

Academic Success and Weekend Study Time: Further Evidence from Public Elementary School Students

Panos Petratos^{1,*}, Daniel Herrera², Emre Soydemir³

¹Department of Management Information Systems, California State University, Stanislaus, Turlock, USA

²Career Counseling, Waterford Unified School District, Waterford, USA

³International Baccalaureate, Modesto High School, Modesto, USA

*Corresponding author: ppetratos@csustan.edu

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Abstract While there is general belief that students who study during weekends is more likely to succeed academically, empirical evidence on this postulation happens to be very limited in the extant literature. We provide evidence on this postulated association between academic success, and weekend study time by comparing responses from public elementary school students. A Survey is conducted for fifth and sixth grade students who are happen to be more mature relative to prior grade school students. The findings show that in general weekend study time is positively associated with greater academic success. We also examine the role of parental support and find that parental support leads to less weekend study time. The findings are consistent with the view that weekend study time results in greater academic success and parental support creates more free time for students during weekends.

Keywords: *academic success, weekend study, elementary students*

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1. Introduction

While there is general belief that students who study during weekends is more likely to succeed academically, empirical evidence on this postulation happens to be very limited in the extant literature. Particularly, there is not enough evidence on the amount of hours a student needs to study during weekends to reap the highest productivity. Weekend study time varies greatly among elementary school students. While there is some evidence on parental involvement, the association between academic success and weekend study time is less obvious. In this paper, we provide further evidence by investigating whether academic success is associated with weekend study time. In particular, a survey is conducted to examine the postulated association by comparing survey responses from fifth and sixth grade students.

There appears to be several distinct results that contribute to the existing literature. First, the findings show that greater academic success is associated with weekend study time. Greater academic success is reported for students who study more than one hour across the board in all subjects. Students tend to do better in mostly in ELA subject and least in science subject with weekend studying. Consequently sixth graders report studying more during weekends than 5th graders. Studying less than one hour does not lead to any significant results between self-reported grade point average for all of the subjects. Lastly, parental involvement leads to less weekend study.

The findings are consistent with the view that academic success is associated with greater focus as depicted by the length of studying of at least more than one hour. Less weekend study time results from parental involvement. The findings are also consistent with the view that kids with parental involvement have more free time during weekends.

The remainder of this study is structured as follows. Section two presents the literature review, section three describes data and methodology, section four reports findings and section six concludes.

2. Review of Literature

Erdogdu et al [1] examine factors associated with academic success. They find that access to internet, students' possession of his/her own room in the house, parents' education levels, students' native language, school size and student per teacher ratio all have an effect on academic success.

Bahar et al [2] examine the impact of sociometric status and other correlates association with academic success. Bahar finds that gender, family, perceived social support from someone special to be meaningful predictors of academic success.

Calcagno et al [3] looks at institutional predictors of academic success. The study finds negative association with relatively large institutional size, proportion of part time faculty and minority students.

Erten and Burden [4] investigate to what extent do 6th grade students attribute their performance in a school

based achievement test. They find that ability attribution, interest attribution and teacher attribution to be the best predictors of test performance.

Pong [5] examines schools with greater concentrations of students who have single parent and stepfamilies. The study finds that schools that are predominated by students from single parent families and stepfamilies negatively affect their students' achievement even after controlling for individual demographic characteristics and family background. This negative effect is attributed to low socioeconomic status of single parent families and stepfamilies.

In this study we keep other factors constant and focus on the little examined association between weekend study time and academic success. The following hypotheses are tested in investigating the postulated association between parental involvement and weekend study time. First hypothesis conjectures that parental involvement for GATE students is associated with less weekend study time and greater academic achievement. Second hypothesis null statement is that Math, Science and ELA grades are higher with less weekend study time for NON-GATE students with parental support. Last hypothesis null statement is that the Math, Science and ELA grades are better for GATE students than non-GATE students both with parental support.

3. Data and Methodology

The survey was constructed using quantifiable questions. Thus, open ended questions were avoided. Surveys were administered anonymously. Surveys were printed and distributed by hand to fifth and sixth grade student population enrolled at Julien Elementary School. A Survey construction software [6] is used to enter survey data in digital format. Google spreadsheet was used to conduct statistical analysis to measure responses such as how self-reported student grades in Math, Science and ELA subjects are associated with parental involvement and without parental involvement in projects and homework. The dependent variables were, math grades, ELA grades and Science grades. Independent Variables were, weekend study time, parental involvement, gender, hours spent, GATE (gifted and talented education) and non-GATE distinction. Weekend study time was asked in categories that show hourly intervals from zero to five hours and more. Among 277 surveys that are printed, 238 surveys are collected and entered on the spreadsheet

4. Empirical Findings

GATE students who reported receiving parental involvement constituted 78 percent of the entire GATE student cohort. However, non-gate students who reported receiving parental involvement constituted 84 percent of the entire non-gate student cohort. Thus, a higher percentage of non-gate students reported receiving more parental involvement than gate students. This finding is consistent with the view that gate students perhaps need less parental involvement to achieve academic success than non-gate students.

Table 1 reports weekend study time and average self-reported grade point average for 5th and 6th grade math, science and ELA subjects. Non-GATE students who do not report studying during weekends appear to have a lower self-reported grade point average than those students who report studying during weekends. The picture is a bit more complex for GATE students. Interestingly, GATE students who report not studying during weekends appear to have a higher self-reported grade point average than those students who report studying during weekends. Perhaps the former cohort is subject to a different level of peer pressure or they spend more hours during studying during week days. Another explanation may be that these students have more parental support that removes the need to study during weekends.

Table 1. 5th and 6th Grade Weekend Study Time and Self-reported subject GPA

	Non-GATE Weekend Study Time	
	Yes	NO
Math	2.56	2.26
Science	2.70	2.31
ELA	2.54	2.11

	GATE Weekend Study Time	
	Yes	NO
Math	3.21	3.37
Science	3.39	3.62
ELA	3.34	3.38

Table 2 reports average weekend study time for fifth and sixth grade non-GATE and GATE students. The responses reveal that non-GATE 5th grade students spend on average 39 minutes studying during weekends. The study time is longer for 6th grade students who report studying on average 41 minutes. GATE students in 5th grade report studying on average 53 minutes, longer than non-GATE 5th grade students. Non-GATE 6th grade students report studying on average 41 minutes. Thus they appear to study a bit longer than 5th grade non-GATE students. GATE 6th grade students report studying on average 1 hour and 8 minutes, longer than non-GATE students and 5th grade GATE students. The findings are consistent with the view that 6th grade requires more study weekend study time than 5th grade in general. The findings are also consistent with the view that GATE students study longer during weekends than non-GATE students both in 5th and 6th grades

Table 2. Weekend Study Time

	Non-GATE	GATE
5th grade	39 minutes	53 minutes
6th grade	41 minutes	1 hour 08 minutes

Ordinary least squares estimations of the entire sample between weekend study time and self-reported grade point average for each of the three subject does not reveal any statistically significant results for any subjects. However, when we only count weekend study time reported more than 1 hour, the estimations reveal some meaningful results.

Table 3 reports the ordinary least squares regression results of the postulated association between weekend study time for more than 1 hour only self-reported grade point average of 5th and 6th grade students. The dependent variable self-reported math subject grade point average and the independent variable is weekend study time of more than one hour [3]. The weekend study time of more than one hour coefficient appears to be positive and statistically significant at the conventional significance levels. Thus, the findings are consistent with the view that weekend study time of more than one hour is associated with greater likelihood of academic achievement by about 0.32 points but weekend studying of less than one hour does not lead to any significant association between the two variables.

Table 3. Self-Reported Math GPA and Weekend Study Time of > 1 Hour

Dependent Variable: MATH			
Variable	Coefficient	Std. Error	t-Statistic
C	2.915888	0.080220	36.34884
WKNSTGR60	0.320476	0.137675	2.327763
R-squared	0.032756		
Adjusted R-squared	0.026711		
S.E. of regression	0.829798		

Table 4 reports the ordinary least squares regression results of the postulated association between weekend study time for more than 1 hour only and self-reported grade point of average of 5th and 6th grade students. The dependent variable self-reported science subject grade point average and the independent variable is weekend study time of more than one hour [3]. The weekend study time of more than one hour coefficient also appears to be positive and statistically significant at the conventional significance levels. Thus, the findings are consistent with the view that weekend study time of more than one hour is associated with greater likelihood of academic achievement in science field by about 0.26 points but weekend studying of less than one hour does not lead to any significant association between the two variables.

Table 4. Self-Reported GPA and Weekend Study Time > 1 Hour

Dependent Variable: SCIENCE			
Variable	Coefficient	Std. Error	t-Statistic
C	2.953271	0.064011	46.13675
WKNSTGR60	0.264911	0.109858	2.411388
R-squared	0.035068		
Adjusted R-squared	0.029037		
S.E. of regression	0.662138		

Table 5 reports the ordinary least squares regression results of the postulated association between weekend study time for more than 1 hour only and self-reported grade point average of 5th and 6th grade students. The dependent variable ELA subject grade point average and the independent variable is weekend study time of more than one hour [3]. The weekend study time of more than one hour coefficient again appears to be positive and statistically significant at the conventional significance levels. Thus, the findings are consistent with the view that weekend study time of more than one hour is associated

with greater likelihood of academic achievement in the ELA field by about 0.39 points, the most increase among the three subjects. However as in the previous results weekend studying of less than one hour does not lead to any significant association between the two variables.

Table 5. Self-Reported GPA and Weekend Study Time > 1 Hour

Dependent Variable: ELA			
Variable	Coefficient	Std. Error	t-Statistic
C	2.953271	0.074758	39.50449
WKNSTGR60	0.398581	0.129084	3.087760
R-squared	0.056572		
Adjusted R-squared	0.050638		
S.E. of regression	0.773301		

Table 6 reports the ordinary least squares regression results of the postulated association between weekend study time and parental involvement. The dependent variable is weekend study time and the explanatory variable is binary variable of parental involvement where a value of one indicates parental involvement and a value of zero indicates no involvement. The parental involvement coefficient appears to be negative and statistically significant at the one percent significance level. Thus, the findings are consistent with the view that parental involvement is associated with less weekend study time for 5th and 6th graders.

Table 6. Parental Involvement & Weekend Study

Dependent Variable: Weekend Study Time			
Variable	Coefficient	Std. Error	t-Statistic
C	74.36	15.21	4.89
Parental Involvement	-37.09	15.38	-2.41
R-squared	0.056		
Adjusted R-squared	0.047		
S.E. of regression	51.02		

5. Conclusions

We examine whether there is any association between academic success and weekend study time by comparing responses from public elementary school fifth and sixth grade students. The findings show that in general academic success is associated with more weekend study time. While findings are statistically significant, there appears to be no a significant association between academic success and weekend study time for all time interval reported. However, when we exclude the intervals reported less than one hour the results become statistically significant pointing to a positive association between weekend study time of more than one hour and self-reported grade point average for all of the three subject fields, math, science and ELA. The results are consistent with the view that generally it takes about one hour to focus on studying and as study time increases following the first hour productivity begins to increase. The most impact from studying during weekends is observed on the ELA subject followed by math and science fields, respectively. Lastly, the findings are consistent with the view that parental involvement, leads to less study time, giving students more time to undertake other activities such as extracurricular interests.

References

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Appendix

5th and 6th Grade Anonymous Student Survey

Please DO NOT state your name, the survey is intended to be filled anonymously

1. Does your Parent/Guardian/Other Family Member help you with your school work, homework or project? (if you get help only sometimes, please choose "Yes")
 - a. Yes
 - b. No
2. If you answered Yes to question 1, state those days your work together with your Parent/Guardian/Other Family Member?
 - a. Monday
 - b. Tuesday
 - c. Wednesday
 - d. Thursday
 - e. Friday
 - f. Saturday
 - g. Sunday
3. If you answered Yes to question 1, please state the length of the time on average per day spend for school work/homework/project? Please estimate.
 - a. 0 to 10 minutes
 - b. 10 to 20 minutes
 - c. 20 to 30 minutes
 - d. 30 to 45 minutes
 - e. 45 minutes to 1 hour
 - f. 1 hour to 1 and half hours
 - g. 1 and a half hours to 2 hours
 - h. 2 hours to 2 and a half hours
 - i. 2 and a half hours to 3 hours
 - j. 3 hours to 3 and a half hours
 - k. 3 and a half hours to 4 hours
 - l. Greater than 4 hours
 - m. If you wish to do so, you can write the more precise time here below in terms of minutes or hours _____
4. Current grade in Mathematics:
 - a. 1
 - n. 2
 - c. 3
 - d. 4
5. Current grade in Science:
 - a. 1
 - b. 2
 - c. 3
 - d. 4
6. Current grade in ELA:
 - a. 1
 - b. 2
 - c. 3
 - d. 4
7. Gender:
 - a. Male
 - b. Female

8. Name of school you are attending:
 - a. Dennis Earl
 - b. Julien
 - c. Medeiros
 - d. Osborne
 - e. Other (please specify) _____
9. Are you a student enrolled in the GATE program at your school?
 - a. Yes
 - b. No
10. Do you spend additional hours during the weekends for schoolwork/homework/project?
 - a. Yes
 - b. No
11. If you answered Yes to question 10, please state the weekend days spent for this purpose
 - a. Saturday
 - b. Sunday
 - c. Both Saturday and Sunday
12. If you answered Yes to question 10, please state the average time spent per day during weekends.
 - a. 0 to 10 minutes
 - b. 10 to 20 minutes
 - c. 20 to 30 minutes
 - d. 30 to 45 minutes
 - e. 45 minutes to 1 hour
 - f. 1 hour to 1 and half hours
 - g. 1 and a half hours to 2 hours
 - h. 2 hours to 2 and a half hours
 - i. 2 and a half hours to 3 hours
 - j. 3 hours to 3 and a half hours
 - k. 3 and a half hours to 4 hours
 - l. Greater than 4 hours
 - m. If you wish to do so, you can write the more precise time here below in terms of minutes or hours _____
13. Do you receive tutoring services from a paid individual/s?
 - a. Yes
 - b. No
14. If you answered Yes to question 13, please state the average time spent per day on paid tutoring by a separate individual
 - a. 0 to 30 minutes
 - b. 30 minutes to 1 hour
 - c. 1 hour to 1 and half hours
 - d. 1 and a half hours to 2 hours
 - e. 2 hours to 2 and a half hours
 - f. Greater than 2 and a half hours

