The Relationship Between Parental Involvement During High School and Collegiate Academic Mastery

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ABSTRACT. This study examined the relationship between perceived parental involvement during high school and academic mastery in college. A sample of 77 first- and second-year students from a small, northeastern liberal arts college completed the Parental Involvement Project (PIP) Student Questionnaire (Hoover-Dempsey, Sandler, & Walker, 2002). We hypothesized that higher reported levels of past parental involvement during high school would be related to greater reported current levels of collegiate academic mastery. Correlational analyses confirmed the hypothesized significant positive correlation between parental involvement during high school and collegiate academic mastery ($r = .43$, $p < .001$). These findings suggest a possible benefit of parental participation in the academic development of adolescents for later success in college.

Previous studies demonstrating improved academic performance among children with high amounts of parental involvement have led to an increased interest in the nature and extent of parental participation in education. Given that parental support begins in infancy, parents can be considered a child's first teacher. Providing a rudimentary education early in a child's development is important for preparing him or her for education in a school setting. As a child enters a formal education setting, he or she can no longer rely on a single form of guidance since teachers are continuously changing (Epstein, 1995). Therefore, the consistency of instructive reinforcement by a parent may provide the support children need as they progress through each level of education.

Berger (1991) suggests that the Lockean idea of the importance of parental involvement in education dates back to the time before structured school systems were in place, when parents were the sole educators. According to John Locke's principle of *tabula rasa*, children are blank slates at birth and need to be nurtured by their parents to gain knowledge (Martin & Fabes, 2009). Parents may provide this nurturance through modeling and teaching skills, morals, and values to prepare their children for life outside of the home. When schooling outside of the home was implemented, a need for educational support by the parents was acknowledged and added to the daily routine (Berger, 1991).

Based on the theory of *tabula rasa*, the relationship between parental involvement and adolescent academic mastery has been an area of theoretical and empirical interest for educators and psychologists. Theorizing that parental involvement should be defined as a multidimensional category, Epstein (1995) developed a framework of six categories comprising parental involvement: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. Based on this framework, Epstein (1995) suggested that collaboration among students, teachers, and parents would best facilitate student achievement. Such integral collaboration requires parental participation in order for the student to

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excel. Following Epstein's (1995) framework, we conceptualize parental involvement as a multidimensional category in the current study.

There is ample research to inform which dimensions of parental involvement are important to consider in predicting academic outcomes. Research conducted by Fan (2001) identified parental aspirations as an additional dimension of parental involvement, with results demonstrating that parental aspirations are the most predictive variable of students' academic growth. Furthermore, the stability of parental influence on academic development has also been examined. A cross-sectional study, conducted by Strage and Brandt (1999), found a stronger correlation between the support, demands, and autonomy of parents and positive academic orientation of first-year college students, compared to seniors. In a later study, Ratelle, Larose, Guay, and Senécal (2005) concluded that success in a college science program was attributed to feelings of support and competence from parents. Perceived parental involvement was not directly related to persistence in science, but it played an important, indirect role by predicting autonomy in the student. Characteristics of autonomy were also imperative for academic success, showing that parental involvement in a child's early academic career may actually foster academic independence and self-motivation at more advanced academic levels. Much like parental involvement, academic mastery is a broad term and includes achievement in all academic endeavors, inside and outside of the classroom. Achievement is often measured by GPA, involvement in extracurricular activities, and self-reported intellectual curiosity. Previous research found that academic achievement based solely on GPA was not related to parental involvement (Fan & Chen, 2001). Such results demonstrate the complexity of academic mastery and suggest the need for several variables to accurately measure this construct.

Previous research conducted at large institutions concluded that a positive relationship exists between parental involvement and academic mastery (Ratelle et al., 2005). The purpose of the current study was to determine if the same positive relationship, between students' reported parental involvement in high school and academic mastery exhibited in college, applies to the student body at an academically-selective, small, liberal arts college. Furthermore, if the same positive relationship does exist, is the relationship between parental involvement and academic mastery stronger or weaker for liberal arts college students compared to college students at larger institutions? Although the present research is similar to previous studies, the definitions of parental involvement and academic mastery have been constructed from several sources to be most relevant to the sample examined. Within the current study, parental involvement was operationally defined as perceived expectations for school performance, direct reinforcement of improved academic performance, general academic guidance and support, encouragement of communication with teachers, and parental participation with school activities (Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986; Fan & Chen, 2001). Academic mastery was operationally defined as students' confidence in their ability to complete college, degree to which students persist in the face of difficulty or failure, students' ability to avoid distractions and maintain focus, degree to which students perceive teachers as resources not threats, intellectual curiosity, and overall GPA (Strage & Brandt, 1999). We hypothesized that for the current sample, a positive correlation would be found between parental involvement in high school and academic mastery in college, specifically at the first- and second-year level.

Method

Participants

Participants consisted of 57 first-year students and 20 second-year students attending a small, liberal arts college in the Northeast region of the United States. Students enrolled in introductory biology, economics, psychology, and Spanish classes during the spring semester of 2011 were recruited. No demographic data were collected. Participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2010). The study protocol was approved by the college's Institutional Review Board (protocol # 1-465-2011).

Measures

Parental involvement during high school and academic mastery in college were measured using the Parental Involvement Project (PIP) Student Questionnaire (Hoover-Dempsey et al., 2002; Appendix A). The 29-item PIP Questionnaire uses a 4-point Likert-type scale ranging from 1 (*not at all true*) to 4 (*very much true*).

Participants responded to 17 items in order to report their parents' level of involvement when the participants were in high school. The category

of parental involvement was measured based on five subscales. The first subscale, perceived expectations, measured parental support on academic work. The direct reinforcement subscale focused on parents who gave positive feedback for persistence in learning. General academic guidance and support measured parental direction and encouragement for a positive attitude in an educational environment. The teacher communication subscale asked about enforcing an open dialogue with teachers for support in the classroom. And the final subscale, parental participation, measured parental attendance at school functions.

Participants were given 10 additional items in order to report the level of academic mastery exhibited during their time in college. The categories of academic mastery were measured based on six subscales. The first subscale, college completion, measured the students' belief in their ability to graduate in four years. The persistence subscale captured the respondent's ability to overcome challenges in academia. The next subscale, maintain focus, asked about using strategies to proactively compete schoolwork. Perception of teachers measured student comfort with approaching teachers about academic subjects. Finally, intellectual curiosity measured students' desire to reach beyond the classroom to learn about their intended field of study.

Two items were included at the end of the questionnaire, asking the participants for their class year and self-reported GPA. Response categories for class year were freshman, sophomore, junior, and senior. GPA was measured with a single question. Students reported cumulative GPA through the Fall 2010 term. GPA and class year were asked at the end of the questionnaire so that students were less likely to infer the hypothesis of the research.

After data collection, items on the questionnaire were grouped into their respective category of parental involvement or academic mastery; only the average of each category was examined. Greater average scores for both variables being measured indicated higher levels of parental involvement and academic mastery.

The original PIP Questionnaire for parental involvement had a reported standardized alpha of .92, whereas the academic mastery component had a reported standardized alpha of .82. The original questionnaire was altered by omitting one item and adding one item. Changes were necessary because certain items were not congruent with the operational definitions for the variables of the present study. Specifically, item 3, "I like to look for more information about school subjects," was added to the distributed questionnaire so that the reported levels of intellectual curiosity could be measured. This factor was included in the definition of academic mastery. In addition, item 6, "I can work well with other students in my class," was eliminated post data collection based on a judgment of its face validity; the question did not fit the study's operational definition of academic mastery (see Appendix). Due to these changes, the original alpha values for both validity and reliability were no longer applicable. The modified questionnaire had an alpha coefficient of .85 for parental involvement and .63 for academic mastery. Although this alpha value is low and poses a risk to detecting significance, it is considered acceptable (George & Mallery, 2003).

Procedure

Questionnaires were distributed to six classes; only one class completed the questionnaire outside of class. The return rate was higher for those questionnaires completed in class (100%) as compared to those completed outside of class (23%). Questionnaires were completely anonymous. There was no identifying or demographic information collected. Consent was given with a check-box; any forms without a checked box were excluded from our study. There was no incentive for participation.

Results

Descriptive analyses were first conducted to calculate the averages of each category that comprised parental involvement during high school (Table 1) and academic mastery in college (Table 2). The category averages were then combined to form the overall averages for the parental involvement and academic mastery variables. A two-sample t test was utilized to determine if a difference existed between first- and second-year students' means for overall parental involvement, academic mastery, and GPA. No statistically significant difference was observed between first- and second-year students on each of the three t tests performed, $t(74) = .71$, $p = .481$; $t(74) = 1.36$, $p = .178$; $t(74) = .86$, $p = .390$. Therefore, the information for the first- and second-year students was combined in future analyses.

In order to determine the strength of the relationship between parental involvement and academic mastery, a one-tailed Pearson Product Moment correlation was performed. The

TABLE 1

Parental Involvement Subscale Averages[a] and Correlations With Overall Academic Mastery

	M	*SD*	*r*
[b]Expectations	3.08	0.78	0.36
Reinforcement	2.68	0.75	0.44
Guidance	2.49	0.68	0.34
Communication	3.16	0.76	0.27
Participation	3.19	0.85	0.31
Overall	2.92	0.60	0.43

Note. The averages presented are based on the responses of the 4-point Likert-type scale (range 1 to 4) and all correlations are significant at the 0.01 level (1-tailed).
[a] $n = 77$. [b] The category names were shortened for formatting purposes.

relationship between parental involvement in high school and academic mastery in college was found to be significant ($r = .43$, $p < .001$). Parental involvement accounted for 18% of the variance in academic mastery. A correlational analysis between parental involvement in high school and GPA in college was not statistically significant ($r = .03$, $p = .078$). Furthermore, correlational analyses performed between the parental involvement subscales and overall average of the academic mastery categories were also statistically significant (Table 1). The lowest means reported for the subscales comprising parental involvement and academic mastery were guidance and intellectual curiosity, respectively. While the highest means reported within these same subscales were participation and confidence in college completion, respectively (Table 1 & Table 2). Correlational analyses performed between the academic mastery subscales and overall average of the parental involvement categories also demonstrated statistically significant relationships with the exception of intellectual curiosity and GPA (Table 2).

Discussion

The purpose of the present study was to examine the relationship between parental involvement in high school and academic mastery at the college level. Since this area of research has been studied at larger universities, the applicability to a smaller, liberal arts college became a point of interest for the present study. Results yielded a small, positive relationship between parental involvement and academic mastery: as parental involvement in high school increased, academic mastery in college increased as well. The current study demonstrated a greater correlation than the average correlations found from previous studies conducted at larger institutions (Ratelle et al., 2005). This greater correlation could be attributed to the sample's fairly homogenous ethnicity and socioeconomic status (SES). According to publicized information regarding enrolled students, minority students account for 10.6% of the student population at Washington & Jefferson College (*At a glance*, n.d.). Large universities, on the other hand, characteristically have greater ethnic and SES variation in their samples. As hypothesized, and in support of Lockean theory, the academic mastery of the college students in this sample was significantly related to the level of their parents' involvement during high school. This relationship supports Berger's (1991) emphasis on the need for consistent parental guidance during an adolescent's academic development. Parents who actively support their adolescent's high school education and academic skill development provide a foundation that frames the adolescent's academic motivation and success as he or she pursues a collegiate education.

Several subscales were chosen to define the category of academic mastery in order to demonstrate the importance of examining multiple variables rather than relying solely on GPA to measure academic achievement. As expected, no statistically significant relationship was found in the present study between parental involvement in

TABLE 2

Academic Mastery Categorical Averages[a] and Correlations With Overall Parental Involvement

	M	*SD*	*r*
[b]Completion	3.78	0.58	0.32
Persistence	2.59	0.52	0.55
Focus	2.59	0.61	0.35
Teachers	2.78	0.80	0.31
Intellectual Curiosity	2.19	0.76	0.05[c]
GPA	3.11	0.51	0.03[c]
Overall	2.96	0.42	0.43

Note. The averages presented are based on the responses of the 4-point Likert-type scale (range 1 to 4) and all correlations are significant at the 0.01 level (1-tailed).
[a] $n = 77$. [b] The category names were shortened for formatting purposes.
[c] This correlation was not statistically significant.

high school and GPA in college. Previous research has shown that GPA should not be used as the sole indicator of academic mastery (Fan, 2001). GPA may not be the most valid measure of enduring academic achievement since it may be easily skewed by various time-of-measurement factors in the life of a student, such as illness, disruption of the home, and financial hardships. Furthermore, researchers need to be aware that students may misreport their GPA, either intentionally or unintentionally, which would further undermine the validity of GPA as a single variable measurement of academic achievement. Therefore, several subscales comprise the category of academic mastery, and educators and parents can value the need to view academic mastery as multidimensional.

Overall academic mastery is significantly related to parental involvement when all subscales were analyzed together. However, when the subscales were analyzed individually, intellectual curiosity was not significantly related to parental involvement. This may be because this study only included first- and second-year students who may not have a fully developed sense of intellectual curiosity. At this age, students have not necessarily chosen their main interest of study, and therefore, are more likely to be enrolled in introductory general education courses that may not stimulate students' intellectual curiosity the way in-depth, upper-level courses might (von Stumm, Hell, & Chamorro-Premuzic, 2011). Therefore, intellectual curiosity may not advance in some students until they become more mature learners and have a hunger for knowledge. At the university where data was gathered, students are not required to select a major until the end of their second year. While students in our sample may not have selected a major at the time they responded to the study questionnaires, they still feel confident in their ability to complete college in four years. The culture at this predominantly White, small, residential college promotes a competitive environment in which a four-year completion is a valued standard.

Even though the hypothesis of the present study was supported, certain aspects of this research could be improved. Foremost, the correlational nature of this study does not allow for cause-effect conclusions; a greater amount of parental involvement in high school will not necessarily cause a student to demonstrate higher levels of academic mastery in college. Since this research is correlational, the influence of possible outside unmeasured variables needs to be considered. The sample consisted of participants from predominantly middle to upper-class families, which could allow for attendance in higher achieving school districts, access to greater educational resources, and greater expectations by both the child and the parent of becoming a college-educated professional. According to a representative for the college's admissions office, only 30% of the students enrolled at the college are first generation college students. The majority are second- or third-generation college students, who have inherently supportive resources (i.e., guidance and monetary funding) from college-educated parents, while the first generation college students may have to forge independent academic and career paths. Since larger university student populations typically represent a greater diversity in family demographic factors, their samples may not face the same potential limitation as the current study. Future research may be able to determine whether a variation in academic mastery exists between first- and second-generation college students. Examining this potential difference could result in increased awareness and implementation of further support to first-generation college students.

A further limitation of the present study was the manipulation of items on the questionnaire, as items needed to be eliminated and added in order to be applicable to the targeted population. One item was added and another was removed, therefore, the original standardized alpha values of the PIP Questionnaire were no longer applicable. New alpha coefficients were found to be lower than the original values, however these coefficients still fall within acceptable levels as an alpha coefficient is deemed unacceptable if less than .60 (George & Mallery, 2003). Although this alpha value is low, it was retained for the purpose of the present study with the understanding that the reliability of the correlation could be affected. Finally, the PIP Questionnaire is a self-report measure, and thus, relied on the participants' perceived retrospective reports of parental involvement in high school, which may not be accurate.

To address the limitations of this study future research should utilize prospective longitudinal designs. Such an approach could provide more accurate parental involvement scores, as adolescents in high school would be reporting current perceived parental involvement, rather than relying on their memory. Furthermore, a more representative population sample (i.e., from several universities and colleges) would be beneficial to

account for differences in SES, ethnicity, and academic and career goals. The current study aimed to strictly observe the relationship between parental involvement and academic mastery of college students, regardless of gender. Thus, researchers might also want to examine if a difference exists between men and women with regard to parental involvement in high school and academic mastery in college. Women have been observed to have greater communication with their parents and greater motivation to perform well at the college level (Gurian, Henley, & Trueman, 2001). Additionally, researchers could examine the academic mastery of college students within different levels of SES. Assessing each level independently may aid in determining if a possible third variable exists within the parental involvement and academic mastery relationship.

The present study demonstrates that parental involvement could prepare adolescents for success outside of the home, which is supported by Berger (1991), who suggests John Locke's theory of *tabula rasa* is applicable to the importance of parental involvement throughout adolescents' educational development. Teachers and parents can recognize the importance of having a strong rapport regarding the progress of the adolescent in the classroom. In light of this theoretical and empirical work, parents are an invaluable support system in an adolescent's development of academic mastery. Although parents may feel a diminished value in their role as caregivers as an adolescent matures, the current study demonstrates that their influences reach beyond the immediate future and affect outcomes during important milestones.

References

American Psychological Association. (2010). Introduction and applicability. In *Ethical principles of psychologists and code of conduct: Including 2010 amendments*. Retrieved from http://www.apa.org/ethics/code/index.aspx

At a glance. (n.d.). Retrieved from https://www.washjeff.edu/glance

Berger, E. H. (1991). Parental involvement: Yesterday and today. *The Elementary School Journal, 91*, 209–219. doi:10.1086/461648

Epstein, J. (1995). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan, 77*, 701–712.

Fan, X. (2001). Parental involvement and students' academic achievement: A growth modeling analysis. *Journal of Experimental Education, 70*, 27–61. doi:10.1080/00220970109599497

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*, 1–22. doi: 10.1023/A:1009048817385

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon.

Gurian, M., Henley, P., & Trueman, T. (2001). *Boys and girls learn differently: A guide for teachers and parents*. New York, NY: John Wiley & Sons.

Hoover-Dempsey, K. V., Sandler, H. M., & Walker, J. M. T. (2002). Parental Involvement Project (PIP) Student Questionnaire. Retrieved from www.vanderbilt.edu/.../PIP_study_3_scale_description_no_subscales.doc

Keith, T. Z., Reimers, T. M., Fehrmann, P. G., Pottebaum, S. M., & Aubey, L. W. (1986). Parental involvement, homework, and TV time: Direct and indirect effects on high school achievement. *Journal of Educational Psychology, 78*, 373–380. doi: 10.1037/0022-0663.78.5.373

Martin, C. L., & Fabes, R. (2009). *Discovering child development*. Belmont, CA: Wadsworth, Cengage Learning.

Ratelle, C. F., Larose, S., Guay, F., & Senécal, C. (2005). Perceptions of parental involvement and support as predictors of college students' persistence in a science curriculum. *Journal of Family Psychology, 19*, 286–293. doi: 10.1037/0893-3200.19.2.286

Strage, A., & Brandt, T. (1999). Authoritative parenting and college students' academic adjustment and success. *Journal of Educational Psychology, 91*, 146–156. doi: 10.1037/0022-0663.91.1.146

von Stumm, S., Hell, B., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspectives on Psychological Science, 6*, 574–588. doi:10.1177/1745691611421204

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Appendix

Parent Involvement and College Experience[1]

On the following questionnaire, please indicate how true these statements are based on a *not true* to a *very true* response format:

1=*not at all* 2=*somewhat* 3=*quite a bit* 4=*very much*

In this section, please answer the questions about yourself during your college career:

	1	2	3	4
1. I try to find a place that makes it easier to do my homework				
2. I ask myself questions as I go along to make sure my homework makes sense to me				
3. I like to look for more information about school subjects				
4. I go back over things I do not understand when completing my work				
5. I study my lecture notes after class				
6. I can work well with other students in my class				
7. I find it easy to talk with my teachers				
8. I ask for help from the teacher when I have trouble understanding something				
9. I will be completing my degree in four years				
10. I ask for help from my parents when I have trouble understanding something				

On the following questionnaire, please indicate how true these statements are based on a *not true* to a *very true* response format:

1=*not at all* 2=*somewhat* 3=*quite a bit* 4=*very much*

In this section, please answer the questions about yourself during high school. My parent/guardian:

	1	2	3	4
1. Taught me ways to make homework fun				
2. Taught me how to find out more about things that interest me				
3. Taught me to have a good attitude about my homework				
4. Taught me to make sure I understand one part before I go on to the next				
5. Helped check my work as I went along				
6. Taught me to keep trying when I got stuck				
7. Taught me to ask questions when I did not understand something				
8. Taught me to talk with the teacher when I had questions				
9. Showed me that he or she liked it when I learn new things				
10. Showed me that he or she liked it when I understood how to solve problems				
11. Showed me that he or she liked it when I found new ways to do my homework when I got stuck				
12. Showed me that he or she liked it when I kept working on my homework even when I did not feel like it				
13. Encouraged me to be aware of how I was doing with my schoolwork				
14. Encouraged me to try new ways to do schoolwork when I was having a hard time				
15. Helped me to understand what I missed if I did poorly on an exam				
16. Attended any extracurricular activities I was involved in (i.e. performance, games, etc.)				
17. Attended parent teacher conferences/open house				

Please circle and write in the following answers as a college student:

My class year is:	Freshman	Sophomore	Junior	Senior
My current overall GPA is:				

[1]This questionnaire is found in the public domain. The authors were notified and approved this reprint.

