kean, P. E. (2005). Influences of parents' education on their children's educational attainments: the role of parent and child perceptions. *London Review of Education, 3*, 191-204.
- Eccles, J. S., Jacobs, J. E., & Harold, R. D. (1990). Gender role stereotypes, expectancy effects, and parents' socialization of gender differences. *Journal of Social Issues, 46*, 183-201.
- Englund, M. M., Luckner, A. E., Whaley, G. J. L., and Egeland, B. (2004). Children's achievement in early elementary school: Longitudinal effects of parental involvement, expectations, and quality of assistance. *Journal of Educational Psychology, 96*, 723-730.
- Fan, X. & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*, 1-22.
- Garbarino, J. (1982, August). *Families at-risk for destructive parent-child relations in adolescence*. Paper presented at the Annual Convention of the American Psychological Association, Washington D.C.

- Gillies, V. (2006). Working class mothers and school life: exploring the role of emotional capital. *Gender and Education, 18*, 281-293.
- Gutman, L. M. & Eccles, J. S. (1999). Financial strain, parenting behaviors, and adolescent's achievement: Testing model equivalence between African American and European American single- and two-parent families. *Child Development, 70*, 1464-1476.
- Hoover-Dempsey, K. V. & Sandler, H. M. (1995). Parental involvement in children's education: Why does it make a difference? *Teachers College Record, 97*, 310-331.
- Howe, N., Chambers, B., & Abrami, P. C. (1998). The effects of an academic restructuring program on parental attitudes and behaviors. *The Alberta Journal of Educational Research, 44*, 106-110.
- Hung, C. (2005). Family background, parental involvement and environmental influences on Taiwanese children. *Alberta Journal of Educational Research, 51*, 261-276.
- Jeynes, W. H. (2003). A meta-analysis: The effects of parental involvement on minority children's academic achievement. *Education and Urban Society, 35*, 202-218.
- Jodl, K. M., Michael, A., Malanchuk, O., Eccles, J. S., & Sameroff, A. (2001). Parents' roles in shaping early adolescents' occupational aspirations. *Child Development, 72*, 1247-1265.

- Keith, P. B., & Keith, T. Z. (1993). Does parental involvement influence academic achievement of American middle school youth? In F. Smit, W. Van Esch, and H. J. Walberg (Eds.), *Parental involvement in education*. Nijmegen: Institute for Applied Social Sciences.
- Keith, T. Z., Keith, P. B., Bickley, P. G., & Singh, K. (1992). *Effects of parental involvement on eighth grade achievement: LISREL analysis of NELS-88 data*. (ERIC Document Reproduction Service No. ED 347 640).
- Klebanov, P. K. & Brooks-Gunn, J. (1992). Impact of maternal attitudes, girls' adjustment, and cognitive skills upon academic performance in middle and high school. *Journal of Research and Adolescence*, 2, 81-102.
- Magnusen, K. A. & McGroder, S. M. (2002). The effect of increasing welfare mothers' education on their young children's academic problems and school readiness (Joint Center for Poverty Research, Working paper No. JCPR-WP-280). Bethesda, MD: National Institute of Child Health and Human Development.
- Makki, M. H., Abd-El-Khalik, F., & Boujaoude, S. (2003). Lebanese secondary school students' environmental knowledge and attitudes. *Environmental Education Research*, 9, 21-33.
- Mau, W. (1995). Educational planning and academic achievement of middle school students: A racial and cultural comparison. *Journal of Counseling and Development*, 73, 518-526.
- Mau, W. (1997). Parental influences on the high school students' academic achievement: A comparison of Asian immigrants, Asian Americans, and White Americans. *Psychology in the schools*, 34, 267-277.

- McGrath, E. P., & Repetti, R. L. (2000). Mothers' and fathers' attitudes toward their children's academic performance and children's perceptions of their academic competence. *Journal of Youth and Adolescence, 29*, 713-723.
- Mehta, P. H. & Mathur, R. K. (1986). A multivariate study of some cognitive abilities and academic achievement of first generation learners and non-first generation learners. *Indian Journal of Psychometry and Education, 17*, 1-16.
- National Education Goals Panel (1995). *The national education goals report. Building a nation of learners*. Washington, DC: Government Printing Office.
- Paulson, S. E. (1994). Relations of parenting style and parental involvement with ninth grade students' achievement. *Journal of Early Adolescence, 14*, 250-267.
- Patrikakou, E. N. (1997). A model of parental attitudes and the academic achievement of adolescents. *Journal of Research and Development in Education, 31*, 7-26.
- Peng, S. S., & Wright, D. A. (1994). Explanation of academic achievement of Asian American students. *Journal of Educational Research, 87*, 346-352.
- PL 108-446 (2004). The Individuals with Disabilities Education Improvement Act.
- Pomerantz, E. M. & Dong, W. (2006). Effects of mothers' perceptions of children's competence: The moderating role of mothers' theories of competence. *Developmental Psychology, 42*, 950-961.
- Schaefer, C. (1977). Motivation: A major cause of school underachievement. *Devereux Forum, 12*, 16-29.
- Singh, K., Bickley, P. G., Trivette, P., & Keith, T. (1995). The effects of four components of parental involvement on eighth grade student achievement: Structured analysis of NELS-88 data. *School Psychology Review, 24*, 299-317.

- Smith, E. P., Atkins, J., & Connell, C. M. (2003). Family, school, and community factors and relationships to racial-ethnic attitudes and academic achievement. *American Journal of Community Psychology, 32*, 159-173.
- Snodgrass, D. M. (1991). The parent connection. *Adolescence, 26*, 83-87.
- Steinberg, L., Dornbusch, S. M., & Brown, B. B. (1992). Ethnic differences in adolescent achievement. *American Psychologist, 47*, 723-729.
- Stevenson, H. W. (1983, April). Making the grade: School achievement in Japan, Taiwan, and the United States. In the *1983 Annual Report of the Center for Advanced Study in the Behavioral Sciences*, Stanford, CA.
- Stevenson, D. L. & Baker, D. P. (1986). The family-school relation and the child's school performance. Special issue: Schools and development. *Child Development, 58*, 1348-1357.
- Tavani, C. M. & Losh, S. C. (2003). Motivation, self-confidence, and expectations as predictors of the academic performances among our high school students. *Child Study Journal, 33*, 141-151.
- Walberg, H. J. (1986). Synthesis of research on teaching. In Wittrock, M. C. (Ed.), *Handbook of Research on Teaching, 3rd Edition*. (p. 214-229). New York: MacMillan.
- Zhan, M. & Sherraden, M. (2002). Effects of mothers' Assets on expectations and children's educational achievement in female-headed households: Working paper (Center for Social Development, Working Paper No. CSD-WP-02-9). St. Louis, MO: Washington University.

APPENDIX A

Diagram of Study Design

Level of Importance of Education to the Parent

High

Low

High		
Parental Level Of Education		
Low		

Strongly Sometimes Sometimes Strongly
Disagree Disagree Disagree Unsure Agree Agree Agree

22. Most schools do a good job of letting the
parents know what is going on. _____

23. It seems to me that the public money
which is put into schools today is well
worth it. _____

24. The schools are doing a good job
today. _____

TABLE 1

High School Students' Mean GPAs Based on Mothers' Level of Education and Mothers' Attitudes Toward Education

<u>Level of Education</u>	<u>Attitude Toward Education</u>		
	<u>High</u>	<u>Low</u>	<u>Overall</u>
<u>High</u>	3.56 (.70)	3.30 (.79)	3.45 (.75)
<u>Low</u>	3.01 (.60)	3.28 (.59)	3.16 (.60)
<u>Overall</u>	3.33 (.71)	3.29 (.68)	

Note. Standard deviations are in parenthesis.

TABLE 2

Analysis of Mothers' Level of Education and Mothers' Attitude Toward Education on Children's Grade Point Average

<i>Sources of Variance</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Mothers' Level of Education	2.330	1	2.330	5.125*
Mothers' Attitude Toward Education	.000	1	.000	.001
Interaction Effect	1.945	1	1.945	4.278*
Residual (or Within Groups)	50.463	111	.455	

Note. Asterisks denote statistical significance ($p < .05$).