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ABSTRACT

In 1997, all high schools in the largest school district in Colorado were invited to participate in a study of whether students who participated in school-sponsored activities were different from nonparticipants with respect to grade point averages (GPAs) and school attendance. The project also studied differences in these areas for gender, ethnicity, and socioeconomic level as reflected by participation in the school lunch support program. Sixteen schools sent complete data on student GPAs, and 10 of these also sent data on student attendance. Of the 19,543 students covered by the study, those who participated in student activities had significantly higher GPAs and significantly lower absenteeism. Differences did exist, however, for gender, ethnicity, and socioeconomic level. Students who participated in sports had higher GPAs than those who did not participate and those who participated in nonsport activities. The results differed for ethnicities, with activities having the strongest effect for the White/non-Hispanic students. Findings also show that patterns of participation differ for members of different ethnicities, suggesting that cultural differences are responsible for participation differences. Females also had higher absenteeism in high school whether or not they participated in student activities. However, female participants had fewer days of absence than nonparticipants. The paper discusses some implications for fostering participation and student achievement. (SLD)

THE EFFECTS OF STUDENT ACTIVITY PARTICIPATION, GENDER, ETHNICITY, AND SOCIO-ECONOMIC LEVEL ON HIGH SCHOOL STUDENT GRADE POINT AVERAGES AND ATTENDANCE

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The Effects of Student Activity Participation, Gender, Ethnicity, and Socio-Economic Level on High School Student Grade Point Averages and Attendance

Introduction and Background to the Study

In the Spring of 1997, all high schools in the largest school district in Colorado were contacted to participate in a project which sought to examine whether students who participated in school-sponsored activities were different from non-participants on grade point averages (GPAs) and on school attendance. Further, the project sought to discover if any differences so found were the same for each of the independent variables of gender, ethnicity, and socio-economic level (as reflected by the school lunch support program) which were also examined for influence on the effect of participation on GPAs and attendance. Of the 17 schools with complete student activities offerings, 16 schools sent complete GPA data on their student body and 10 of those schools sent complete data on student attendance. This data was collated and entered into a

computer to allow statistical analysis using the Statistical Package for the Social Sciences.

Results of Analysis

The results of this project, given in the tables below, show that of the 19,543 students in the project, those who participate in activities have significantly higher GPAs and significantly lower absenteeism. However, while these results are consistent across enders, ethnicities, and socio-economic levels, the results show that differences do exist between genders, ethnicities, and socio-economic levels. These results are presented in the tables below.

Table 1 gives the percentage of students who participate and shows that the participants had significantly higher GPAs than non-participants for all students, for each gender, for females only, and for males only. The mean GPA for all participants was 3.0915 and the mean GPA all for non-participants was 2.4379. This difference was significant at the .0000 level. Further, the female students' GPA was higher than the male students' GPA in the first analysis, the female participants' GPA was higher than the

female non-participants', and the male participants' GPA was higher than the male non-participants' GPA. A larger percentage of females participated than did males.

Table 1.
Comparison of Participants and Non-Participants on GPA

Group	% of students	Mean GPA	Significance
All Students	100%	2.7180	
All females	49.5%	2.8540	.0000
All males	50.5%	2.5846	
All Students		2.7180	
Participants	42.9%	3.0915	.0000
Non-Participants	57.1%	2.4379	
All Females		2.8540	
Participants	46.4%	3.2163	.0000
Non-Participants	53.6%	2.5949	
All Males		2.5846	
Participants	39.4%	2.9740	.0000
Non-Participants	60.6%	2.3320	

Table 2 presents the same analyses as Table 1, but for the variable of attendance rather than GPA. The statistic reported for students is "days absent from school," so the higher the number, the poorer the attendance. The percentages are slightly different than in Table 1 because 6 of the schools did not report student attendance for this project. In Table 2, students who participated in activities are compared to non-participants in each category. While the overall difference between female and male students is

not statistically significant, the female students' mean absenteeism is a half-day more than the mean number for male students. In each analysis, the participants' mean days missed is significantly lower than the non-participants' mean days missed. The mean days absent for females is higher than that of males for both the participants and the non-participants even though participant females have the higher GPAs.

Table 2.
Comparison of Participants and Non-Participants on Absences

Group	% of students	Mean Absences	Significance
All Students	100%	15.1057	
All females	49.5%	15.3738	.2790
All males	50.5%	14.8565	
All Students		15.1057	
Participants	43.1%	9.4728	.0000
Non-Participants	56.9%	19.3798	
All Females		15.3738	
Participants	46.3%	9.7736	.0000
Non-Participants	53.7%	20.1931	
All Males		14.8565	
Participants	40.0%	9.1349	.0000
Non-Participants	60.0%	18.6665	

Analysis of Data by Ethnicity

The original research question was continued: Does participation in high school interscholastic activities have an effect on student attendance and GPA when the analysis considers student ethnicity? The findings are presented in

the following four tables and each table presentation is discussed.

While students of every ethnicity who participated achieved higher mean GPAs than non-participant students, there was considerable difference between the ethnic groups on GPA, with Asian/PI students achieving the highest mean GPAs. Further, in every analyses, female students, whether participants or non-participants, achieved higher mean GPAs than the male students for each ethnicity.

Table 3 presents the effect of ethnicity on student grade point averages. For each of the five ethnicities examined, Native American, Asian/Pacific Islander, Black/Non-Hispanic, Hispanic, and White/Non-Hispanic, the students who participated in school-sponsored activities scored higher GPAs than did the students of the same ethnicity who did not participate in activities. Although the mean GPA was different for each ethnicity, within each ethnicity, students who participated achieved a higher mean GPA than did those who did not participate, and the difference was significant at the alpha=.001 level. It was

felt that it would be helpful to subdivide school sponsored activities into two groups, sports and non-sports, in examining ethnicity on the effects of participation. The non-sport activities were primarily instrumental and choral music, but also included yearbook, debate, and student council. The group represented in this table with the highest mean GPA is the non-sport participants of Asian/Pacific Island with a 3.3499. GPA. The group represented with the lowest mean GPA is the Native American non-sport participants with a mean GPA of 1.9711. This is the only case in the table where participants score a lower mean GPA than non-participants, and the difference is not statistically significant. The only other situation in the table where the difference between participants and non-participants on mean GPA is not significant is the case of non-sport, Black/Non-Hispanic students where the non-sport participants had a mean GPA higher than non-participants but the difference was not significant.

Table 3.
Comparison of Participants and Non-Participants on GPA by Ethnicity and by Activity.

Group	Nat.Am.	Asian/PI	Black/NH	Hispanic	White/NH
All Activities					
Participants	2.7286***	3.2832 ***	2.7335 ***	2.7242 ***	3.1168 ***
Non-Part.	2.0630	2.7377	2.1800	2.0537	2.4664
Sport					
Participants	2.9325 ***	3.2557 ***	2.7573 ***	2.7570 ***	3.1411 ***
Non-Part.	2.0630	2.7377	2.1800	2.0537	2.4664
Non-Sport					
Participants	1.9711 NS	3.3499 ***	2.6286 NS	2.6093 ***	3.0475 ***
Non-Part.	2.0630	2.7377	2.1800	2.0537	2.4664

NS=not significant, *=p<.05, **=p<.01, ***=p<.001

When the activities are subdivided into Sport and Non-Sport activities, as shown in Table 3, it can be seen that except for the Asian/Pacific Island students, the students who participate in Sports have the highest mean GPA within their ethnic classification - significantly higher than the mean GPA for the non-participants in that classification and higher than the mean GPA for participants in Non-Sport activities.

Table 4 presents the same analysis as Table 3, but for the variable of mean attendance rather than mean GPA. In all categories except Native American Non-Sport, the participants missed fewer days of school than did the non-participants in each category. Not surprisingly, this

exceptional category had the smallest numbers of participants in the study with only three participants and the results were not significant.

There is only one other category where the results are not significant, the Black/Non-Hispanic non-sport participants. In all other categories of the table, participants, whether sport or non-sport, have lower days absent than do their counterparts who did not participate. The best attendance is by the Asian/Pacific Island students who participate in sports activities and the highest days missed is by Native American participants who participate in non-sports activities (3 students).

Table 4.
Comparison of Participants and Non-Participants on Attendance by Ethnicity and by Activity

Group	Nat.Am.	Asian/PI	Black/NH	Hispanic	White/NH
All Activities					
Participants	10.8255 *	7.7347 ***	14.6492 *	12.7850 ***	9.1820 ***
Non-Part.	25.1030	15.6137	24.1476	27.5378	18.4438
Sport					
Participants	10.4912 *	7.5200 ***	13.0057 **	11.4756 ***	8.5656 ***
Non-Part.	25.1030	15.6137	24.1476	27.5378	18.4438
Non-Sport					
Participants	34.3100 NS	8.2165 *	27.0929 NS	18.2126 **	11.0258 ***
Non-Part.	25.1030	15.6137	24.1476	27.5378	18.4438

NS=not significant, *=p<.05, **=p<.01, ***=p<.001

The factor of socio-economic level was examined using the school-identified lunch support category for each student. The three levels reported were "no support," "partial support," and "full support" coinciding with family incomes in descending order such that "no support" represented students whose families had the highest income while "full support" represented students whose families had the lowest income and needed the most support for daily lunch. Table 5 presents the results of this analysis. While an analysis of all students in the study showed that participants scored higher mean GPAs than non-participants in all socio-economic levels (top line of Table 5), further information is garnered when the socio-economic levels are subdivided by student ethnicity. Since this school district is one of the more wealthy in the state, some of the categories (partial support) have fewer than 2 students in this category leading to an "NA" or "not applicable" result. The highest mean GPA was achieved by the Asian/Pacific Island students with no lunch support while the lowest mean GPA was found for the Native

Americans on full lunch support. Generally, the lowest mean GPAs were found

Table 5.
Comparison of Participants and Non-Participants on GPA by Ethnicity and Lunch Support

Ethnicity	Group	No Support	Part. Support	Full Support
All students	Participants	3.1186 ***	2.6887 ***	2.6028 ***
	Non-Part.	2.4699	2.2638	2.0921
Native American	Participants	2.8039 **	N.A.	2.3068 NS
	Non-Part.	2.2298		1.4998
Asian/PI	Participants	3.3215 ***	3.0637 NS	3.0872 NS
	Non-Part.	2.7347	2.5984	2.8077
Black/NH	Participants	2.8112 ***	N.A.	2.4073 NS
	Non-Part.	2.2901		1.9335
Hispanic	Participants	2.7922 ***	2.2002 NS	2.3065 **
	Non-Part.	2.1027	2.0370	1.8207
White/NH	Participants	3.1376 ***	2.7462 ***	2.6233 ***
	Non-Part.	2.4931	2.2788	2.1043

NA= not applicable, NS=not significant, *=p<.05, **=p<.01, ***=p<.001

for students on full lunch support (with the exception of Asian/PI and Hispanic students) while the highest mean GPAs were found for students with no lunch support.

The question of the effect of ethnicity and lunch support on attendance for participants and non-participants was examined and the results reported in Table 6. For all students of all ethnicities, regardless of their level of lunch support, those who participated missed significantly fewer days of school on average than those who did not participate. Once again, these results mask the results found

when ethnicity is taken into account. As a general finding, students with no lunch support have fewer days absent than those students with full lunch support, with the exception of Asian/PI students. In other words, higher income seems to translate into higher attendance. However, this finding is not true for Asian/Pacific Islander students where the partial support participants have the lowest attendance in the table, with Hispanic, Partial Support students the lowers in their group. In the case of Native American students, those with higher family income had higher attendance for participants, but these differences were not significant.

Table 6.
Comparison of Participants and Non-Participants on Attendance by Ethnicity and Lunch Support

Ethnicity	Group	No Support	Part. Support	Full Support
All students	Participants	8.9755 ***	15.6430 *	16.0114 ***
	Non-Part.	17.8430	25.4248	29.6914
Native American	Participants	14.0163 NS	N.A.	15.5100 NS
	Non-Part.	19.2896		41.6365
Asian/PI	Participants	7.7118 ***	6.6100 NS	7.9689 NS
	Non-Part.	16.0051	16.1209	14.3430
Black/NH	Participants	12.9066 NS	26.3750 NS	18.4507 NS
	Non-Part.	19.6541	40.5400	31.6436
Hispanic	Participants	11.5959 ***	10.3631 *	21.3331 ***
	Non-Part.	23.9754	25.7289	38.5924
White/NH	Participants	8.7682 ***	16.3372 ***	15.6449 ***
	Non-Part.	17.2731	26.2553	28.0916

NA= not applicable, NS=not significant, *=p<.05, **=p<.01, ***=p<.001

Conclusions and Discussion

The results of this study demonstrate that students who participate in school activities have higher grade point averages and lower absenteeism when compared to students who do not participate in these activities, no matter what the ethnicity of the students. Those students who participate in sport activities have higher GPAs than those who do not participate and those who participate in non-sport activities. These results are consistent with previous studies examining the same question in broader terms.

Results presented in this study lead to some interesting conclusions that might be examined through future research. First, while participants of all five ethnicities examined have higher GPAs and lower absenteeism, the results differ between ethnicities, leading to the possibility that cultural differences also have an effect on which students participate in which activities. Activities seem to hold the strongest effect for the White/Non-Hispanic students. Therefore, coaches and directors of activities might be well-advised to examine each activity to see if more could be done to attract students

of different ethnicities and to make each activity more relevant to the students of divergent backgrounds. This could include use of folk musical instruments, selection of nontraditional compositions for musical activities and the inclusion of novel musical organizations as well as different athletic contests in the list of sanctioned activities.

Second, whether or not they participate in activities, females seem to have higher absenteeism in these high schools. While female participants have fewer days absent than do female non-participants, causes of female absenteeism should be examined and if found to be culture-based, possible alteration in procedures suggested to alleviate this difference.

Third, the results for certain ethnicities are often contrary to the results for other ethnicities. These ethnicities, especially Oriental/Pacific Islander, might be examined to discover what it is in the culture that leads to these results. The differences should then be judged to be positive or negative and the results incorporated into the planning for that and other ethnicities.

Finally, activities themselves should be examined to discover what qualities are inherent within the activities that may lead student participants of different ethnic backgrounds to accomplish more within the academic structure. When these qualities are found, efforts should be made to incorporate some variation of them directly into the academic organization of the schools that serve students of each ethnicity.

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