

# Bonding, Achievement, and Activities

## School Bonding, Academic Achievement, and Participation in Extracurricular Activities

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### Abstract

Utilizing a single-group interrupted time series design (Creswell, 2003), this pilot study examined the relationship between academic achievement, school bonding, and the extracurricular activity participation of "uninvolved" students (n=11) who participated in a voluntary support group at a suburban high school in the southeast. Results indicated that while involvement in the voluntary support group did not have a significant effect on the school bonding of students, involvement in the voluntary support group may have had a significant effect on the academic achievement of the students. These findings suggest that professional school counselors, school officials, and community agency personnel can collaborate and use extracurricular activities to help target the academic achievement of other uninvolved or off-track students.

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When examining the attitudes and beliefs of students, it is important to examine those concepts within the context of the school environment while also seeking to understand how these concepts reflect student investment in education and connection to the school environment. A recent study presents the aforementioned concepts as interrelated, yet staunchly different concepts. Particularly, the concepts of positive orientation to school, school attachment, and school bonding have all been used to describe various measures of students' attitudes and beliefs

(Libbey, 2004). The purpose of the present study was to attempt to further elaborate on the relationship between school attachment, academic achievement, and extracurricular activity involvement.

Positive orientation to school was a phrase coined first by Jessor, Van Den Bos, Costa, and Turbin (1995). The term was used to measure the attitudes and motivations of students towards learning and school. This construct helped researchers examine how students felt about attending school and how much value they placed on academic achievement. School attachment, in turn, was introduced as a term that represented an individual's sense of connection to the institution (Libbey, 2004) and the degree to which students report that others at school like them (Mouton, Hawkins, McPherson, & Copley, 1996).

School attachment was later revised (Moody & Bearman, 1998, as cited in Libby, 2004) in a scale used in the National Longitudinal Study of Adolescent Health. The scale included three items that focused on feelings of closeness to others at school, happiness at school, and feelings of being a part of the school (Moody & Bearman). According to this research, attachment involved an emotional link to school while commitment entailed an investment in school (Libbey, 2004). Although school attachment has been defined in many ways, most research has described it as a single term that is a part of a larger construct called school bonding (Jenkins, 1997; Goode-now, 1993).

According to the American School Counseling Association [ASCA] (Bowers & Hatch, 2005), professional

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school counselors (PSCs), at a basic level, should be involved in activities that promote the personal/social, academic, and career development of all students. Additionally, school counseling programs are idealized as being comprehensive, systematic, and collaborative in nature (ASCA, 2005). When considering the importance of such factors on individual student success, school bonding should be of concern to PSCs as it has the potential to affect each domain and hence, the educational experiences of students. Furthermore, research has demonstrated that bonding to school can influence school climate (Gottfredson, 1989) and delinquency (Lee & Smith-Adcock, 2005), both of which are major concerns to PSCs and school administrators.

## *School Bonding and School Attachment*

While school bonding and school attachment have been used interchangeably, school bonding, as defined by the Social Development Research Group, is a term that includes varying aspects of the student's relationship to the school such as attachment, commitment, involvement, and beliefs about school (Libbey, 2004). Underlying the concept of school bonding is the ground breaking theory of social bonding introduced by Hirschi (1969). Central to criminology, Hirschi's social bonding theory posits that delinquency is the result of weakened or broken bonds to society. The four main components of this theory are attachment, commitment, involvement, and beliefs.

As social bonding is contextualized in the school setting, its applicability, particularly when considering its individual components, can be considered in order to assist in improving the achievement efforts of under-performing students with disciplinary or school attachment/bonding problems. The use of extracurricular, voluntary support programs to that end has not been evaluated and despite controversy, extensive research has been devoted to establishing the relationship between extracurricular involvement and achievement with various age groups (Hunt, 2005; Luthar, Shoum, & Brown, 2006). In using data from the Early Childhood Longitudinal Study, Dumais (2006) found that the number of activities students participated in during kindergarten and first grade, resulted in significant effects on reading achievement scores.

Additional studies have found similar effects on academic achievement. Akos (2006) discovered that participation in multiple extracurricular activities was related to the academic achievement and school connectedness of middle school children. A cross-sectional study conducted by Darling (2005) found that participation in extracur-

ricular activities was associated with more positive adolescent outcomes for high school students. These studies are important because they seem to suggest that participation in extracurricular activities has been shown to have an effect on academic achievement and school connectedness, which is a subscale of school bonding; hence, advocacy for the existence of a broad range of such activities may help PSCs indirectly promote academic achievement and the development of positive attitudes towards school of all students.

As it pertains to the relationship between school bonding and academic achievement, studies have indicated significant effects. Fleming et al. (2005) found that higher levels of school bonding were associated with higher test scores and higher grades in 7th and 10th graders. Frey, Ruchkin, Martin, and Schwab-Stone (2008) found that school attachment, a subscale of school bonding, was associated with lower levels of violent delinquency and aggressive beliefs, as well as more academic motivation in 8th and 9th graders. Finally, in a study by LeCroy and Krysik (2008), attachment to school predicted a higher grade point average for Hispanic 7th and 8th grade adolescents. When understanding the relationship between school bonding and academic achievement, PSCs are better equipped with the ability to provide and promote a range of services beneficial in helping students obtain an optimal educational experience.

Although trends in the literature may suggest relationships between academic achievement, school bonding, and extracurricular activity involvement, little research exists concerning the relationship of all three of the aforementioned concepts. Furthermore, little research exists pertaining to the way in which extracurricular activity involvement affects the academic achievement of under-achieving high school adolescents involved in voluntary non-school originated extracurriculars.

## **Method**

Guided by Hirschi's Social Bonding Theory (1969), the purpose of the current pilot study, which utilizes a single-group interrupted time-series design (Creswell, 2003), was to examine the relationship between extracurricular activity involvement, school bonding, and academic achievement and to learn how exploring the relationship between these constructs can help PSCs and school officials promote the school bonding and academic achievement of underperforming, uninvolved African American students in high school. The tasks of the current study

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were implemented by the School Counseling Intern (SCI), who also served as the principal investigator (PI) for the study.

## **Participants**

Eleven high school students (8 females and 3 males; mean age = 17.54 years) volunteered to participate in the current study. “Uninvolved” is defined as non-active participation in any school extracurricular activity or program. The study sample was comprised of a convenience sample of African American high school students who were members of a voluntary support group called Project F.R.E.E. for the purposes of publication. This program is very unique to the area belonging to the PI’s research institution, so precautionary methods were necessary in order to protect the identity of the participants of this study. This year long program was created in order to help underachieving students stay in school and learn job skills. With funding secured from a grant overseen by the local police department, this program, which operates under the guidelines of a local non-profit organization, has been active for approximately 2 years.

At the beginning of the school year, a general list of off-track students is created by PSC and graduation coach referrals. Typical program participants are in grades 10-12 and become part of the program after completing an application and being interviewed by Project F.R.E.E staff. During the first semester of the program, students met once a week for Saturday workshops beginning in the Fall to discuss personal goals and to work on interpersonal, communication, and job skills. Student grades and attendance were monitored throughout the school year. All of the participants were either in danger of failing one or more academic courses or were not on grade level during this school term. Grade levels are predetermined by school district guidelines and are defined by the number of course credits (ranging from 0.5-1.0) an individual student has obtained during a semester. Participants did not receive any compensation for their involvement in the study and were told that they would not be penalized if they did not wish to participate in the study. The PI was the SCI, whose primary tasks were to participate in Saturday meetings, monitor individual student grades, and to collect and analyze pre and post test data.

## **Materials**

Using a measure of school bonding titled the “School Attachment Questionnaire” for both pre- and post- tests, as developed by Jenkins (1997), students were asked to respond to a 33 item survey, which consisted of most

of the original items from the Jenkins study. One of the items was excluded (i.e., “How is your high school compared to others?”) because it required that participants answer descriptively and could have solicited a range of responses that although would have been valuable, would have warranted a form of qualitative analysis that would have posed a time constraint on the current study. The survey items elicited responses in the areas of school commitment, attachment, involvement, and beliefs in school rules. The survey was taken at the beginning of the study and prior to the end of the study (See Appendix A). The actual survey given to participants was headed with synonyms and phrases for the construct being measured to thwart potential bias (e.g., commitment was replaced with dedication, etc.). Survey items were divided into four sections: commitment, attachment, involvement, and belief in school rules, all of which are central to social bonding theory. The first section focused on school dedication. The second set of questions asked participants about their perceptions of school. The third set of questions centered on activity level in school while the fourth set of questions asked about beliefs towards school rules. An Excel spreadsheet was created to monitor participant grades, absences, tardies and cumulative grade-point averages. The spreadsheet also calculated group averages for the aforementioned items.

## **Procedure**

The survey was given to participants during the first semester and during the first 10 weeks of the second school semester. Each survey was marked with an identification number unique to individual participants. Participants were instructed to respond to each survey item using either a “1” or “2.” A response of “1” meant that the student agreed with the question while a “2” meant that the participant did not agree with the question. After completing the survey, participants were asked to place and seal the survey in the envelope provided prior to returning it to the PI. Participants completed the survey as individuals during school hours and at Saturday workshops as time allowed.

Participants met with the PI and other Project F.R.E.E. staff at Saturday workshops and participated in activities that focused on the establishment of good school, work habits, and a variety of other topics throughout the academic year. During the first 8 weeks, the PI assisted with the organization and scheduling of a curriculum from *The Seven Habits of Highly Effective Teens* (Covey, 2003), which is designed to provide tips to students for improving self-image, resisting peer pressure, and goal

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achievement. This curriculum was presented to help the students establish a foundation for better interpersonal communication with peers, teachers, and potential employers. During the remaining weeks, the PI and Project F.R.E.E. staff organized student progress meetings in addition to college tours and participant trips to local community activities. Upon completion of the first semester, students received a monetary incentive check from the program's grant funding for the completion of The Seven Habits of Highly Effective Teens curriculum and for compliance with the program's requirements for attendance and achievement.

## **Data Collection and Analysis**

Participant grades were monitored and gathered at the 6, 9, and 12 week periods. Statistical analyses were performed using EZ Analyze for Excel (<http://www.ez-analyze.com/>). Individual participant identification was coded and kept on a Microsoft Excel Spreadsheet that was then converted into an EZ Analyze data page. Demographics such as age and gender were entered for all participants. Academic grades for courses were entered by each term and were cumulative averages of all grades received during that grading period. Both pre-test and post-test items were numbered and entered individually in order to get an accurate analysis of the individual survey items. A paired samples t-test was used to examine group mean differences on pre and post test items as well as on individual and group grades. An alpha level of .01 was used for all statistical tests.

## **Results**

School bonding as measured by the survey was not affected by involvement with Project F.R.E.E. In other words, there were no significant changes in the responses of the participant to the pre and post test measures of school bonding (See Table 1). There were however, significant improvements in the course grades of the students and consequently, cumulative averages for the 6, 9, and 12 week periods (See Table 2). Cumulative averages for the group during the 6, 9, and 12 week periods were  $M=69.705$ ,  $M= 73.136$ , and  $M= 77.182$  respectively. During the grading period between 6 and 9 weeks, mean differences were not significant,  $t(2.174)$ ,  $p= .055$ . Mean differences for the 9 and 12 week grading periods were significant,  $t(3.872)$ ,  $p= .003$ . Lastly, the difference between the averages of the group overall was significant,  $t(4.075)$ ,  $p=.002$ .

## **Discussion**

The goals of the study were to learn about the effects that extracurricular activity involvement could have on academic achievement and school bonding. Understanding more about this relationship is important for PSCs because this information will better inform the practices of PSCs. This study provides an example of a collaborative approach that PSCs can employ to target achievement rates. Although participation in Project F.R.E.E. may have had an effect on the academic achievement of the students, it did not have an effect on school commitment, involvement, belief in school rules, and attachment. Based on these results however, the current study presents data that is congruent with other studies concerning the relationship between academic achievement and extracurricular involvement (Hunt, 2005; Luthar et.al., 2006; Dumais, 2006; Akos, 2006; Darling, 2005). In knowing there is a solid relationship between academic achievement and participation in extracurricular activities, PSCs can sponsor, create, or advocate for the creation of a range of programs that attract many students with different needs.

## **Limitations**

Despite the obvious limitations concerning the absence of a control group, hence the absence of external validity and small sample size, this pilot-study used a validated measure of school bonding (Jenkins, 1997); however many of the items on the survey were outdated and often not appropriate for the target group (i.e., items in the involvement section solicited responses related to current involvement in school related activities. [See Appendix A]). Secondly, the instrument used did not elicit a wide range of response (i.e., Likert style scale) which may have affected the way in which students responded to individual items. One of the primary areas of focus for this study was to attempt to gain a complex understanding of how Project F.R.E.E. participant involvement in an extracurricular activity related to academic achievement and school bonding. Only one descriptive item was included in the Jenkins study, but this particular item was excluded from the current study because of the qualitative data it elicited and the constraints that this imposed upon the study's completion time; however, this one item does not account for the limitations encountered by questionnaire item structure. The items contained in the questionnaire only required "yes" or "no" responses, which limited participant responses in general. Finally, although grades improved for this group of students, it is not clear whether this was a direct result of involvement in Project F.R.E.E.,

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or if there were external influences such as private tutoring or other assistance unknown to Project F.R.E.E. staff and the SCI.

## Implications

Participation in programs similar to Project F.R.E.E. may be used to help target the academic achievement of other uninvolved or off-track students in high schools. As recent accountability legislation emphasizes assisting underperforming students, schools can utilize community resources in order to help reach underperforming students. By garnering additional support for troubled students, academic success may become influenced, hence graduation rates may increase.

Although the current study did not find a significant relationship between school bonding and extracurricular involvement, this may suggest a more complex relationship between the two concepts. While the literature states that school bonding is a multifaceted term, the integrity of such a term is embedded in its complexity, which may result in difficulties in analyzing its relationship with a one-dimensional concept such as extracurricular activity involvement. Furthermore, little can be inferred about the valence of school bonding because current literature does not address this aspect of school bonding. In other words, current literature has not addressed whether or not there is such a thing as positive or negative school bonding and if such a relationship would prove useful to understanding how school bonding relates to academic achievement. In beginning to understand the complexity of such a relationship, PSCs can design interventions and programs, as well as advocate for the existence of programs, catering to the specific needs of certain groups within their schools. Once such interventions and programs are in place at schools, PSCs will be making progressive strides towards positively influencing school climate.

Future research should consider the development of an instrument that measures school bonding using a continuous scale as well as qualitative inquiries for a better understanding of the complexity of school bonding. Future research should also seek to identify potential mediators such as age, socioeconomic status, and other personal factors to the relationship between school bonding and academic achievement while utilizing a control group and larger sample size.

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**Table 1**  
*School Bonding Item Paired Samples t-test*  
**Paired Differences**

		Mean	N	Std. Deviation	Std. Error of Diff.	t	Sig.																																																																																																																																																																																						
Item 1	Pre-test scores	1.000	11	.000	.135	.000	1.000																																																																																																																																																																																						
	Post-test scores	1.000		.000				Item 2	Pre-test scores	1.091	11	.302	.091	1.000	.341	Post-test scores	1.000	.000	Item 3	Pre-test scores	1.909	11	.302	.135	.000	1.000	Post-test scores	1.909	.302	Item 4	Pre-test scores	1.818	11	.405	.135	.000	1.000	Post-test scores	1.818	.405	Item 5	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 6	Pre-test scores	2.000	11	.000	.135	.000	1.000	Post-test scores	2.000	.000	Item 7	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 8	Pre-test scores	2.000	11	.000	.091	1.000	.341	Post-test scores	1.909	.302	Item 9	Pre-test scores	1.636	11	.505	.182	1.000	.341	Post-test scores	1.455	.522	Item 10	Pre-test scores	1.455	11	.522	.122	1.491	.167	Post-test scores	1.636	.505	Item 11	Pre-test scores	1.273	11	.467	.141	1.936	.082	Post-test scores	1.000	.000	Item 12	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 13	Pre-test scores	1.182	11	.405	.122	1.491	.167	Post-test scores	1.000	.000	Item 14	Pre-test scores	1.909	11	.302	.091	1.000	.341	Post-test scores	2.000	.000	Item 15	Pre-test scores	1.182	11	.405	.122	1.491	.167	Post-test scores	1.000	.000	Item 16	Pre-test scores	1.900	10a	.316	.100	1.000	.343	Post-test scores	1.800	.422	Item 17	Pre-test scores	2.000	11	.000	.091	1.000	.341	Post-test scores	1.909	.302	Item 18	Pre-test scores	2.000	11	.000	.122
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	Post-test scores	1.909		.302				Item 4	Pre-test scores	1.818	11	.405	.135	.000	1.000	Post-test scores	1.818	.405	Item 5	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 6	Pre-test scores	2.000	11	.000	.135	.000	1.000	Post-test scores	2.000	.000	Item 7	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 8	Pre-test scores	2.000	11	.000	.091	1.000	.341	Post-test scores	1.909	.302	Item 9	Pre-test scores	1.636	11	.505	.182	1.000	.341	Post-test scores	1.455	.522	Item 10	Pre-test scores	1.455	11	.522	.122	1.491	.167	Post-test scores	1.636	.505	Item 11	Pre-test scores	1.273	11	.467	.141	1.936	.082	Post-test scores	1.000	.000	Item 12	Pre-test scores	1.000	11	.000	.135	.000	1.000	Post-test scores	1.000	.000	Item 13	Pre-test scores	1.182	11	.405	.122	1.491	.167	Post-test scores	1.000	.000	Item 14	Pre-test scores	1.909	11	.302	.091	1.000	.341	Post-test scores	2.000	.000	Item 15	Pre-test scores	1.182	11	.405	.122	1.491	.167	Post-test scores	1.000	.000	Item 16	Pre-test scores	1.900	10a	.316	.100	1.000	.343	Post-test scores	1.800	.422	Item 17	Pre-test scores	2.000	11	.000	.091	1.000	.341	Post-test scores	1.909	.302	Item 18	Pre-test scores	2.000	11	.000	.122	1.491	.167	Post-test scores	1.818	.405																	
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# Bonding, Achievement, and Activities

**Table 1 - continued**  
**School Bonding Item Paired Samples t-test**  
**Paired Differences**

		Mean	N	Std. Deviation	Std. Error of Diff.	t	Sig.
Item 19	Pre-test scores	1909	11	.302	.091	1.000	.341
	Post-test scores	1.818		.405			
Item 20	Pre-test scores	1.818	11	.405	.135	.000	1.000
	Post-test scores	1.818		.405			
Item 21	Pre-test scores	2.000	11	.000	.122	1.491	.167
	Post-test scores	1.818		.405			
Item 22	Pre-test scores	1.636	11	.505	.163	.559	.588
	Post-test scores	1.545		.522			
Item 23	Pre-test scores	1.273	11	.467	.191	.000	1.000
	Post-test scores	1.273		.467			
Item 24	Pre-test scores	1.727	11	.467	.191	.000	1.000
	Post-test scores	1.727		.467			
Item 25	Pre-test scores	1909	11	.302	.091	1.000	.341
	Post-test scores	2.000		.000			
Item 26	Pre-test scores	1.455	11	.522	.226	.803	.441
	Post-test scores	1.273		.467			
Item 27	Pre-test scores	1909	11	.302	.163	.559	.588
	Post-test scores	1.818		.405			
Item 28	Pre-test scores	1.273	11	.467	.211	.430	.676
	Post-test scores	1.364		.505			
Item 29	Pre-test scores	1.545	11	.522	.141	1.936	.082
	Post-test scores	1.818		.405			
Item 30	Pre-test scores	1.091	11	.302	.141	1.936	.082
	Post-test scores	1.364		.505			
Item 31	Pre-test scores	1.455	11	.522	.163	.559	.588
	Post-test scores	1.545		.522			
Item 32	Pre-test scores	1.818	11	.405	.211	.430	.676
	Post-test scores	1.727		.467			
Item 33	Pre-test scores	1.545	11	.522	.091	1.000	.341
	Post-test scores	1.636		.505			

Note. One of the participants did not submit a response for item 16 on the pre-test, so this participant's response was omitted from the paired samples analysis.



# Bonding, Achievement, and Activities

**Table 2**  
*Grade Averages Paired-Samples t-tests*

Grading Intervals	Group Mean	N	Std. Deviation	Std. Error of Difference	t	Sig
6-week 9-week	69.705 73.136	11	10.521 8.731	1.578	2.174	.055
9-week 12-week	73.136 77.182	11	8.731 6.088	1.045	3.872	.003
6-week 12-week	69.705 77.182	11	10.521 6.088	1.835	4.075	.002

## Appendix A

### School Attachment Questionnaire

Please answer with either a 1 or 2.

Yes =1; No =2

#### Commitment

1. \_\_\_\_ Do you care if your homework is done correctly?
2. \_\_\_\_ Do you think that most of your classes are important?
3. \_\_\_\_ Do you think most of your classes are a waste of time?
4. \_\_\_\_ Have you been on the honor roll this year?
5. \_\_\_\_ Does it matter to you what your grades are?
6. \_\_\_\_ Would you like to quit school now?
7. \_\_\_\_ Do you think an education is important?
8. \_\_\_\_ Do you think you will fail no matter how hard you try?
9. \_\_\_\_ Are you failing any courses this school year?

#### Attachment

10. \_\_\_\_ Do you care a lot about what your teachers think of you?
11. \_\_\_\_ Do you have a favorite teacher in this school?
12. \_\_\_\_ Do most of your teachers like you?
13. \_\_\_\_ Do you like most of your teachers?
14. \_\_\_\_ I wish I went to a different high school.
15. \_\_\_\_ It is easy for me to talk over schoolwork problems with most of my teachers.
16. \_\_\_\_ Most teachers are not interested in anything I say or do.

#### Involvement

17. \_\_\_\_ Do you belong to the school band?
18. \_\_\_\_ Do you participate in intramural sports?
19. \_\_\_\_ During the present school year, have you tried to sell things to help your school raise money?
20. \_\_\_\_ Do you belong to the school chorus?
21. \_\_\_\_ Do you participate in the school council?
22. \_\_\_\_ Do you attend school dances?
23. \_\_\_\_ Do you attend athletic events after school hours?
24. \_\_\_\_ Do you attend school concerts after school hours?
25. \_\_\_\_ Do you belong to the drama club?

# Bonding, Achievement, and Activities

## Appendix A

### School Attachment Questionnaire

Please answer with either a 1 or 2.

Yes =1; No =2

#### Belief in School Rules

26. \_\_\_\_\_ Most school rules are fair.
27. \_\_\_\_\_ The principal is tough and too strict.
28. \_\_\_\_\_ Students are treated fairly.
29. \_\_\_\_\_ Rules are too strict.
30. \_\_\_\_\_ The principal is fair most of the time.
31. \_\_\_\_\_ The punishments are the same no matter what.
32. \_\_\_\_\_ Teachers are too strict.
33. \_\_\_\_\_ Are all student ethnic groups treated the same?