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For anyone who has completed their junior year of high school the words “college applications” probably still haunt them. By the time I began to search for a topic to research midway through junior year I was already dreading filling out the applications. Are my grades high enough? Am I involved in too few clubs? Too many? Going to seminars held by the guidance department only made things worse. I was told that everyone has the same grades, the same scores, the same recommendations – it was your clubs that set you apart. They had to be joking – clubs? That’s all that mattered? Extracurricular activities seemed to be a rather odd defining criteria. So as I leafed through an anthology of essays written on athletics I was not terribly surprised to see one on the impact of extracurricular clubs on academics and self esteem. Any student who is a) going through the process of applying to selective colleges and b) crazy enough to complete an Intel project is probably involved in more clubs than they can handle. Seeing that paper raised what would become my seminal question: how much of an impact do clubs have on my life? Would joining yearbook over model congress change how I did in school or how I felt emotionally? And just how typical was my experience? I had to know the answer.

I chose to do the research at my own school, which contrasted wonderfully to the samples employed by previous studies on the topic. Most were conducted in Midwestern towns with exclusively white males. Lawrence is anything but all white and male. So with that in mind I handed out nearly 400 surveys to high school juniors and seniors.

When the time came to analyze the data, things got a little tricky. I am not what one would call a math person. I do just fine in class but I had to create a mathematical

way to measure club involvement and intensity. With the help of my older brother I created an equation based on simple algebra. It was amazing to see the math I learned in the seventh grade put to use. But that was the easy part. With numbers derived from my equation I had to apply two distinct statistical analyses to the data. Using unpaired t tests and correlations I was able to ascertain meaningful results. The only problem was that I could not interpret them. P-values? Correlation matrixes? I was in way over my head. With a little, well more like a lot, of help from my advisor I slowly learned how to read the results and waded through the pages of analysis and numbers.

Ironically, before this project I thought that math class was nice but not nearly as practical as biology or history. I have to admit that just this once I was wrong. Did biology help me with my t tests? I think not. This project was a real life application of math. In almost every math class I have attended one question arose: "when am I ever going to use this?" Teachers always rattled off clichéd answers that were never quite convincing. I wish they would have told me and anyone else who would listen that math can prove that playing a sport means higher self esteem or that being in an academic club is linked to higher grades. Maybe I would have been impressed if they had told me that I could one day use math to prove an original hypothesis or maybe not. At least I would have listened to that answer better than to "you can become an accountant" (a standard answer which never moved me much).

Upon completing this project I came to several realizations. For anyone who is embarking on a journey into the land of research, I advise you to relax. You may not be stressed just yet but you will be. Even more important – do not procrastinate. I know that playing a twelfth game of solitaire is much more interesting than typing data into an

Excel spread sheet but it has to be done. And finally, enjoy yourself! All the stress, all the massive piles of surveys and the occasional lack of a social life may seem depressing but the end result is worth it. That's the one thing you have to keep in mind. No matter what, the accomplishment makes the struggle heroic.

Life After 3 p.m.: The Impact of Extracurricular Activities on Self Esteem and Academic Performance in Adolescents

Introduction

Research on the role and impact of extracurricular activities on the psyche of adolescents is fairly extensive. However, the vast majority of previous literature is limited in sample to Euro-American males and in scope to interscholastic sports, as if nobody else participated and no other clubs existed. While this is certainly a worthy endeavor, there has simply not been enough research conducted on the effects of other types of clubs, and among a more diverse sample population. This is not to say that little has been accomplished, but the bulk of the research is now a quarter century old. There is certainly room for new scholarship. Despite this gap, the topic remains terribly important, especially in an era in which so many families have no parents at home from 3-6 pm and the average student is involved in three or more scheduled activities per week.

Most research involving extracurricular activities has examined the effect that interscholastic sports has on academic achievement. Eidsmore (1964) was perhaps the first to point out the link between extracurricular involvement and grade point average. Combating the "dumb jock" stereotype, Eidsmore (1964) found that high school football

players had higher grade point averages than their non-participation counterparts. Schafer & Armer (1968) built on Eidsmore's work and concluded that athletes in a number of sports have higher grade point averages that the non-athlete. More recently, Eccles & Barber (1999) qualified these conclusions somewhat, arguing that the positive effects of interscholastic sports on academic achievement only manifested itself in the 12^{th} grade. In closely comparing 10^{th} grade GPA's and 12^{th} grade GPA's, it became clear that sports only had a significant and positive effect later on. However this impressive evidence that athletics can have a profoundly positive effect on academics is not universal; several studies provide a conflicting view. Some scholars argue that sports actually *hurt* academic achievement. Dowell, Badgett & Hunkler (1972) found that participation in athletics correlated negatively with intellectualism. Feltz and Weiss (1984) pointed out that athletes scored lower than the national average on both the SAT and ACT. Others suggest that the data cannot support either view – that athletes neither outperform nor underperform peers in the classroom. Hank and Eckland (1976) found that sports had at best weak positive effect on academic achievement but that the corresponding p-values were hardly powerful enough to draw strong conclusions. Menlick, Vanfossen & Sabo's research (1988) concurred with Hank & Eckland (1976), suggesting, that the effect of sports was mediated by other variables only available to athletes. After all, how can social scientists measure coaches' support and advice, special treatment and other such perks? Similarly, Howell & McKenizie (1987) found that the effects of athletic involvement were not significant at all. In the end, the plethora of research that focused on the link between sports participation and academic achievement

is inconclusive, limited in scope, but nonetheless important in that it underscores the importance of extracurricular activities as a legitimate object of psychological research.

Although a majority of the literature focuses on interscholastic sports, there is some that examines the effects of club participation on academic achievement. A leader in this field of research, Ohio State's Otto (1975) found that clubs have a positive effect on academic achievement and ability. In a more recent study Eccles and Barber (1999) broke down club participation into five categories: *pro-social, sports, performing arts, school involvement and academic.* When comparing 10th and 12th grade GPA's, Eccles and Barber found that all five types positively affected grades, but that the statistical significance was only clear in relation to
12th grade GPA. The effect of clubs, outside of athletics, on schoolwork has not been as widely studied.

Another area that has been understudied is the effect of club participation on self-esteem. Overall, it can be inferred that extracurricular participation has a positive effect on self-esteem. Once again the main focus within this subcategory of research is athletics. Rehberg (1969) concluded that participation in interscholastic sports provides participants with increased self-esteem, which in turn helped to raise their
grades. Similarly, Spreitzer & Pugh (1973) found that athletes enjoyed a higher *perceived peer status*. Otto and Alwin (1977), on the other hand, found that athletics had no real measurable effects on perceived peer status. Instead they concluded that perceived peer status was more affected by parental input and encouragement. While this makes sense, most of the other literature on this topic seems to side with Rehberg (1969). In 1969, Philips concluded that athletes and musicians enjoyed higher self-esteem. Dowell, Bagett

& Hunkler concurred in 1972, writing that participation in sports increased a student's physical and motivational self-concept. Outside the realm of sports, it was shown that participation in clubs increased social participation and therefore social self-esteem (Lindsay 1984). In a more recent study, Mahoney & Cairns (1997) found that participation in clubs increased school engagement, meaning that students were more comfortable at school and more likely to participate in school. Essentially such students felt better about themselves at school. This research makes it clear that the impact of clubs on a student's life could extend beyond the college admissions process.

Certainly, the effects of extracurricular activities reach beyond grades and self-esteem. A handful of studies suggest that clubs can help to prevent delinquency and to limit participation in

harmful behaviors such as drinking or drug use. Other studies have credited extracurricular activities with preventing early school dropout. A study by Eccles and Barber (1999) found that some clubs actually helped to *prevent* involvement in risky behavior while others increased students' participation in them. Involvement in sports was linked to *increased* alcohol use, while involvement in pro social and performing arts clubs made students less likely to be involved in such risky behavior. In a similar vein, Youniss, Yates & Su (1997) found that students who engaged in community service, particularly through the school, were less likely to use marijuana. Another important effect was found by Mahoney & Cairns (1997). Students who participated in clubs were less likely to drop out of school. This was especially true for students in the "high risk" group. The notion that participation in clubs can have such a profound effect of a person's life is indeed remarkable.

The most surprising discovery to emerge from this research is that involvement in clubs while in high school can have life-long effects on participants. There is an overwhelming consensus within the available literature that suggests that participation in extracurricular activities increases a student's educational expectations and aspirations. Once again, the main focus was placed on sports. Rehberg & Schafer (1973) found that athletes had higher educational expectations. Spady (1970), Speitzer & Pugh (1973), and Otto & Alwin (1977) all concluded the same thing. More importantly, one study found that the club participation had a profound effect on educational attainment and occupational prestige later in life. Glancy, Willits & Farell (1986) found that those who participated in clubs while in high school enjoyed higher educational attainment ($p<.001$); significantly, more club participants attended college and pursued advanced degrees. Moreover, the pattern held true for occupational prestige as well.
Those who participated in clubs while in high school were far more likely to hold high-powered jobs later in life ($p<.001$). Interestingly, this study also found that women who were not employed as adults, but who had participated in clubs as adolescents, also enjoyed high occupational prestige ($p<.001$). That is, these housewives married men with good jobs. While this is statistically important, many feminists would scoff at the idea of "marrying up" as a socially significant consequence of club involvement. It is an interesting point nonetheless. Extracurricular activities clearly have a more lasting effect than many might have supposed. Whether smart, ambitious students join clubs or clubs make students smart, ambitious and well-connected is impossible to tell, however. Like, all correlational links, the "chicken or egg" issue is very much in play.

While the previous research is important, there are some inherent limitations. This study seeks to address these limitations and in so doing, to provide a more accurate and realistic picture of how extracurricular clubs affect students today. Firstly, this study is much more representative of a modern suburban high school, in that its sample provides gender balance and a degree of ethnic diversity the like of which the literature has never seen. Secondly, following Eccles' lead, the researcher broke down club participation into four categories: pro-social, performing arts, academic and athletics. (School involvement and pro-social were combined into one category due to the nature of club functions at the sample school.) Lastly, each student's actual participation was confirmed and rated (on a 1-10 Likert scale) by the advisor. Self-reported involvement was not accepted as accurate. This eradicated the "yearbook photo effect", the annual ritual in which students join clubs, squeeze into the September group picture, but never do any actual work. This study also uses a self-esteem survey (Coopersmith, 2001) that is designed for use with 12-18 year old students. This well-regarded instrument is not only valid and reliable but also breaks down self-esteem into four categories: general, social, school and home. Finally, with the anonymous help of the school's guidance department, the study confirms that a student's self reported GPA and PSAT scores were accurate. By doing all of this, the researcher hopes to create the most accurate cross-sectional analysis of the influence of extracurricular involvement possible.

Hypotheses

1. It is hypothesized that high achieving adolescents will be more involved in extracurricular activities.

- It is predicted that club involvement will be positively correlated with the GPA's and PSAT scores of the subjects.

2. Consistent with previous research, it was predicted that high level of club involvement would be associated with high self-esteem.
    - Self-esteem was comprised of four separate components: general, home, social, and school.
    - Club involvement was also divided into four categories: athletics, academic, performing arts and pro-social

Method

The researcher first compiled a list of all students in the eleventh and twelfth grades for two consecutive years. Each individual student survey was then encoded with that student's ID number in order to 1) maintain confidentiality, and 2) enable parts of the surveys to be matched up later. Surveys were distributed in June of 2006 to members of the class of 2006 and September of 2006 to members of the classes of 2007 and 2008 during each student's respective

social studies class. Informed consent was obtained before surveys were distributed and teacher permission was obtained as well to ensure that each student had the 10-12 minutes necessary to fill out the survey. Students were asked to fill out the survey accurately and honestly and were promised confidentiality. The surveys consisted of four parts, all completed in a single session:

1) The demographic questionnaire provided information necessary to sort and categorize data.

2) Students self-reported their GPA's and PSAT scores.
3) Each student self-reported his/her own participation in school and community clubs/organizations.
4) Each student self-reported his/her own self-esteem by filling out a Coopersmith self-esteem survey (Coopersmith, 2001).

The researcher stayed with the subjects while the survey was administered to ensure that students understood each question. Surveys were collected immediately upon completion. The school's Guidance Chairperson then provided each student's actual GPA and PSAT scores to the faculty advisor, listed by ID number rather than by name (no master list of student ID numbers and names was maintained.). Unweighted grades were used purposefully for the sake of accuracy. Next, a master list of ID numbers was compiled. Each copy of the list corresponded with an extracurricular activity. The lists were distributed to all club advisors and coaches. These advisors were asked to fill out information about their club and to rate each student's level of participation using a ten point Likert scale. This information was then used to produce a number that would quantify an individual's participation level, as well as the intensity level of each club. The equation is listed below for the athletic group of clubs. Analogous equations hold for the academic, performing arts and pro-social groups.

Let:

W_i = # of weeks club i meets per year

N_i = # meetings per week for club i

H_i = # of hours per meeting for club i

E_i = # outside events for club i

D_i = average # of hours spent during each outside events by club i

P_{ij} = individual j's level of participation in club i

Intensity of club i is:

$$\text{Intensity}_i = W_i N_i H_i + E_i D_i$$

Individual j's level of involvement due to club i is:

$$\text{Involvement}_{ij} = P_{ij}(W_i N_i H_i + E_i D_i)$$

Club involvement for individual j in the Athletics category is:

$$\text{Athletics}_j = \sum_{i \subset Athletics} P_{ij}(W_i N_i H_i + E_i D_i)$$

Finally, data was entered into a database and analyzed with the help of SPSS (Statistical Package for the Social Sciences) software.

Sample Design

A sample of 372 students at Lawrence High School in grades 11-12 participated in this study. This represents over one third of the school's population for those three graduating classes. Students enrolled in night school, alternative school, self-contained special education programs and those afflicted with autism and Aspberger's Syndrome were excused from participation. Located just beyond New York City's border, Lawrence is perhaps Nassau County's most racially diverse school; hence the present sample may be considered a reasonably accurate representation of the American suburban high school population. (See Table I for ethnicity statistics.)

Table I

Ethnicity**	Nassau County	Lawrence	United States*	Sample
White	74.9%	54.0%	69.1%	61.8%
Black	10.1%	16.9%	12.3%	9.8%
Hispanic	10.0%	23.2%	12.5%	19.6%
Asian/Pacific	4.8%	6.0%	3.6%	7.5%
Native American	0.2%	0.0%	0.9%	.8%

The total does not equal 100% because of those respondents who reported themselves as "multiracial."
*****New York State Education Department categories***
Sources
N.Y.S. Education Dept., "Public School Report Cards, 2003 (www.emsc.nysed.gov/repcrdfall2003/)
United States Census Bureau, Current Population Reports, 1999.

Instruments

Title	Author(s) / Date	Purpose / Contents
Demographic Survey	Self-constructed	Inquired about gender, age, ethnicity,, grade, parent's education, GPA and PSAT scores.
List of activities	Self-constructed	Students were asked to select the clubs and activities in which they participated.
Coopersmith Self Esteem Survey	Coopersmith, 2001	Broke down self-esteem into four categories (general, home, school and social) and provided a more accurate and broader picture of subjects' self esteem.
Student Participation Survey	Self-constructed	Club advisors were asked to fill out information about their club and to rate the participation of members on a scale from 1 – 10.

Variables

Analysis I

Independent (x)	Dependent (y)
Gender	Self Esteem
Parent's Education	○ General Self Esteem
Ethnicity	○ School Self Esteem
Grade (11 – 12)	○ Social Self Esteem
Intensity/Participation Level	○ Home Self Esteem

Analysis II

Independent (x)	GPA
Gender	PSAT Scores
Parent's Education	
Ethnicity	
Grade (11 – 12)	
Intensity/Participation Level	

Results

Unpaired t-tests:

1. As predicted, high achieving adolescents were more likely to be involved in extracurricular activities (m_b =86.3, m_g=80.3, p <. 001).
    a. Male subjects were more likely to be involved in athletics (m_b=18.3, m_g = 7.7, p <.001).
    b. Female subjects were more likely to be involved in all other types of clubs ($m_{academicg}$ =11.7, p -.002, $m_{p.artsg}$ = 13.9, p = .0043, $m_{p.socialg}$ = 11.3, $m_{academicb}$=5.9, $m_{p.artsb}$=8.6, $m_{p.social}$=4.2, p = .0003).
    c. Students with a high SES (parent's education was grad school) were more likely to participate in all types of clubs (m_{Grad} = 57.6, p <. 001, m_{HS}=31.8, p < .001).

    Correlations:

    d. Students with higher grade point averages were more involved overall in extracurricular activities. (R= .428, p<. 001). These subjects also had higher PSAT scores (R = .404, p<.001).
    e. Students who are more involved in academic clubs had significantly higher grade point averages (R = .422, p < .001). These students also scored higher on their PSAT's (R = .495, p <. 001).
    f. Students involved in Performing Arts groups also had higher grade point averages (R = .249, p <. 001) and PSAT scores (R=. 204, p <. 001).

Correlation matrix

Whole Sample:	Aca.	Ath.	P. Arts	P. Social Club	Total
GPA	.422*	.001	.249*	.184	.428*
PSAT Scores	.428*	.049	.204*	.067	.404*

*p<.01 +p <.05

Correlation matrix

Male:	Aca.	Ath.	P. Arts	P.Social Club	Total
GPA	.460*	.032	.322*	.333*	.505*
PSAT Scores	.429*	.071	.251*	.171	.416*

*p<.01 +p <.05

Correlation matrix

Female:	Aca.	Ath.	P. Arts	P. Social Club	Total
GPA	.377*	.087	.182*	.074	.361*
PSAT Scores	.556*	.003	.175	.022	.369*

*p<.01 +p <.05

2. As predicted, club involvement overall correlated positively to high self-esteem. Surprisingly, some subgroups of self-esteem were negatively correlated with club participation.
    a. Participation in athletics correlated positively to high social self-esteem (R=. 117, p<. 001).
    b. Participation in academic clubs correlated negatively to social self-esteem (R= -.136, p<. 001).
    c. Overall participation in clubs had a positive effect on school self-esteem (R = .235, p <. 001).
        i. Participation in academic clubs correlated positively with high school self-esteem (R= .185, p < .001). Performing arts (R=. 171, p <. 001) and pro-social (R= .203, p <. 001) clubs had a similar effect.

        ii. It was also found that the school self-esteem of club non-participants was significantly lower that the school self-esteem of club participants (m_{yes} = 21.8, m_{no} = 19.6 p <.001).

Correlation matrix

Whole Sample:	Aca.	Ath.	P. Arts	P.Social	Club Total
General SE	.010	.045	.043	.086	.087
Social SE	-.136*	.117*	-.035	-.055	-.044
School SE	.185*	-.043	. 171*	. 203*	.235*
Home SE	.016	.006	.019	. 068	. 051

*p<.01 +p <.05

Correlation matrix

Male:	Aca.	Ath.	P. Arts	P. Social	Club Total
General SE	.046	.041	.058	.086	.088
Social SE	-.117	.148*	.005	-.055	.047
School SE	.090	.008	.089	. 203	.127
Home SE	.002	.067	-.014	. 068	.065

*p<.01 +p <.05

Correlation matrix

Female:	Aca.	Ath.	P.Arts	P.Social	Club Total
General SE	-.013	.042	.043	.121	.093
Social SE	-.172*	.119	-.083	-.111	-.147*
School SE	.215*	.012	. 192*	. 200*	.308*
Home SE	.009	-.060	.028	. 046	. 025

*p<.01 +p <.05

Discussion

This study provides perhaps the most accurate portrayal to date of the effects of extracurricular activities on the modern suburban high school population. The general trend within the results reveals that high achieving students are more likely to be involved in extracurricular activities. Consistent with previous research, data analysis also revealed that students with high SES were more likely to be involved as well. Overall girls are more likely to be involved except when it comes to sports. Contradicting earlier scholars,

this research found that athletic participation had no significant effect on grades. Using GPA and PSAT scores as independent variables it was determined that overall participation in clubs was positively associated with high academic achievement. This is not surprising, in light of previous scholarship, nor was the finding that high levels of participation in clubs lead to higher self-esteem. Although these results seem consistent with the previous work done in this field closer examination reveals a different view.

Athletic participation had no statistically significant relationship with grades. This contrasts with much of the previous literature. Eidsmore (1964) stated that football players have higher GPA's and Schafer & Armer (1968) found that athletes in general had higher grades overall. Of course, the findings of the current study supported Hank & Eckland (1976), who concluded that athletic participation had no real effect on grades. There are several reasons that the that the results of this study may differ from previous work in this area. One is that the sample was significantly more diverse than that found in the existing literature. Secondly, this study took into account the level of participation and intensity of both the individual and the club. It also insisted that club advisors and coaches provide intensity ratings. The correlational analysis took into account that some subjects were not active as active as they portrayed themselves to be.

Another interesting finding is the fact that simply being involved in clubs was related to students having higher grades and standardized test scores. These findings agree with research published by both Otto (1975, 1976) and Eccles & Barber (1999). Yet, when overall participation in clubs is broken down into categories as suggested by Eccles & Barber (1999), only two categories showed statistically significant results. Participants in academic clubs and performing arts groups were significantly more likely

to have higher academic achievement and better standardized test scores in the t-test analyses. Correlations, which take into account level of participation and intensity of club activity concur with these results for every variable.

Self-esteem was clearly affected by extracurricular involvement. The surprising finding was that social self esteem was actually lowered to a significant degree in correlational analyses.

Clearly, involvement in Model Congress, Debate Team, and Science Olympiads does not improve one's social standing or self concept. This is a new finding because previous studies have broken down neither self-esteem nor types of clubs in this way. On the other hand, participation in athletics improved social self-esteem. These findings concur with previous research done by Rehberg (1969) and Spreitzer & Pugh (1973). Upon reflection, these results are intuitive and commonsensical. The "nerdy" smart kids may be socially awkward while the athletes may feel more secure in social situations.

As expected, school self-esteem was improved by club involvement. This is based on both "yes/no" unpaired t-tests and correlations which took into account intensity and individual involvement. It was also found that school self-esteem was profoundly affected by club involvement. Overall club involvement was positively correlated with high levels of school self esteem. Specifically, academic, pro social and performing arts clubs all had positive effects. While no one has ever looked at each type of club, the general trend of these results agrees with previous research (Philips 1971). Moreover, high levels of school self-esteem are related to high levels of *school attachment*. This was described by Eccles & Barber who found that participation in clubs encouraged students' attachment to school. It is unclear, however, whether involvement causes the attachment

or if the students join the clubs because they are already attached to school. Lastly, it must be noted that general self-esteem was largely unaffected, most likely because social self- esteem was negatively correlated to club involvement while school self-esteem was positively correlated. If the two components worked in opposite directions, the effects on the whole would naturally be negated. Home self-esteem was not effected either because it is just that, *home* self-esteem.

Another interesting finding suggests that club involvement more profoundly affects self-esteem in girls. By contrast, it was found that the grades of boys were more closely linked to

clubs. There seems to be a gender effect at work that no previous research has picked up on before. Perhaps that is because of previous scholars' focus on sports and the fact that most studies lacked the gender balance of the current one. In any event, the issue merits further study by future researchers.

So much of the previous research has portrayed clubs as a panacea for all the ills students face. It is argued that clubs can improve self-esteem, prevent drug use, lower the dropout rate, curb delinquency, and enhance the prospects of a prosperous adulthood. None of this is untrue. It is simply exaggerated. The relationship is hardly so linear. There is no magic pill and club involvement does have its drawbacks. While school self-esteem improves, social self-esteem is *hurt*. Nor is it clear that club involvement improves grades either. It may just be that good students join clubs. While there are many benefits to extracurricular participation, they should not be exaggerated into a cure-all for the social problems which threaten America's youth.

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