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## Association between parenting processes and child behavior outcomes: the moderating and mediating role of child characteristics

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Running Head: PARENTING PROCESSES AND CHILD BEHAVIOR OUTCOMES

Association between Parenting Processes and Child Behavior Outcomes: The Moderating and  
Mediating Role of Child Characteristics

A Thesis Submitted  
in Partial Fulfillment  
of the Requirements for the Designation  
University Honors

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### Abstract

Past research demonstrates the importance parents have in determining the outcomes in their children's lives. Of these outcomes, child academic achievement is extremely important. In investigating past research on parenting practices and styles, factors such as parental monitoring and involvement as well as styles of authoritative, authoritarian and permissive parenting were examined to determine an association with academic achievement in middle school children. Learning disabilities, mental disorders, child personality characteristics and child academic characteristics were other measures explored as buffers in the parenting to academic achievement relationship. Mediating effects were also examined. The current study sampled 179 middle school students (grades 6-9) and their mothers; and a majority of participants were recruited from the Cedar Falls community schools. The results found that parental monitoring and parental involvement with school-related discussions with children was positively associated with academic achievement, although involvement with homework showed a negative relation with academic achievement. Children with low levels of self-regulated learning and self-efficacy benefit academically from high levels of discussion with their parents. However, high levels of child self-efficacy served as a protective factor in cases of high authoritarian parenting. Mediating effects were also explored in child academic and personal characteristics with GPA (emotion regulation, self-regulated learning, and self-efficacy). The findings in this study have implications for early intervention programs for child academic achievement that target both child behaviors and parenting strategies. It also demonstrates how a number of factors can contribute to rates of child academic success, although other factors may be explored in future research.

*Keywords:* parenting, achievement, self-regulation, self-efficacy

### Association between Parenting Processes and Child Behavior Outcomes

A large body of research has emphasized that parents play an important role in children's academic achievement, although the pathways and conditions through which these behaviors unfold are in need of exploration (Roska & Potter, 2011). Although research on the parent-child relationship has been typically explored in terms of its role in predicting children's psychosocial adjustment, the parent-child relationship serves as an important factor in determining a child's success academically (Clark, 1990). Past research has explored a variety of facets of the parent-child relationship. Typically, parenting can be viewed as either positive or negative behaviors. For instance, appropriate levels of monitoring and involvement appear to coincide with more positive parenting, while neglect and harsh styles are more likely related to a negative style of parenting.

Prior research has supported the notion that parenting styles and behaviors influence a child's chance for academic success. Also, more positive parenting has been associated with greater child academic success. High levels of social support within the family are predictive of resilience in children, and such resilience acts to improve children's chances for achieving academically (Richman, Rosenfeld, & Bowen, 1998). Furthermore, parental monitoring of children's behavior in academic and social areas is significantly correlated with adolescent adjustment and is especially significant in associations with GPA and delinquency in children (Jacobson & Crockett, 2000). Parents that demonstrate high interest and involvement in their child's activities tend to have children that demonstrate greater academic success (Clark, 1990).

Although positive parenting styles show great promise for positive child outcomes, the negative styles of parenting seem to negate such outcomes in children. Poor quality parenting, like harsh and rejecting parenting styles, increases the likelihood of uncooperative and antisocial behavior among children (Patterson et. al., 1992; Dumka, Gonzales, Bonds, & Millsap, 2008).

Furthermore, harshness is associated with higher problems in classroom behaviors of children, particularly in boys, while also directing children towards problematic peer groups (Dumka et. al., 2008). Another negative parenting style that plays a significant role in lower academic success is child neglect. In fact, childhood neglect alone is more influential in predicting academic failure than other adverse factors, such as living in poverty (Nikulina, Widom & Czaja, 2010). Furthermore, neglectful parent behavior at home predicts below-average performance in the classroom, greater school absence, and greater likelihood to repeat a grade (Wodarski, Kurtz, Gaudin, Jr., & Howing, 1990).

Given parenting risk factors, this study aims to predict if individual characteristics and academic characteristics in children moderate a child's academic achievement. Specifically, the study examines whether children who may have diagnosed mental or learning disorders are at greater risk for poor achievement when exposed to negative parenting behaviors and low positive parenting. Furthermore, it may be that specific academic management skills like self-regulation of academic behaviors, academic self-efficacy, and emotion regulation may protect these at-risk children from poor adjustment outcomes. According to previous research, it would appear that such individual and family factors would indeed be crucial to achievement. Hence, it may be pertinent to explore academic management skills as mechanisms of parenting and children's academic achievement.

## **Literature Review**

### **Monitoring**

Prior parenting research suggests that parental monitoring and control of their children's behavior is indicative of child academic success and fewer delinquent behavior problems in adolescence (Pettit, Laird, Dodge, Bates, & Criss, 2001; Spera, 2005). This research also

demonstrates how positive, proactive parenting styles are oftentimes precursors for monitoring behaviors in parents (Pettit, et. al., 2001). Furthermore, Jacobsen & Crockett (2000) found that parental monitoring of children's behavior in academic and social areas significantly correlated with adolescent adjustment. Also, monitoring is especially significant in associations with GPA and delinquency in children (2000). Parents who monitor their child's behavior also play a supportive role in their children's lives. High levels of social support within the family are predictive of resilience in children, and such resilience acts to improve children's chances for achieving academically (Richman, Rosenfeld, & Bowen, 1998). Positive parenting processes also comprise more specific behaviors by parents that indirectly predict child academic success.

### **Involvement**

Another parenting process that has been examined in research is the effect that parental involvement has on child adjustment. One meta-analysis found that greater parental involvement is associated with higher student achievement (Weldon, 2011). However, the positive role of parent involvement on child behavior has found mixed results in the literature. Although Weldon (2011) found involvement to be beneficial to all groups academically, regardless of racial, ethnic or socioeconomic status, other research suggests that academic involvement is more positively related for African American children than for European American children (Hill et. al., 2004). In either case, it has been shown that parents who demonstrate high interest and involvement in their child's activities tend to have children that demonstrate greater academic success (Clark, 1990).

Involvement can be defined in terms of multiple parenting behavior, however.

Involvement can include a parent's willingness to participate in school functions, a parent's drive to include their child in enriching activities, by helping a child with his or her homework, or even

as simply having daily conversations with the child (Weldon, 2011; Altschul, 2011). Much like parental monitoring, research shows that parent involvement in child academics relates to fewer classroom behavioral problems in children (Hill et. al., 2004).

On the other hand, parents who tend to be indifferent to their child's needs, school experiences, or whereabouts are described as uninvolved parents according to research by Baumrind (1991). These parents appear to be more interested in their own lives and problems, and as a result pay less attention to what occurs in their children's lives. Children of uninvolved parents generally do not experience the same academic successes as children with engaging parental figures. Instead, these children oftentimes do not understand rules or boundaries, and they also have issues with emotional self-regulation (1991).

### **Parenting Styles: Authoritative, Authoritarian & Permissive**

Diana Baumrind (1971, 1991) identified four parenting style patterns based on two aspects of parenting behavior: warmth and control. Warmth refers to parenting behaviors characterized by acceptance and responsiveness to child behavior as opposed to being rejecting and unresponsive. Control refers to how often parents manage their children's behavior from low management to very controlling. Based on these two aspects of parenting behavior, Baumrind (1971, 1999) states four styles of parenting: authoritative, authoritarian, permissive, and uninvolved parenting. For the purpose of this study, authoritative, authoritarian, and permissive styles will be examined, uninvolved parenting which refers to neglectful parenting styles characterized by parents that are neither warm nor controlling will not be explored but has been briefly mentioned in relation to parental involvement.

**Authoritative parenting.** Authoritative parenting emerges from the warmth aspect of parental behavior. This type of parent engages in parental practices of monitoring and involvement more so than their authoritative and permissive counterparts (Baumrind, 1991). They regularly partake in discussions with their children, and evoke warm yet firm personalities. As research shows, authoritative parenting is suggested to be the best type of parenting (Steinberg, 2001) as children generally demonstrate greater outcomes in life. One example of this is academic achievement. Research shows that authoritative parenting is positively associated with grades in children (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Spera, 2005), although the findings are not entirely consistent across various social and economic groups (Spera, 2005). Also, children from authoritative households are more likely to demonstrate social competence, autonomy, and responsibility from an early age (Baumrind, 1991).

**Authoritarian parenting.** Although positive authoritative parenting styles show great promise for positive child outcomes, the negative styles of parenting seem to negate such outcomes in children. Authoritarian parenting utilizes strict and punitive styles in order to raise children to follow authority (Baumrind 1971, 1991). This type of parent does not engage in discussions with the child as this type of parenting believes children should accept and not question the rules and practices parents put into place (Baumrind, 1971, 1999). The authoritarian style is considered to be ineffective because it usually results in negative outcomes for children. Authoritarian parenting results in poorer academic outcomes, as research shows this parenting style is negatively associated with grades in children (Dornbusch et. al., 1987). Also, this style increases the likelihood of uncooperative and antisocial behavior among children (Patterson et. al., 1992; Dumka, Gonzales, Bonds, & Millsap, 2008). Furthermore, harshness is associated with



higher problems in classroom behaviors of children, particularly in boys, while also directing children towards problematic peer groups (Dumka et. al., 2008). Children growing up in this type of environment display either rebellion or dependency, depending on their level of self-efficacy and self-regulation (Baumrind, 1991).

**Permissive parenting.** Another negative parenting style that plays a significant role in lower academic success is permissive parenting. Permissive parents, although warm in nature, do not make any demands of their children (Baumrind, 1971, 1991). They tend to keep themselves in the background of their children's lives and instead see themselves as a resource for when their children need them for help (1971, 1991). For this parent, love means giving in to the child's wants. It is because this type of parent does not saying "no" to the child, children from these homes do not learn any rules or boundaries, and see consequences as not being serious (1971, 1991). Permissive parenting is negatively associated with grades in children (Dornbusch et. al., 1987).

Closely related to permissive parenting is the uninvolved parent. This parent, as noted earlier, does not participate in any aspect of the child's life. This type of parenting style is described as neglectful. Although authoritarian parenting is predictive of poor academic outcomes in children (Dornbusch et. al., 1987), research has revealed that childhood neglect alone is more influential in predicting academic failure (1987). Neglect is even more influential than other adverse factors, such as living in poverty (1987; Nikulina, Widom & Czaja, 2010). Furthermore, neglectful parent behavior at home predicts below-average performance in the classroom, greater school absence, and greater likelihood to repeat a grade (Wodarski, Kurtz, Gaudin, Jr., & Howing, 1990).

### **Child Characteristics as Moderators**

While parenting styles directly impact child academic achievement, a number of moderators may buffer children from family and individual risk factors. However some moderators may cause additional stress, and thereby increase the risk of negative parenting on poor child outcomes. Such characteristics can show up as individual, personality characteristic or as academic characteristics in the child.

**Individual characteristics.** For instance, a child's individual characteristics may serve in a buffering role or exacerbate negative risk factors. For instance, mental and learning disabilities reduce a child's chance for academic success, therefore increasing the risks of academic failure. Children that suffer from depression or conduct problems exhibit academic difficulties in their adolescent years (Valdez, Lambert, & Ialongo, 2011). It has also been shown that children with certain learning disabilities have more difficulty with reading and reasoning tasks in the classroom which can lead to negative effects in a child's academic performance (Goran & Gage, 2011). On the other hand, past research has shown that child emotion regulation can serve as a buffer for academic achievement despite a caregiver's style of parenting. Children with better emotion regulatory skills have been seen to achieve greater classroom success than those without these particular skills (Goetz et al., 2011).

**Academic characteristics.** Individual factors, although crucial, do not serve as the only buffers for child academic success. Prior research has discovered certain academic characteristics that influence academic success in children. Student self-regulation and self-efficacy are imperative in a classroom setting. According to Zimmerman's research (1990), students displaying initiative, intrinsic motivation, and personal responsibility demonstrated greater academic success. Specifically, students who were inclined to seek out learning and were self-

directive. Other research shows that students with higher academic self-efficacy tend to work harder and persist in activities longer than students with low levels of academic self-efficacy (Jonson-Reid, Davis, Saunders, Williams, & Williams, 2005). Higher academic self-efficacy predicts a lower likelihood of children engaging in risky behaviors. Moreover, early academic performance can influence a student's belief in his or her abilities to achieve academically (2005).

### **Current Study**

The current study examined the role of parenting processes (i.e., monitoring, involvement) and parenting styles (authoritative, authoritarian, and permissive parenting) in predicting child achievement. In examining how parenting processes and styles predict academic achievement, five questions were addressed:

1. Does parent monitoring predict higher child academic achievement?
2. Does parental involvement predict higher child academic achievement?
3. Does authoritative parenting predict academic achievement?
4. Does permissive parenting predict child academic achievement?
5. Does authoritarian parenting style predict academic achievement?

Individual characteristics will also be examined as moderators and mediators of parenting and academic achievement. Specifically, the study explored two types of individual characteristics to address two additional research questions.

6. Do diagnoses of mental or learning disorders moderate the parenting to academic achievement link?

7. Does child emotion regulation act as a moderator of the parenting to academic achievement association?
8. Does child emotion regulation mediate the association between parenting to academic achievement association?

Finally, academic characteristics were explored in the roles as moderators and mediators for academic achievement.

9. Does academic self-regulation moderate the parenting to academic achievement link?
10. Does self-efficacy serve a moderator role in the parenting to academic achievement association?
11. Does academic self-regulation mediate the parenting to academic achievement link?
12. Finally, does self-efficacy mediate the parenting to academic achievement association?

After exploring direct relationships between parenting processes and academic achievement, the moderating effects of certain child characteristics were examined as buffers in the parenting-academic achievement link. Furthermore, an examination of the mediating role of child academic characteristics sheds light on the mechanisms through which parenting plays a role in children's academic achievement. It is also hoped that this study will bring a nuanced understanding of the pathways through which positive and negative parenting predict child academic achievement.

## **Method**

### **Participants**

The study sample consisted of 179 middle school students (grades 6-9) and their mothers. Snowball sampling was used to recruit participants. A majority of participants were recruited from the Cedar Falls community schools. However, in order to obtain a larger sample size, participants were also recruited from the Des Moines, Ankeny, Urbandale, Winterset, Carroll, Johnston, Russell, Cedar Rapids, and Sac City communities. The ages of the students ranged from 11 to 16 with the average age being 13.7-years. There were fairly equal amounts of both male and female participants (Males = 93, Females = 86) with slightly more males. The predominant race of participants was Caucasian (90.9%), although other races and ethnicities were included in the study as well (2.7% Hispanic, 2.1%, African American, 2.1% Asian, 2.2% Other). Parents responding to the online survey belonged to various marital statuses, 90.6% (N = 155) were married and living with their spouse, with 97.1% (N = 167) having their child live in the home with them. The parents involved in the study were also highly educated; 47.7% (N = 82) received a standard college or university education while 33.1% (N = 57) went on to pursue a graduate-level degree.

### **Procedure**

The current study utilized an online survey through Qualtrics to assess the various parenting styles and child characteristics. Participants were recruited using snowball sampling from the Cedar Falls school district schools as well as through Facebook. After obtaining IRB approval to conduct the study, permission was sought from local school administrators in Waterloo and Cedar Falls to distribute the questionnaire to the principals of the middle schools. The Cedar Falls school gave permission to survey the mothers. After seeking permission from school authorities, the online survey was distributed by Holmes Junior High and Peet Junior High principals to students' parents through their campus portals.

The purpose for this research was explained through informed consent forms via email; and parents who agreed to participate were given a Qualtrics link to access the survey. Informed consent was provided at the beginning of the survey and parents who consented continued on with the online survey. No hard copies of the survey were distributed. The survey was comprised of questions relating to parenting styles, academic characteristics, and individual characteristics in children. This survey also asked for the child's most recent grade point average to assess for academic achievement. In order to maintain confidentiality, official records were inaccessible to confirm GPA scores. Therefore, parent report of GPA was accepted. Once the survey was completed, parents were given the option to provide their email addresses if they wished to be entered into a drawing for a \$50 Amazon gift card. This small incentive opportunity was provided to participants who completed the survey. Email addresses were stored in a separate file and were not related to data.

### **Measures**

Parenting was assessed through monitoring and involvement, as well as authoritative, authoritarian, and neglectful parenting. Academic achievement was assessed by examining GPA, and individual characteristics included diagnoses of mental and learning disorders, self-regulation, emotion regulation, and self-efficacy.

**Monitoring.** Parents were asked to complete an eight-item parental monitoring scale used by many other researchers (e.g., Jacobson & Crockett, 2000). In this scale, parents report on their knowledge and awareness of their child's activity. Such questions include how often they know where their children are and what they do after school, on weeknights, and on weekends. They were also asked if they know their children's friends and how often they know if their children have completed their homework. All questions asked used a 4-point scale ranging from

1 (*almost never*), to 2 (*sometimes*), to 3 (*usually*), to 4 (*almost always*). The measure had excellent reliability ( $\alpha = .77$ ).

**Involvement.** Parental involvement was assessed using four sub-scales of involvement with the child in areas of their life, including academic domains. The sub-scales include parental involvement with school organizations ( $\alpha = .73$ ), discussion of school-related issues ( $\alpha = .86$ ), parental help with homework, and parent-child involvement in enriching activities ( $\alpha = .37$ ). Given the lower reliability of the last subscale on parent-child involvement in enriching activities, it was not used in study analyses. The measure utilized was one adapted from a six-variable questionnaire developed by Altschul (2011) who reported high reliability with parental involvement with discussion of school-related issues ( $\alpha = .83$ ). Specifically, parents were asked to answer questions such as “Do you belong to a parent-teacher organization?”; “How often do you and your child discuss his/her experiences at school?”; and “How frequently do you or your spouse/partner help your child with his/her homework?”

**Authoritative, authoritarian and permissive parenting styles.** These parenting styles were assessed using a Parenting Style Questionnaire that asks parents to rate how often they engage in certain parenting practices from a scale of “Never” to “Always” on a five-point scale. This questionnaire is based off of those conducted by previous investigators (Robinson, Mandleco, Olsen, & Hart, 1995). This scale measures authoritative, authoritarian and permissive parenting styles, based on Diana Baumrind’s parenting styles (1971, 1991). The three subscales have alphas of .88, .84, and .60 respectively.

**Academic achievement.** Academic achievement was determined by self-reported cumulative child grade point average. The survey question asked mothers to report on the

question, “What is your child’s current cumulative GPA?” Academic achievement was not assessed through any other means in this particular study.

**Socioeconomic status (SES).** SES was intended to be measured using the Hollingshead SES four-factor index (Hollingshead, 1975). The factors in this particular measure account for parent education, occupation, sex and marital status. Details on how the index is used to calculate for SES were found in *Four Factor Index of Social Status* by Hollingshead (1975). The SES four-factor index accounts for both adults to provide information on education and occupation. Parents were asked to provide information of their own annual incomes. Therefore, SES was measured by income and participants were assigned a social strata score based on Hollingshead’s measure.

**Learning disabilities.** Learning disabilities were measured by self-report. This question preceded the mental disorders question. Mothers were asked to report whether their child has any confirmed learning disability and were asked to specify the nature of their disability.

**Diagnoses of mental disorders.** Diagnoses of mental disorders were also measured by self-report. This question followed the learning disabilities question. Parents were asked, “Does your child have any diagnosed mental disorder? If yes, please explain.”

**Emotional regulation.** Emotion Regulation Checklist (ERC) is a 24-item scale and included parental perceptions of their children’s emotional regulation using a 4 point scale from 1 (*never*) to 4 (*always*). The scale consists of two subscales: liability or negativity and emotion regulation. Children who report higher scores on the liability/negativity scale are generally less regulated than children with high scores on the emotion regulation subscale. The ERC contains example items such as: “Child exhibits wide mood swings,” and “Child can modulate excitement in emotionally arousing situations.” The liability or negativity ( $\alpha=.76$ ) and emotion regulation



( $\alpha=.68$ ) scales have acceptable reliability for the purpose of this study. The ERC was created by Dante Cicchetti and colleagues and has reported reliability and validity (Shields & Cicchetti, 1997; Suveg & Zeman, 2004).

**Academic self-regulation and self-efficacy.** According to Bandura, “the concept of self-efficacy refers to a person’s beliefs in the ability to organize and execute a course of actions required to achieve a goal” (Bandura, 1997, pp. 36-37). Self-regulation is a person’s capacity to complete goals and tasks in an appropriate manner. In order to measure both self-regulation and self-efficacy, this study used a self-efficacy scale developed by Zimmerman, Bandura and Martinez-Pons (1986) that asked questions relating to how well a child has the ability to either complete certain tasks or learn a specific subject. Although this particular scale asks for the child to complete the questionnaire, answers provided by the parent were accepted instead as the survey was administered to the parent and not the child. The self-regulation ( $\alpha =.92$ ) and self-efficacy ( $\alpha =.83$ ) measures had very good reliability.

## **Results**

### **Plan of Analysis**

Once IRB approval came through, school administrators were notified of the thesis project early in March 2014. The survey was distributed and parents’ responses were collected over a three-week period. The data was then analyzed using an IBM SPSS Statistics version 22.

The survey was both created and distributed using Qualtrics. This online survey allows the researcher to collect and download data for analysis. After all the parents’ responses were collected, the researchers used IBM – SPSS Statistics Data Editor to analyze the data. From the data, the researchers were able to interpret correlations between variables. Moderated regression

analysis was used to test moderations. Consistent with the procedure by Aiken and West (1991), centered predictors, moderators, and their interactions were entered in a multiple regression model to predict the outcome. For significant interactions, simple slope analysis was conducted by testing the significance of the slopes at high (+1SD) and low (-1SD) levels of the moderator. Moderation slopes were plotted using an excel macro program (Dawson & Richter, 2006). Mediation was examined using the procedure by Baron and Kenny (1986) to examine mediations. To meet the conditions for mediation, the predictor, mediator, and outcome were significantly correlated with each other. A regression model with the direct relationship between the predictor and outcome and the predictor and the mediator were tested. Finally, a regression model with the predictor and mediator taken together were used to predict the outcome. The mediation was found if the association between the predictor and outcome (which was originally significant) became non-significant or less significant after accounting for the mediator in the regression. To test the significance of the mediation model, a Sobel test was used using a macro by Preacher and Leonardelli (2014).

The purpose of the study was to examine not only if parenting processes influenced child behavior and academic outcomes, but to also explore the possibility of moderators and mediators in the parenting processes and academic achievement link. This was done using a multiple-regression analysis through SPSS. In this study, there were a total of 206 parent response to the survey. However, only 176 responses were used for data as the remaining responses to the survey were incomplete. In interpreting the data, the researchers looked at each measure and recorded the results in terms of average response and reliability of the measure. Afterwards, the research questions addressing correlations and mediations were answered. Finally, an analysis of mediation effects took place.

### **Preliminary Analyses**

The average responses for parent monitoring ranged between  $M=3.37$  and  $M=3.96$ , where 1 indicated almost never being aware and 4 indicated almost always being aware of their child's activities. Parental involvement was measured using four sub-scales. Based on the results of this sample, 31.8% ( $N = 56$ ) of parents belong to a parent-teacher organization and 20.5% ( $N = 36$ ) belong to any type of committee at the school. Of these participants, only 21.1% ( $N = 37$ ) actually attend meetings for their particular committees and organizations. About 36.9% ( $N = 65$ ) volunteer at the school, but a large majority of parents participate in various activities at their child's school, around 76.1% ( $N = 134$ ). Three questions asked parents how often they discuss the child's experiences at school, his or her expectations for high school, and his or her plans after high school. Based on the results, the majority of parents occasionally or regularly discuss their child's everyday school experiences and high school expectations (99.4%, 94.8%). Parents were given four options for how often they help their child with his or her homework, and answers were slightly positively skewed (seldom to never =23.3%,  $N = 41$ ; once/twice a month =34.1%,  $N = 60$ ; once/twice a week =31.8%,  $N = 56$ ; almost daily =10.8%,  $N = 19$ ). The last sub-scale measuring parent-child involvement in enriching activities was removed due to a low reliability.

Based on the answers provided by the participants, it appeared the majority of parents engaged in positive parenting styles over harsh or neglectful styles of parenting. Responses showed a higher engagement in authoritative parenting practices ( $M=3.91$  to  $M=4.63$ ). Using the same scale, lower amounts of parents acknowledged participating in harsh parenting practices with their child ( $M=1.19$  to  $M=3.02$ ). It also appeared that, although not as low, parents did not engage in very many permissive parenting styles either ( $M=1.53$  to  $M=2.54$ ).

Out of the 176 participants, only 160 answers for child cumulative GPA was considered for this study. The researcher did not account for parents unaware of their child's GPA or for school's that do not utilize a 4.00 scale in determining academic achievement at the sixth grade level. Nonetheless, valid scores demonstrated an average GPA of 3.67 ( $SD=.399$ ).

SES was measured solely based on income, but a formatted version of the Hollingshead four-factor scale was created to demonstrate social scores and strata of the participants (Table 1). According to the data analysis, the highest reported income rank was 47.6% ( $N = 81$ ) of parents stating they make over \$100,000 each year. This was then followed by 28.8% ( $N= 48$ ) making between \$75,001 and \$100,000, 14.1% ( $N = 23$ ) between \$50,001 and \$75,000, 8.2% ( $N = 13$ ) between \$24,000 and \$50,000, and only 1.2% ( $N = 2$ ) earning less than \$24,000 a year.

Most participants reported that their child did not have a confirmed learning disability (91.1%,  $N = 160$ ). However, those who did report having a child with a learning disability described the type of disability their child had. Eight children suffered from ADD and ADHD, two from autism, and others reported having Central Processing Disorder, Dysgraphia and Kabuki syndrome. Five parents chose to not respond. The reporting for mental disorders almost exactly matched the response rate for learning disorders. 8.4% ( $N = 15$ ) of parents stated their child had a diagnosed mental disorder along with having a learning disorder. Answers provided mostly mood and anxiety disorders, like depression and bipolar, but parents also listed ADHD and autism as part of their mental disorders. One respondent stated that their child suffered from mild mental retardation. Many of these disorders were co-morbid.

Child emotion regulation was assessed using parent-report to specific questions on the Emotion Regulation Checklist. For the liability/negativity subscale, the average response for a

child's characteristics on a scale from 1 (rarely/never) to 4 (almost always) was  $M=1.06$  ( $SD=.239$ ) to  $M=2.33$  ( $SD=.854$ ). For the emotional regulation sub-scale, the average response was  $M=3.08$  ( $SD=.838$ ) to  $M=3.87$  ( $SD=.357$ ).

Academic self-regulation and academic self-efficacy were both measured by the parents' perceptions of their child's academic behaviors. According to their parents, most children in this study engaged in high academic self-regulation behaviors ( $M=3.97$ ,  $SD=.879$ ). Academic self-efficacy was the other part in assessing perceptions of child academic behaviors. Parents were to report on how they believed their children could learn certain academic disciplines, like general mathematics, science, social studies, and English as a subject. Parents reported high levels of academic self-efficacy with their child's ability to learn various school subjects ( $M=4.25$ ,  $SD=1.108$  to  $M=4.75$ ,  $SD=.447$ ).

### **Research Questions 1 – 5: Parenting → Child Achievement**

The results for the direct relationships between parenting processes and child academic achievement were consistent with the hypothesis. Research question (RQ) 1 was addressed by analyzing the correlation between parental monitoring and academic achievement. RQ I (see Table 2) demonstrated a significant positive relationship between monitoring and academic achievement ( $r = .274$ ,  $p < .01$ ).

RQ 2 addressed the association between parental involvement and academic achievement. This measure was examined by analyzing each sub-scale of involvement separately. Although a parent's involvement in a child's school did not show a significant relationship, parents' discussions and help with homework did show a significant association with academic success (refer to Table 2). There was a positive relationship between school

discussion and academic achievement ( $r = .197, p < .05$ ). However, help with homework yielded a stronger negative relationship with academic achievement ( $r = -.206, p < .01$ ). What this would suggest is that the more parents have to help their child with homework, the more likely it is that child has a lower GPA score.

RQ 3 asked if authoritative parenting styles would predict child academic achievement. RQ 4 asked if permissive parenting would predict child academic achievement, and RQ 5 asked if authoritarian parenting styles would be associated with academic achievement. Unexpectedly, there did not appear to be any significant relationship between authoritarian, authoritative, or permissive parenting styles and academic achievement (see Table 2).

### **Research Questions 6 & 7: Child Personal Attributes as Moderators of Parenting →**

#### **Academic Achievement**

After examining the relationship between parenting processes and child academic achievement, the second part of the study was to examine if different child personal and academic characteristics would act as moderators in the association between parenting processes and academic achievement. This was done so using a multiple-regressions analysis. First, child personal characteristics were explored. RQ 6 asked about the possible moderating relationship of mental or learning disorders with the parenting to academic achievement link. The diagnoses of mental or learning disorders did not moderate any links between parenting process and academic success. This was not consistent with the study hypotheses as one would predict that parenting would play a role in a child's academic success when children have learning disabilities . However, GPA ( $t = .024, p < .05$ ) and homework help ( $t = .021, p < .05$ ) differed across non-learning disabled groups in the study.

RQ 7 investigated child emotion regulation as a moderator in the parenting to academic achievement association. However, contrary to expectations, it was discovered that neither subscale from the emotion regulation checklist served in a moderating role between parenting processes and child academic achievement.

### **Research Questions 9 & 10: Child Academic Attributes as Moderators of Parenting → Child Achievement**

The next research questions concerned an examination of child academic characteristics as moderators between the parenting and child academic success link. After using multiple-regression analysis, three moderating effects were found in this study. RQ 8 asked if academic self-regulation moderates the parenting to academic achievement link. After conducting the multiple-regressions analysis, there was a significant interaction between parental school discussion and academic self-regulated learning in the prediction of GPA (Table 3;  $\beta = -.163$ ,  $p < .05$ ,  $R^2 = .025$ ). As seen in figure 1, at high levels of self-regulated learning there was no association between parenting and child behavior. At low levels of self-regulated learning, there was a positive relation between parenting and GPA ( $p < .01$ ). When self-regulated learning was high, GPA was high irrespective of parent discussion; when regulated learning was low, GPA was lower when parents did not use discussion.

Finally, RQ 9 wished to explore self-efficacy as a moderator for parenting and academic achievement. After running the multiple-regressions analysis, it was determined that two other significant interactions occurred between two types of parenting and one aspect of child behavior. Figure 2 describes the interaction of self-efficacy with parental school discussion in the prediction of GPA (Table 4;  $\beta = -.183$ ,  $p < .01$ ,  $R^2 = .033$ ). At low levels of efficacy, there was a

positive relationship between discussion and achievement ( $p < .001$ ). When self-efficacy was high, academic achievement remained high and stable irrespective of parent school discussion. Another figure (Figure 3) shows the interaction of self-efficacy in association to authoritarian parenting and child GPA (Table 5;  $\beta = .130$ ,  $p = .051$ ,  $\beta = .017$ ). Specifically, at low levels of self-efficacy, there was a negative relation between authoritarian parenting and child achievement ( $p < .05$ ). However, as seen with school discussion, at high levels of self-efficacy academic achievement remains high irrespective of parenting.

### **Research Questions 8, 11 & 12: Mediation of Child Characteristics the Parenting → Achievement Link**

Mediation examines indirect relationships between variables to determine if a relationship between a predictor and an outcome is significant due to the occurrence of a mediating variable. In order to perform a mediation test, all three variables must first be correlated. Therefore, we did not test parenting styles for mediations as none of these measures were correlated with student GPA.

Six mediations were discovered in this study. With student GPA acting as the dependent factor in our study, we found a mediating relationship in several different areas of child academic and personal characteristics. Emotion regulation (liability/ negativity) mediated the relationship between monitoring and child achievement (Table 6; Figure 4). Emotion regulation mediated the relationship between monitoring and child achievement (Table 7; Figure 5). Self-regulated learning mediated the relationship between monitoring and child achievement (Table 8; Figure 6), and school discussion and child achievement (Table 9; Figure 7). Finally, child self-efficacy



mediated the relationship between school discussion and child achievement (Table 10; Figure 8), and homework help and child achievement (Table 11; Figure 9).

In order to test for mediation, a Sobel test was run to determine the significance of each mediation (Preacher & Leonardelli, 2014). Emotion regulation (liability/negativity) significantly mediated the relationship between parental monitoring and GPA. As seen in table 6, when emotion regulation (liability/negativity) was added in the model with monitoring predicting GPA, the association between monitoring and GPA which was initially significant ( $\beta = .280, p < .001$ ) became less significant ( $\beta = .184, p < .05$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 2.53,  $p < .05$ ). Emotion regulation significantly mediated the relationship between parental monitoring and GPA. As seen in the table 7, when emotion regulation was added in the model with monitoring predicting GPA, the association between monitoring and GPA which was initially significant ( $\beta = .280, p < .001$ ) became less significant ( $\beta = .230, p < .01$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 2.42,  $p < .05$ ).

Academic self-regulated learning significantly mediated the relationship between parental monitoring and GPA. As seen in the table 8, when self-regulated learning was added in the model with monitoring predicting GPA, the association between monitoring and GPA which was initially significant ( $\beta = .283, p < .001$ ) became non-significant ( $\beta = .043, p = .184$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 3.13,  $p < .01$ ). Academic self-regulated learning significantly mediated the relationship between parental school discussion and GPA. As seen in the table 9, when self-regulated learning was added in the model with school discussion predicting GPA, the association between school discussion and GPA which

was initially significant ( $\beta = .217, p < .001$ ) became non-significant ( $\beta = .106, p = .123$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 1.98,  $p < .05$ ).

Self-efficacy significantly mediated the relationship between parental school discussion and GPA. As seen in the table 10, when self-efficacy was added in the model with school discussion predicting GPA, the association between school discussion and GPA which was initially significant ( $\beta = .217, p < .01$ ) became non-significant ( $\beta = .118, p = .081$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 2.39,  $p < .01$ ). Self-efficacy significantly mediated the relationship between homework help and GPA. As seen in the table 11, when self-efficacy was added in the model with homework help predicting GPA, the association between homework and GPA which was initially significant ( $\beta = -.226, p < .01$ ) became non-significant ( $\beta = -.092, p = .181$ ). The mediation was significant as indicated by the Sobel test (Sobel test = 1.97,  $p < .05$ ).

### **Discussion**

The purpose of this study was to examine the relationship between parenting processes, child academic achievement, and other child academic and behavioral characteristics. The child academic characteristics of self-regulation and self-efficacy moderated the relationship between parent discussion and academic achievement and also authoritarian parenting and academic achievement. Six mediations were found; both child individual and academic characteristics had mediating effects in the relationships between monitoring, school discussion, and homework help with academic achievement. The study has a few limitations. However, despite the limitations, the findings of this study were a significant contribution to the literature and had implications for further investigations into the relationship between parenting processes and

child behavior outcomes.

Parents who responded to this study indicated that they are very aware of their children's whereabouts and activities. Although very few admitted to being a part of school committees and organizations, the majority of parents stated that they enjoyed participating in the various events their children's schools have to offer. Parents regularly converse with their children about their school days and expectations beyond middle school and junior high, and occasionally assist their children with their school assignments.

Parenting styles did not appear to vary in this study, as most parents indicated practicing positive parenting roles. The children referred to in this study clearly demonstrated high academic achievement, as indicated by the high GPA average of the participants. Parents reported very high annual incomes, therefore suggesting a high socioeconomic status. Children reported low numbers of learning or mental disabilities. However, those with such disabilities were affected by a variety of types. Consistent with prior research, disabilities generally reduce a child's GPA and increase their need for help with homework (Goran & Gage, 2011; Valdez, Lambert, & Ialongo, 2011). Children appeared to be emotionally regulated, although a few found themselves on the liability/negativity scale. Finally, parents had high reports of their children engaging self-regulation and self-efficacy behaviors relating to academics.

### **Research Questions: Correlations & Moderations**

A total of twelve research questions were addressed in this study. The initial five examined the relationships between parenting behaviors in the prediction of child academic success. Consistent with prior research (Jacobson & Crockett, 2000), monitoring was significant in predicting academic success; parents who engage in particular monitoring behaviors are likely to have children who have higher GPA's. Also consistent with past research (Clark, 1990), a

number of parental involvement aspects yielded significant predictions to academic achievement. Children with higher GPAs tend to have parents who regularly discuss school topics with them. On the other hand, parents who consistently have to help their children with their homework often yield lower GPA scores. This suggests that these particular children struggle to achieve academic success.

Although more positive aspects of parenting demonstrated significant relationships with child academic achievement, it was surprising that no other parenting styles (based on Baumrind's parenting styles) appeared to predict child academic achievement. This is inconsistent with prior research looking into the effects of harsh parenting (Patterson, et. al., 1992; Dumka et. al., 2008) and permissive parenting styles (Nikulina et. al., 2010; Wodarski et. al., 1990) have on child academic failure.

Although no moderating relationships appeared in the existence of learning and mental disorders or with child emotion regulation, a few moderators were found in certain academic characteristics of children. Self-regulated learning offered a moderating effect between parental school discussions and overall GPA. Children who normally have low self-regulated learning significantly earn higher GPA scores when involved in more school discussions with their parents. At low self-regulated learning, higher parent school discussion is associated with higher GPA. At high self-regulated learning, GPA is high and stable irrespective of parent school discussion. This means that when children have lower levels of self-regulated learning, high parent discussion was a protective factor.

Academic self-efficacy also served as a moderator in two other relationships: parental school discussions and overall GPA as well as authoritarian parenting styles and overall GPA.

Although children with high-self efficacy tend to perform well in school regardless of discussions with their parents, children with low self-efficacy generally benefit when engaging in school discussions with parents. This means that when children have lower levels of self-efficacy, high parent discussion was a protective factor. In other words, even when children do not have faith or confidence in their academic ability, parent discussion is supportive. However, when children do have high self-efficacy, parenting is in a sense redundant.

Finally, authoritarian parenting styles tend to administer a negative influence on children with low self-efficacy. At high levels of self-efficacy in children, GPA stays high irrespective of parenting. At low levels of self-efficacy, parents who use more harsh, forceful and restrictive parenting styles had children with lower GPA. In other words, when a child with low self-efficacy is exposed to high levels of authoritarian parenting, the child's academic scores tend to suffer. These findings are consistent with prior research (Zimmerman, 1990; Jonson-Reid et. al., 2005; Dornbusch et. al., 1987); however this study takes this one step further by exploring the self-efficacy in a moderating role.

### **Mediations**

In general, mediating relationships suggest there is an indirect relationship between certain parenting behaviors and child academic outcomes an sought to examine to processes in child academic characteristics through which parenting explains child academic achievement. The findings of this study suggest when parents monitor their children, their children have superior emotion regulation skills. These emotional regulatory skills in turn increase the likelihood of children performing better in school. Relationships like the one just described were found to have occurred across monitoring and all sub-categories of involvement. Other mediators, besides academic self-regulation, were seen in child emotion regulation and also child

academic self-efficacy.

### **Strengths & Limitations of the Study**

The findings of the study provided a nuanced understanding of the pathways through which positive and negative parenting predicted child academic achievement. The participants in this study also served as a great strength for the research. Given the cooperation of the Cedar Falls community as well as those who participated through snowball sampling, the sample size was large enough to yield reliable results for the interpretation of the relationships between parenting processes and child academic achievement.

When this study began, it was difficult to anticipate the number of challenges the researchers would face in completing research. Although the sample size served as a strength, there were a number of limitations of the study sample. The predominantly white population sample did not provide a diverse and representative sample of all families in the United States. One factor that contributed to this was the inability to obtain participants from the Waterloo school district. Future research could examine a more diverse sample of participants to ensure that the findings of the study can be generalized to a wider population.

Another limitation for the study demonstrated that the use of snowball sampling was ineffective. The non-probability snowball sampling was used does not allow the findings to be generalized to a wider group of school going populations. Although this type of recruitment led the researchers to obtain a large enough sample size, doing so also lead to having a sample of participants from similar backgrounds, both academically and financially. This limited the diversity of participants, which would explain the low variability of results in the data set. This is because this type of sampling obtains participants who had been recruited by friends and family members, leading to similar demographics among participants. In the future, it would be

imperative to explore diverse communities to examine the effects of different culture patterns have on child academic success.

Parent report was a third limitation to the study. This style of reporting does not offer the children to provide information regarding their feelings of self-efficacy, emotion regulation, and self-regulated learning. Instead, parents provided answers based on their own thoughts and observations which in turn could have led to biased responses. Had the children been given the chance to respond, it is anticipated that child response would have been a more accurate measure to use regarding child academic self-regulation, self-efficacy and emotion regulation. Furthermore, providing multiple raters of the children's behavior would have reduced the likelihood of shared method bias.

It was also discovered that there were a number of responses missing from the data during analysis. Over two hundred parents had responded to the survey. However, given that the researchers did not account for parents who may not have a great understanding of their child or their child's academic life, many of the responses were incomplete. Therefore, we could not use the data from these participants in the final analysis of the study. Given the missing data, concerns may be raised that participants that reported missing data may have had extreme scores in certain risk factors.

A final limitation the researchers faced was to limit the number of moderating factors to explore. Due to the time constraint, only a handful of characteristics were chosen. There could have been potential third variables that influenced the findings of the study. It is possible that other child factors such as child motivation levels and multiple intelligences could have influenced results; these could be tested in future research.

**Implications of Research**

This study made a relevant contribution to the research literature for many reasons. Firstly, these findings have implications for intervention programs for child academic achievement that target child academic behaviors and parenting strategies. In general, self-efficacy and self-regulation play an important role in higher academic success. The findings have implications for future practices of teachers and school social workers in assisting children in strengthening or building such characteristics through class activities. It is also important for parents in that if informed of these findings, they may alter their parenting styles to better serve their child for academic success.

Even though the results from this study generated a non-significant relationship between positive, harsh or neglectful parenting styles, the relationship between parenting processes and academics was explained by the mediator. Also, it was demonstrated that child academic characteristics buffered the risk of poor parenting. Although there should be further research into different child characteristics as they affect academic achievement with a more diverse population, the results of this study successfully demonstrated how a number of factors can contribute to a child's rate of academic achievement.



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## Tables &amp; Figures

Table 1.

*Modified version of Hollingshead four-factor analysis (Hollingshead, 1975).*

<b>Income</b>	<b>Average Education Score</b>	<b>Average Occupation Score</b>	<b>Average Social Score*</b>	<b>Social Strata**</b>
<b>Less than \$24,000</b>	5.5	3	31.5	Skilled Craftsmen
<b>\$24,000 – \$50,000</b>	5.86***	5.64	45.79	Medium Business
<b>\$50,001 - \$75,000</b>	5.65	5.57	44.78	Medium Business
<b>\$75,001 - \$100,000</b>	5.98	6.65	51.41	Medium Business
<b>Over \$100,000</b>	6.35	6.81	53.21	Medium Business

*Note.* \*Social score was calculated by multiplying the value for occupation by 5 and the value for education by 3. These two scores were then added together to create the social score. Social scores were only accounted for one individual in this study, but are generally calculated for two or more individuals in a home.

\*\*Social strata is based off social score. Hollingshead (1975) defined five social strata based on different ranges of computed social scores: Major business & professional (66-55), Medium business, minor professional & technical (54-40), Skilled craftsmen, clerical & sales worker (39-30), Machine operator & semiskilled worker (29-20), and Unskilled laborer & menial service worker (19-8).

\*\*\*One individual responded to having an education score of 7 and an occupation score of 9. Thus, this influenced scores across the \$24,000 to \$50,000 range and caused scores higher than would be predicted.

Table 2.

*Correlations among study variables.*

	1. GPA	2. Monitoring	3. School involvement	4. School discussion	5. Homework help	6. Authoritative	7. Authoritarian	8. Permissive
1.	1							
2.	.274**	1						
3.	.029	.169*	1					
4.	.197*	.213**	.031	1				
5.	-.206**	.150*	.100	.090	1			
6.	-.011	.260**	-.058	.247**	.089	1		
7.	-.145	-.305**	-.005	-.163*	-.044	-.444**	1	
8.	-.137	-.401**	-.076	-.167*	-.028	-.233**	.350**	1

*Note.* \*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.

*School discussion and academic achievement with self-regulated learning as a moderator.*

Achievement	Unstandardized Coefficients		Standardized	$\Delta R^2$
	B	Std. Error	$\beta$	
1 School discussion	.151	.057	.217**	.047
2 Self-regulated learning	.352	.042	.568***	.310
3 School discussion X Self-regulated learning	-.145	.061	-.163*	.025

*Note.* Dependent Variable: Child cumulative GPA.\*  $p < .05$  level\*\*  $p < .01$  level\*\*\*  $p < .001$  level

Table 4.

*School discussion and academic achievement with self-efficacy as a moderator.*

Achievement	Unstandardized Coefficients		Standardized	$\Delta R^2$
	B	Std. Error	$\beta$	
1 School discussion	.151	.057	.217**	.047
2 Self-efficacy	.468	.054	.579***	.325
3 School discussion X Self-efficacy	-.271	.096	-.183**	.033

*Note.* Dependent Variable: Child cumulative GPA.\*\*  $p < .01$  level\*\*\*  $p < .001$  level

Table 5.

*Authoritarian parenting and academic achievement with self-efficacy as a moderator.*

Model		Unstandardized Coefficients		Standardized	$\Delta R^2$
		B	Std. Error	$\beta$	
1	<b>Authoritarian parenting</b>	-.122	.070	-.143	.021
2	<b>Self-efficacy</b>	.479	.055	.593***	.341
3	<b>Authoritarian parenting X Self-efficacy</b>	.245	.124	.130*	.017

Note. Dependent Variable: Child cumulative GPA.

\*  $p < .05$  level

\*\*\*  $p < .001$  level

Table 6.

*Mediating relationship of parental monitoring and emotion regulation (liability/negativity) predicting child academic achievement.*

Model		Unstandardized Coefficients		Standardized	$R^2$
		B	Std. Error	$\beta$	
1	<b>Monitoring</b>	.416	.118	.280***	.078
2	<b>Monitoring</b>	.274	.126	.184*	.126
	<b>Emotion regulation (liability/negativity)</b>	-.307	.109	-.238**	

Note. Dependent Variable: Child cumulative GPA.

\*  $p < .05$  level

\*\*  $p < .01$  level

\*\*\*  $p < .001$  level



Table 7.

*Mediating relationship of parental monitoring and emotion regulation predicting child academic achievement.*

Model		Unstandardized Coefficients		Standardized	R <sup>2</sup>
		B	Std. Error	β	
1	Monitoring	.416	.118	.280***	.078
2	Monitoring	.343	.130	.230**	.089
	Emotion regulation	.119	.090	.116	

Note. Dependent Variable: Child cumulative GPA

\*\*  $p < .01$  level

\*\*\*  $p < .001$  level

Table 8.

*Mediating relationship of parental monitoring and academic self-regulated learning predicting child academic achievement.*

Model		Unstandardized Coefficients		Standardized	R <sup>2</sup>
		B	Std. Error	β	
1	Monitoring	.416	.117	.283***	.080
2	Monitoring	.063	.109	.043	.349
	Self-regulated learning	.353	.046	.572***	

Note. Dependent Variable: Child cumulative GPA.

\*\*\*  $p < .001$  level

Table 9.

*Mediating relationship of parental school discussion and academic self-regulated learning predicting child academic achievement.*

Model		Unstandardized Coefficients		Standardized	R <sup>2</sup>
		B	Std. Error	B	
1	School discussion	.151	.057	.217***	.047
2	School discussion	.074	.48	.106	.357
	Self-regulated learning	.352	.042	.568***	

Note. Dependent Variable: Child cumulative GPA.

\*\*\*  $p < .001$  level

Table 10.

*Mediating relationship of parental school discussion and child self-efficacy predicting child academic achievement.*

Model		Unstandardized Coefficients		Standardized	R <sup>2</sup>
		B	Std. Error	$\beta$	
1	School discussion	.151	.057	.217**	.047
2	School discussion	.082	.047	.118	.081
	Self-efficacy	.468	.054	.579***	

Note. Dependent Variable: Child cumulative GPA.

\*\*  $p < .01$  level

\*\*\*  $p < .001$  level

Table 11.

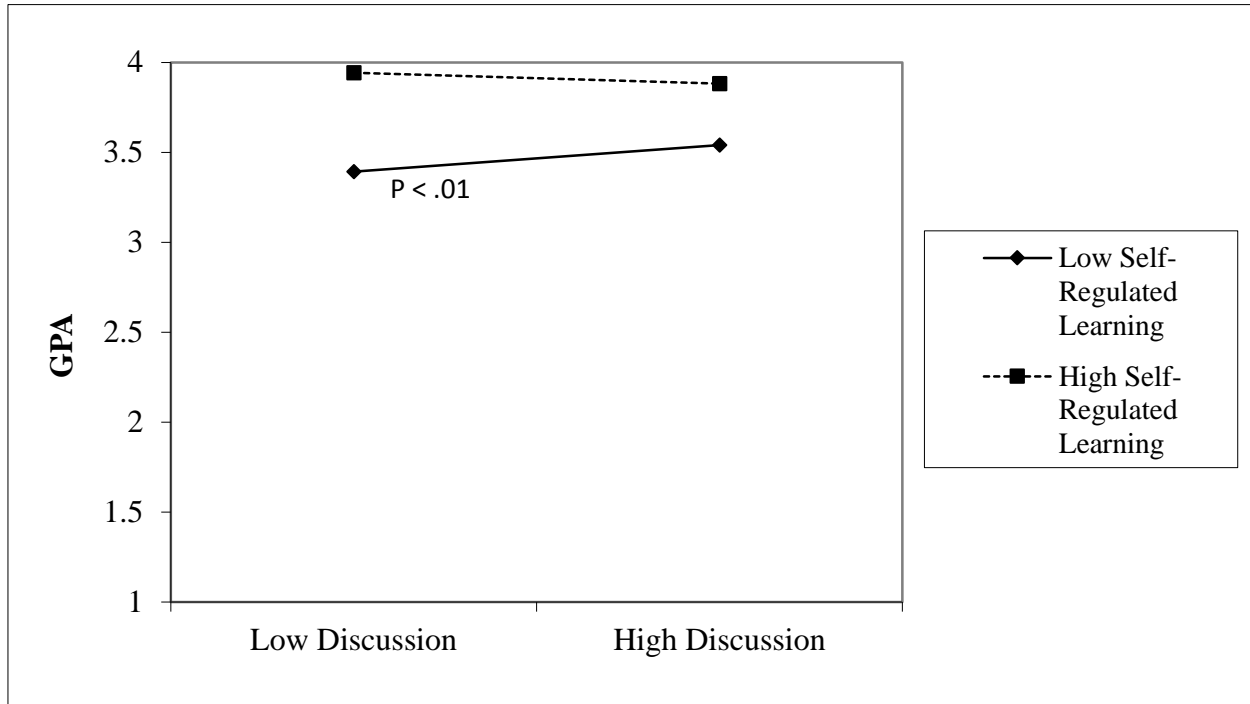
*Mediating relationship of homework help and child self-efficacy predicting child academic achievement.*

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized</b>	<b>R<sup>2</sup></b>
		<b>B</b>	<b>Std. Error</b>	<b>β</b>	
<b>1</b>	<b>Homework help</b>	-.098	.035	-.226**	.051
<b>2</b>	<b>Homework help</b>	-.040	.029	-.092	.368
	<b>Self-efficacy</b>	.467	.055	.579***	

*Note.* Dependent Variable: Child cumulative GPA.

\*\*  $p < .01$  level

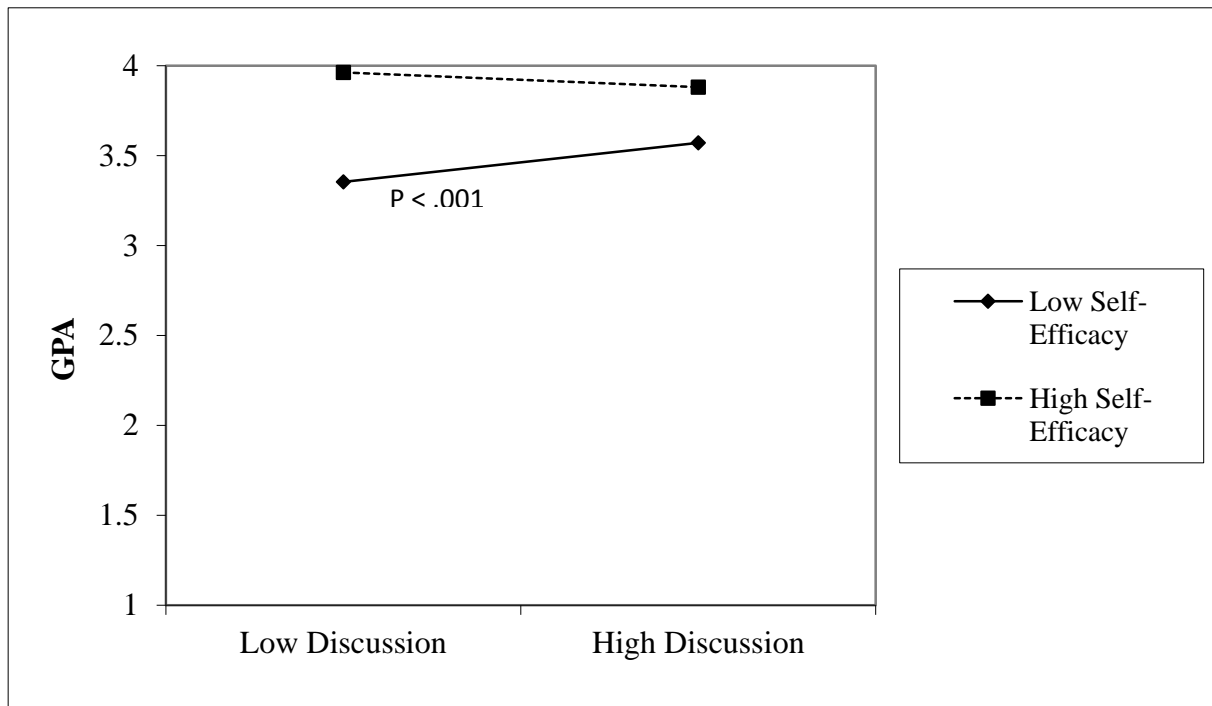
\*\*\*  $p < .001$  level



- High Self-Regulated Learning:
  - Gradient of simple slope: -0.103
  - T-value of simple slope: -1.152
  - P-value of simple slope: 0.251
- Low Self-Regulated Learning:
  - Gradient of simple slope: 0.187
  - T-value of simple slope: 2.957
  - P-value of simple slope: 0.004\*\*

*Figure 1.* Relationship between parental school discussion and child GPA with academic regulated learning as a moderator.

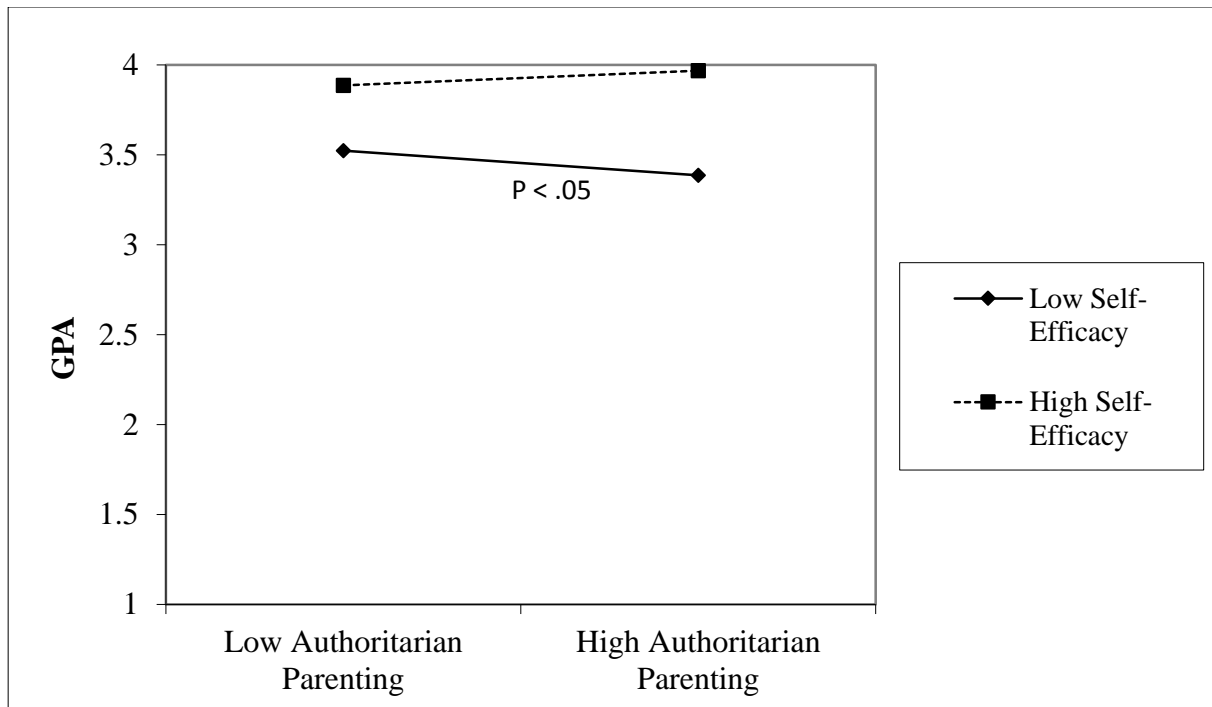
\*\*Significant at  $p < .01$



- High Self-Efficacy:
  - o Gradient of simple slope: -0.201
  - o T-value of simple slope: -1.916
  - o P-value of simple slope: 0.057
  
- Low Self-Efficacy:
  - o Gradient of simple slope: 0.341
  - o T-value of simple slope: 3.251
  - o P-value of simple slope: 0.001\*\*\*

Figure 2. Relationship between parental school discussion and child GPA with self-efficacy as a moderator

\*\*\*Significant at  $p < .001$



- High Self-Efficacy:
  - o Gradient of simple slope: 0.206
  - o T-value of simple slope: 1.535
  - o P-value of simple slope: 0.127
  
- Low Self-Efficacy:
  - o Gradient of simple slope: -0.284
  - o T-value of simple slope: -2.117
  - o P-value of simple slope: 0.036\*

*Figure 3.* Relationship between authoritarian parenting and child GPA with self-efficacy as a moderator.

\*Significant at  $p < .05$

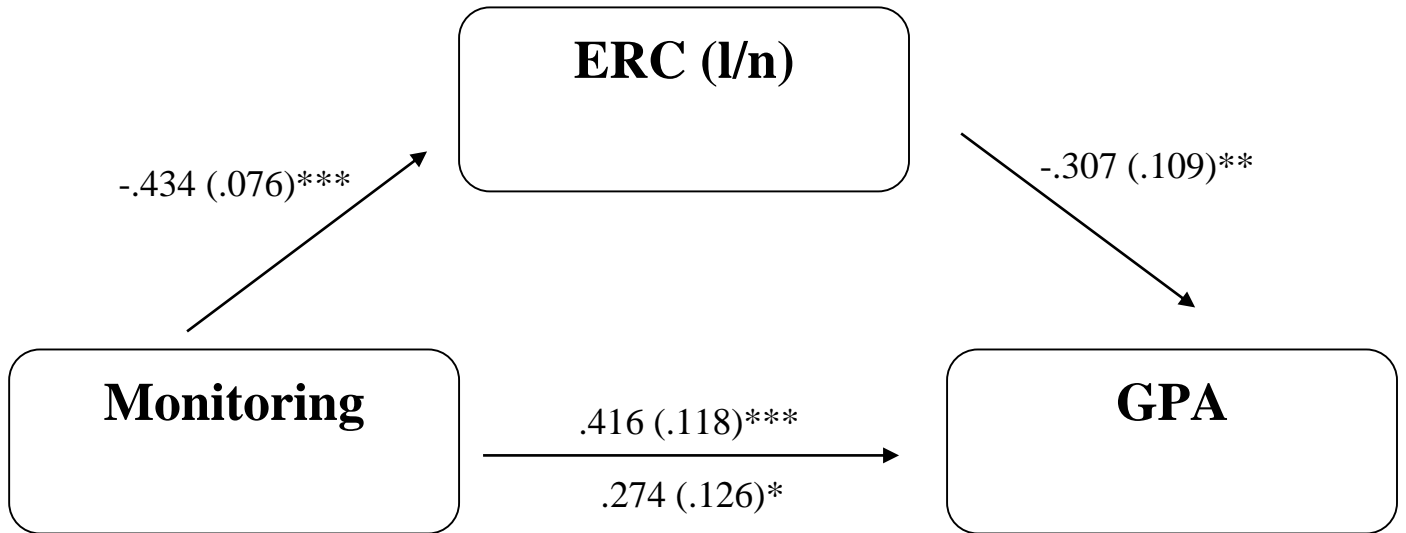


Figure 4. Relationship between parental monitoring and child GPA with emotion regulation (liability/negativity) as a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level

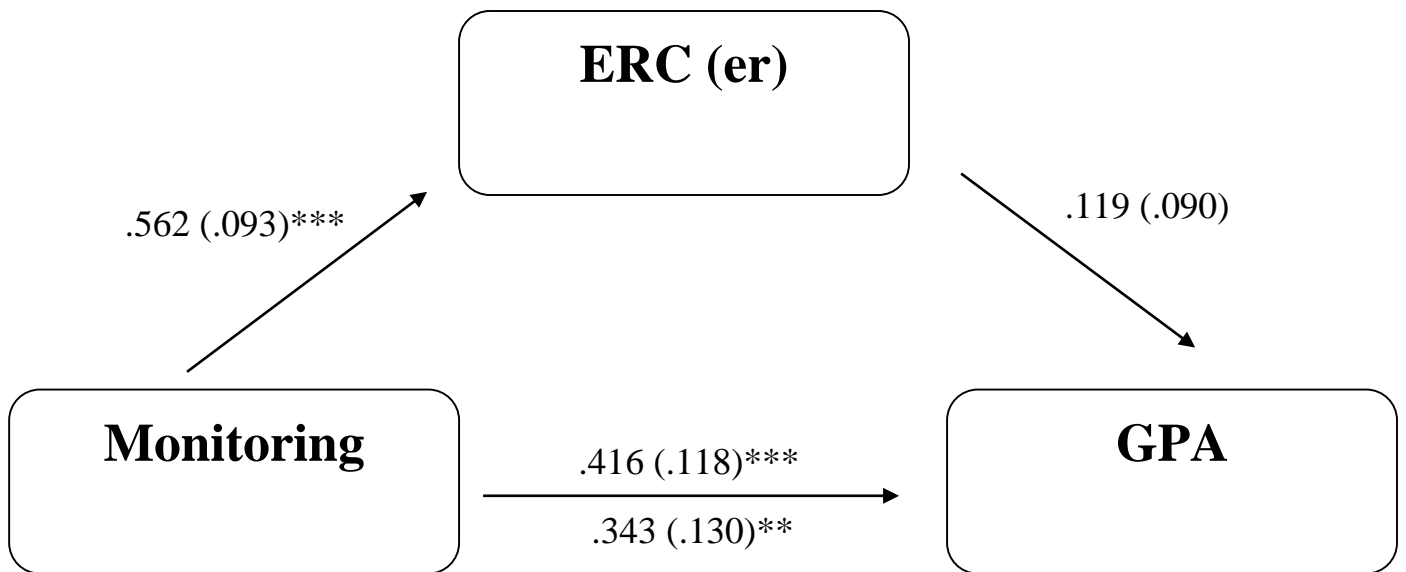


Figure 5. Relationship between parental monitoring and child GPA with emotion regulation as a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level

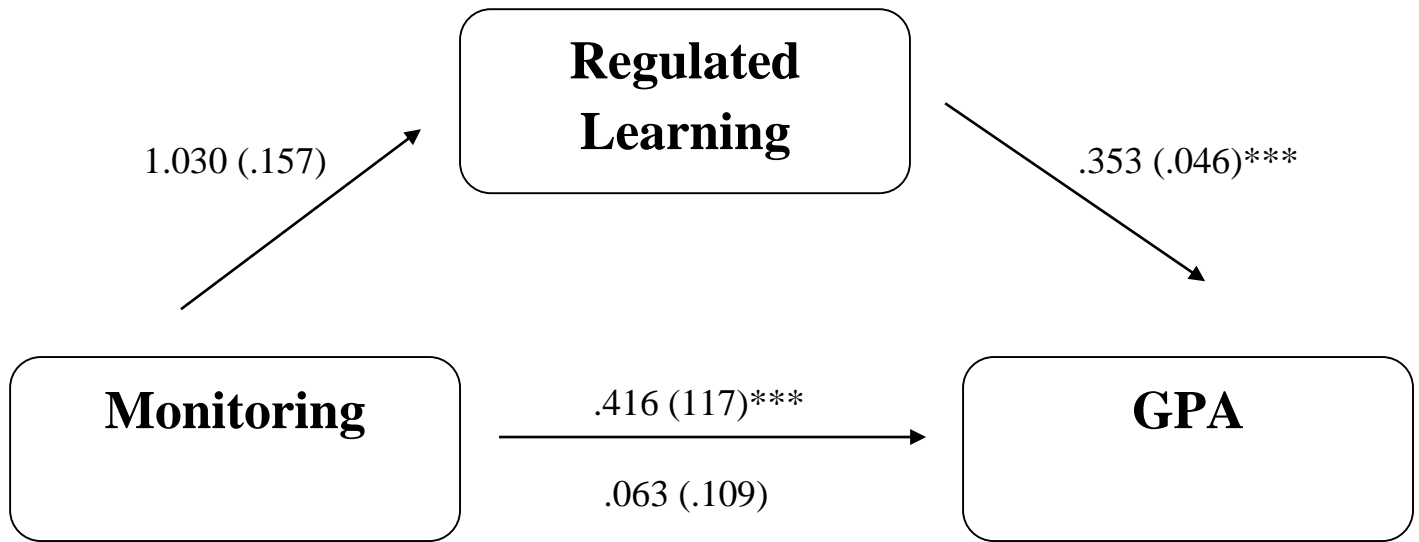


Figure 6. Relationship between parental monitoring and child GPA with academic self-regulated learning a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level

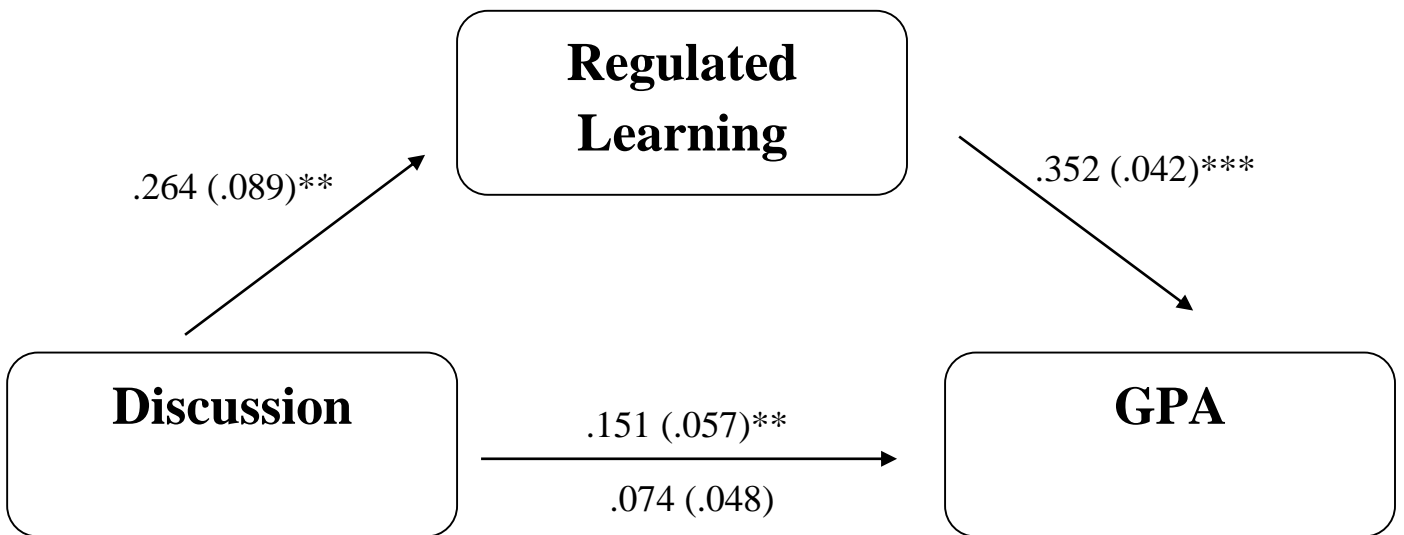


Figure 7. Relationship between parental school discussion and child GPA with academic self-regulated learning as a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level





Figure 8. Relationship between parental school discussion and child GPA with academic self-efficacy as a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level

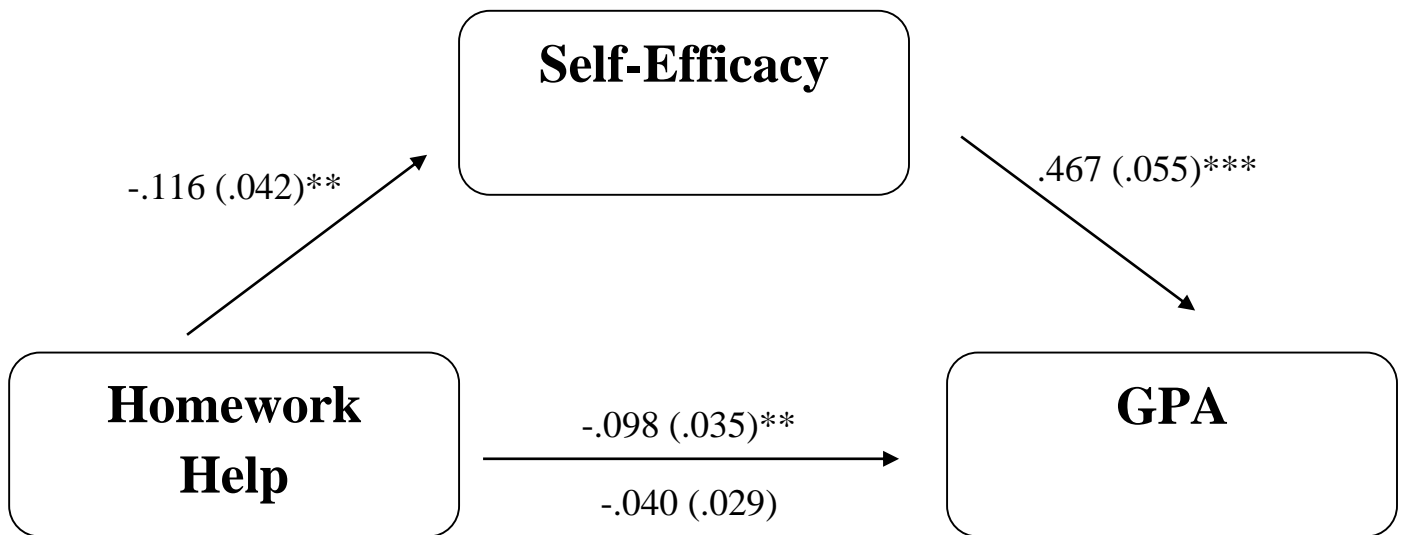


Figure 9. Relationship between homework help and child GPA with academic self-efficacy as a mediator.

\*  $p < .05$  level  
 \*\*  $p < .01$  level  
 \*\*\*  $p < .001$  level

## Appendix A

## Participant Online Survey

For the following questions in this survey, please answer to the best of your knowledge on behalf of your child. If you have more than one child between the 6th grade and 9th grade, please refer to your oldest child in answering the questions. Should you have twins, you may choose one of the two to report on.

**I: Demographic Information**

Child's Age \_\_\_\_\_

1. Sex:
  - a. Female
  - b. Male
2. Racial/Ethnic Background
  - a. White/Caucasian
  - b. African-American
  - c. Hispanic / Latino
  - d. Asian
  - e. Native American
  - f. Multiracial (please specify) \_\_\_\_\_
  - g. Other (please specify) \_\_\_\_\_
3. Child's School
  - a. Holmes Junior High
  - b. Peet Junior High
  - c. Bunger Middle School
  - d. Central Middle School
  - e. Hoover Middle School
4. Child's Grade Level
  - a. Sixth
  - b. Seventh
  - c. Eighth
  - d. Ninth
5. What is your child's current cumulative GPA? \_\_\_\_\_
6. Does your child have any diagnosed mental disorder? \_\_\_\_\_
  - a. If yes, please explain. \_\_\_\_\_
7. Despite having a mental disorder, does your child have any confirmed learning disability? \_\_\_\_\_
  - a. If yes, please describe. \_\_\_\_\_

**II: Parenting Monitoring Survey**

*Respond to how often you know/are aware of your children's activities on a 4-point scale ranging from 1 (almost never), to 2 (sometimes), to 3 (usually), to 4 (almost always).*

1. How often do you know where your child(ren) is/are?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)
2. How often do you know what your child(ren) is/are doing after school?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)
3. How often do you know what your child(ren) is/are doing on weeknights?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)
4. How often do you know what your child(ren) is/are doing on the weekends?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)
5. How well do you know of your child(ren)'s friends?  
1 (*don't know*)      2 (*somewhat*)      3 (*know well*)      4 (*know very well*)
6. How often do you know if your child(ren) has/have completed his/her homework?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)
7. How well do you know of the groups your child(ren) participate(s) in?  
1 (*don't know*)      2 (*somewhat*)      3 (*know well*)      4 (*know very well*)
8. How often do you know what your child(ren) is doing outside the home?  
1 (*almost never*)      2 (*sometimes*)      3 (*usually*)      4 (*almost always*)

### **III: Parental Involvement**

#### *Parental Involvement with School Organizations*

*Please respond to the questions regarding your involvement with school and parent organizations. (0 = No, 1 = Yes).*

1. Do you belong to a parent-teacher organization? \_\_\_\_\_
2. Do you belong to any type of committee at your child's school? \_\_\_\_\_
3. Do you attend meetings for your committee/organization? \_\_\_\_\_
4. Do you participate in various activities at your child's school? \_\_\_\_\_
5. Do you volunteer at your child's school? \_\_\_\_\_

#### *Discussion of School-Related Issues*

*Please respond to the questions regarding how often you and your child discuss school-related issues on a scale of 1 (Never), to 2 (Rarely) to 3 (Occasionally) to 4 (Regularly).*

1. How often do you and your child(ren) discuss his/her experiences at school?  
1 (Never)                      2 (Rarely)                      3 (Occasionally)                      4 (Regularly)
2. How often do you and your child(ren) discuss his/her plans or expectations for high school?  
1 (Never)                      2 (Rarely)                      3 (Occasionally)                      4 (Regularly)
3. How often do you and your child(ren) discuss his/her plans after high school?  
1 (Never)                      2 (Rarely)                      3 (Occasionally)                      4 (Regularly)

#### *Parental Help with Homework*

1. How frequently do you (or your spouse/partner) help your child(ren) with his or her homework?  
1 (*Seldom to Never*)    2 (*Once/ Twice Month*)    3 (*Once/ Twice Week*)    4 (*Almost Daily*)

#### *Parent and Child Involvement in Enriching Activities*

*Please respond to the questions regarding activities you and your child have done together in the past three months. (0 = No, 1 = Yes).*

1. Seen a musical performance? \_\_\_\_\_
2. Gone to the library? \_\_\_\_\_
3. Read a story together? \_\_\_\_\_
4. Cooked a meal? \_\_\_\_\_
5. Played a board game or a card game? \_\_\_\_\_

#### **IV: Parenting Styles**

*Please rate how often you engage in certain parenting practices from a scale of 1 (Never) to 5 (Always).*

##### *Authoritative Parenting Style*

1. I am responsive to my child's feelings and needs:  
Never    1    2    3    4    5    Always
2. I take my child's wishes into consideration before I ask him/her to do something:  
Never    1    2    3    4    5    Always
3. I explain to my child how I feel about his/her good/bad behavior:

- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
4. I encourage my child to talk about his/her feelings and problems:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
5. I encourage my child to freely “speak his/her mind,” even if he/she disagrees with me:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
6. I explain the reasons behind my expectations:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
7. I provide comfort and understanding when my child is upset:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
8. I compliment my child:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
9. I consider my child’s preferences when I make plans for the family (e.g., weekends away and holidays):
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
10. I respect my child’s opinion and encourage him/her to express them:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
11. I treat my child as an equal member of the family:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
12. I provide my child reasons for the expectations I have for him/her:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|
13. I have warm and intimate times together with my child:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|

*Authoritarian Parenting Style*

1. When my child asks me why he/she has to do something I tell him/her it is because I said so, I am your parent, or because that is what I want:
- |  |       |   |   |   |   |   |        |
|--|-------|---|---|---|---|---|--------|
|  | Never | 1 | 2 | 3 | 4 | 5 | Always |
|--|-------|---|---|---|---|---|--------|

2. I punish my child by taking privileges away from him/her (e.g., TV, games, visiting friends):  
 Never    1       2       3       4       5       Always
3. I yell when I disapprove of my child's behavior:  
 Never    1       2       3       4       5       Always
4. I explode in anger towards my child:  
 Never    1       2       3       4       5       Always
5. I spank my child when I don't like what he/she does or says:  
 Never    1       2       3       4       5       Always
6. I use criticism to make my child improve his/her behavior:  
 Never    1       2       3       4       5       Always
7. I use threats as a form of punishment with little or no justification:  
 Never    1       2       3       4       5       Always
8. I punish my child by withholding emotional expressions (e.g., kisses and hugs):  
 Never    1       2       3       4       5       Always
9. I openly criticize my child when his/her behavior does not meet my expectations:  
 Never    1       2       3       4       5       Always
10. I find myself struggling to try to change how my child thinks or feels about things:  
 Never    1       2       3       4       5       Always
11. I feel the need to point out my child's past behavior problems to make sure he/she will not do them again:  
 Never    1       2       3       4       5       Always
12. I remind my child that I am his/her parent:  
 Never    1       2       3       4       5       Always
13. I remind my child of all the things I am doing and I have done for him/her:  
 Never    1       2       3       4       5       Always

*Permissive Parenting Style*

1. I find it difficult to discipline my child:

- |       |   |   |   |   |   |        |
|-------|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | Always |
|-------|---|---|---|---|---|--------|
2. I give into my child when he/she causes a commotion about something:
- |       |   |   |   |   |   |        |
|-------|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | Always |
|-------|---|---|---|---|---|--------|
3. I spoil my child:
- |       |   |   |   |   |   |        |
|-------|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | Always |
|-------|---|---|---|---|---|--------|
4. I ignore my child's bad behavior:
- |       |   |   |   |   |   |        |
|-------|---|---|---|---|---|--------|
| Never | 1 | 2 | 3 | 4 | 5 | Always |
|-------|---|---|---|---|---|--------|

### V: Socioeconomic Status (SES)

1. What is your marital status?
  - a. Married and living with spouse
  - b. Married and separated
  - c. Divorced
  - d. Widow
  - e. Never married
2. Does your child live primarily with you or another caregiver?
  - a. My child lives with me.
  - b. My child lives with another caregiver. (Please state relationship of caregiver and child) \_\_\_\_\_
3. What is your total/combined annual income?
  - a. Less than \$24,000
  - b. \$24,000 to \$50,000
  - c. \$50,001 to \$75,000
  - d. \$75,000 to \$100,000
  - e. Greater than \$100,000
4. What was your highest level of education completed?
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
  - d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
5. What is your occupation? \_\_\_\_\_
6. What is your title/designation in your occupation (elaborate if necessary)?  
\_\_\_\_\_

### VI: Child Emotional Regulation

*Please rate the following on a scale of 1 (Rarely/Never) like your child to 4 (Almost Always) like your child.*

	Rarely/Never	Sometimes	Often	Almost Always
1. Is a cheerful child.	1	2	3	4
2. Exhibits wide mood swings (child's emotional state is difficult to anticipate because s/he moves quickly from a positive to a negative mood).	1	2	3	4
3. Responds positively to neutral or friendly overtures by adults.	1	2	3	4
4. Transitions well from one activity to another; doesn't become angry, anxious, distressed or overly excited when moving from one activity to another.	1	2	3	4
5. Can recover quickly from upset or distress doesn't pout or remain sullen, anxious, or sad after emotionally distressing events.	1	2	3	4
6. Is easily frustrated.	1	2	3	4
7. Responds positively to neutral or friendly overtures by peers.	1	2	3	4
8. Is prone to angry outbursts/tantrums easily.	1	2	3	4
9. Is able to delay gratification.	1	2	3	4
10. Takes pleasure in the distress of others (laughs when another person gets hurt or punished; seems to enjoy teasing others).	1	2	3	4
11. Can modulate excitement (doesn't get "carried away" in high energy play or	1	2	3	4



overly excited in inappropriate contexts).

12. Is whiny or clingy with adults.	1	2	3	4
13. Is prone to disruptive outbursts of energy and exuberance.	1	2	3	4
14. Responds angrily to limit setting by adults.	1	2	3	4
15. Can say when s/he is feeling sad, angry or mad, fearful or afraid.	1	2	3	4
16. Seems sad or listless.	1	2	3	4
17. Is overly exuberant when attempting to engage others in play.	1	2	3	4
18. Displays flat affect (expression is vacant or inexpressive; child seems emotionally absent).	1	2	3	4
19. Responds negatively to neutral or friendly overtures by peers (may speak in an angry tone of voice or respond fearfully).	1	2	3	4
20. Is impulsive.	1	2	3	4
21. Is empathetic towards others; shows concern when others are upset or distressed.	1	2	3	4
22. Displays exuberance that others find intrusive or disruptive.	1	2	3	4
23. Displays inappropriate negative emotions (anger, fear, frustration, distress) in response to hostile,	1	2	3	4

aggressive or intrusive acts by peers.

24. Displays negative emotions when attempting to engage others in play.                      1                      2                      3                      4

### **VII: Child Self-Regulation and Child Self-Efficacy**

*To the best of your knowledge, how well can your child:*

- |                 |   |              |   |             |   |           |
|-----------------|---|--------------|---|-------------|---|-----------|
| 1               | 2 | 3            | 4 | 5           | 6 | 7         |
| Not well at all |   | Not too well |   | Pretty well |   | Very well |

***Add up your scores after each section in the total score box.***

#### *Self-efficacy for self-regulated learning*

1. Finish homework assignments by deadlines? \_\_\_\_\_
2. Study when there are other interesting things to do? \_\_\_\_\_
3. Concentrate on school subjects? \_\_\_\_\_
4. Take class notes of class instruction? \_\_\_\_\_
5. Use the library to get information for class assignments? \_\_\_\_\_
6. Plan his/her schoolwork? \_\_\_\_\_
7. Organize his/her schoolwork? \_\_\_\_\_
8. Remember information presented in class and textbooks? \_\_\_\_\_
9. Arrange a place to study without distractions? \_\_\_\_\_
10. Motivate yourself to do schoolwork? \_\_\_\_\_
11. Participate in class discussions? \_\_\_\_\_

#### *Self-efficacy for academic achievement*

1. Learn general mathematics? \_\_\_\_\_
2. Learn algebra? \_\_\_\_\_
3. Learn science? \_\_\_\_\_
4. Learn biology? \_\_\_\_\_
5. Learn reading and writing language skills? \_\_\_\_\_
6. Learn foreign languages? \_\_\_\_\_
7. Learn to use computers? \_\_\_\_\_
8. Learn social studies? \_\_\_\_\_
9. Learn English grammar? \_\_\_\_\_

Thank you for taking the time to complete this survey. Your answers will be beneficial in completing the research for this study. If you would like to be placed into a drawing for a \$50 Amazon Gift Card, please enter your email address by clicking on the link below. Should you not wish to be entered, you may now exit the survey.

This Study by: Taylor Elizabeth Ann Goetzinger

Entitled: Association between Parenting Processes and Child Behavior Outcomes: The Moderating and Mediating Role of Child Characteristics

has been approved as meeting the thesis or project requirement for the Designation University Honors.

5/5/14  
Date

\_\_\_\_\_  
Dr. Dilbur Arsiwalla, Honors Thesis Advisor

5/9/14  
Date

\_\_\_\_\_  
Dr. Jessica Moon, Director, University Honors Program