

## School Sports for Disciplinary Behavior of Students at High-Risk

**Mido Chang, PhD**

**Hyejin Bang, PhD**

Department of Counseling, Recreation, & School Psychology  
School of Education & Human Development  
Florida International University  
United States

**Sunha Kim, PhD**

Assistant Professor

Department of Counseling, School, and Educational Psychology  
Department of Learning and Instruction  
Graduate School of Education  
SUNY at Buffalo  
United States

### Abstract

*The study examined sports participation's effect on student misbehavior and suspension with focused attention to high-risk groups for disciplinary behaviors. Using the Education Longitudinal Study, the study analyzed sports effects for Black, Hispanic, low-income, and male students. The results were interpreted with theories that explain adolescent disciplinary behaviors and sports. The study found that students from Black, Hispanic, the lowest-income groups displayed significantly low sports participation and high incidents of misbehavior and suspension and the sport participation of students from the Hispanic, low-income, and male group had more suspension incidents.*

**Key Terms:** interscholastic sports, students at high-risk, suspension, misbehavior, minority students

### Introduction

Reducing high school students' disciplinary behaviors in school has been a challenging mission for educators and policymakers. School suspension and expulsion are intended to ward off student misbehaviors, alert parents, and protect other students and school staff (Marchbanks III et al., 2015; Noltemeyer et al., 2015; Shollenberger, 2013). Most of all, schools choose suspension or expulsion because it is challenging to manage a few students' violence, antisocial behavior, bullying, disruptive classroom behavior, and truancy at the majority of students' cost (Hemphill et al., 2009).

Research shows that the punitive school policy causes more severe problems even to the society since suspended students are more likely to experience academic failure and drop out of school (Arcia, 2006; Dupper et al., 2009) and become involved in the juvenile justice system (Gregory & Ripski, 2008). Furthermore, many juvenile delinquents show high rates of suicides, violence, drug abuse, crimes, and early pregnancies, all of which influence families, schools, and communities as well as individuals (Hemphill et al., 2014). Conversely, the punitive sanction initiated to control students' misbehavior causes the juvenile justice system's high cost and societal burden.

More markedly, some groups of high school students are repeatedly over-representing in the groups of school suspension. In the US, students of Black or Hispanic backgrounds (Skiba & Rausch, 2006; Vavrus & Cole, 2002), students from low-income families (Hemphill et al., 2006, 2009) and male students (Hemphill et al., 2006, 2009; Skiba & Rausch, 2006; Vavrus & Cole, 2002). The consequences of suspension are not limited to the individual level. It is critical to identify school programs or activities to help students stay away from deviant behaviors and become successful in school rather than stigmatized as problematic students or suspended students.

Among several school activities, sports participation in school has a long history as an intervention program channeling youth's high energy to desirable activities and lowering their school suspension and expulsion. School athletic programs provide a channel to encourage students to participate in sports activities and help them connect to school. Research suggests that participation in interscholastic sports can lead to school success, highlighting the positive effects

of interscholastic sports on measurable success outcomes such as grades and graduation rates(Lumpkin & Favor, 2012; Martinez & Mickey, 2013).

This study is motivated to examine the effects of sport participation for students with high-risk factors on problem behaviors during high school years. For the high-risk groups of school disciplinary behavior, we identified three high-risk groups as minority students from Black and Hispanic families, those from low-income families, and male students since they have been over-representative groups of disciplinary sanctions in school. Although there are other factors (i.e., high mobility, poor school environment) positively associated with school problem behavior and penalties, we limited the study's scope to the three risk factors in this study. And we paid focused attention to sports participation effects for those groups with those three factors.

We used the US nationally representative data, the Education Longitudinal Study (ELS), due to the rich data on high-school students' various types of sports participation, misbehavior, and suspension, as well as their demographical information. In the study, we examined the students' misbehavior as a low level of disciplinary behaviors and suspension incidents as a severe corrective action level. Paying both divided attention and combined attention to the groups with high-risk factors for punitive behaviors, we tried to answer the following research questions that guided the overall framework and analysis of the study:

1. How much did high-risk groups participate in high-school sports compared to their counterparts?
2. How much did high-risk groups show disciplinary problems compared to their peers?
3. When high-risk groups participated in high-school sports, did they display low incidents of disciplinary issues?

## **Literature Review**

### ***Social Bond Theory on Problem Behaviors and Sports Participation***

Several theories have been tested to explain the relationship between sports participation and problem behaviors during the adolescent years. According to a social bonds theory, (Hirschi, 1969) first introduced and expanded by several researchers (Craig, 2016; Cusick et al., 2012; Hart & Muller, 2013), delinquent behavior occurs when adolescents have weaker bonds to society. Bond to others, dedication to school, and engagement in regular activities emerge as the manifestation of adolescents' social bonds, which will inhibit them from engaging in delinquent behavior (Cusick et al., 2012). Specifically, four elements of social bonds, such as attachment, commitment, involvement, and beliefs, will keep adolescents in healthy school involvement. Through attachment, adolescents maintain a personal connection to others (Grindal, 2017); commitment helps them to involve in conventional activities (Hart & Muller, 2013); involvement leads them to participate in activities (Craig, 2016); and beliefs will help them to take in conventional norms(Peterson et al., 2016). Sports participation has been found to play a significant role in bringing forth the four elements of social bonds for adolescents(Hass, 2001).

Interscholastic sports participation usually requires students to team up under competitive conditions, building a close relationship with teammates and coaches. They also feel they belong to the sports team. Such attachment helps students deter deviation because they do not want to risk losing the love and respect of team members (Chapple et al., 2005). Conversely, adolescents who do not have opportunities to identify themselves as particular group members are likely to be at higher risk of negative repercussions, including dropout, suicide, substance abuse, or discipline problems.

Commitment also motivates students to get involved in an activity. A student who invests time, energy, and resources into conforming to social norms and expectations (e.g., attaining athletic goals) is less likely to deviate from those who do not make such an investment. Research also showed that students who participate in school sports display less delinquent behavior because they know delinquency may jeopardize their opportunity to participate in their activities and develop functional relational status (Peterson et al., 2016; Veliz & Shakib, 2012). As for involvement, Hirschi argues that an individual who is actively engaged in routine activities usually has less time and opportunity to participate in problem behaviors such as alcohol, cigarette, drug use, and delinquency. That is, the student's vast amount of time spent in school athletic programs leaves no time for engagement in deviant behaviors.

When a student views specific values in some legal system as beliefs, they will follow them. The student who is involved in school sports tends to believe in their traditional norms and values(Newman et al., 2017; Spruit et al., 2016). The view will help develop such traits as cooperation, teamwork, and sportsmanship, which are socially valued(Guan & So, 2016; Haudenhuyse et al., 2013). According to Hirschi, when the social bond is strong, the people tend to show less deviant behavior. In contrast, abnormal behavior becomes more likely when one or more of the elements are weakened or fractured.

### ***Sport Participation of Students of Minority, Low-Income Families, and Males***

Even though all high school students in a rapid growth stage should be involved in physical activities and sports, youth's participation in physical activity declines, especially during adolescence (Belton et al., 2014;

Johnston et al., 2007). Only 69% of girls and 79% of boys between 3rd and 12th grades participated in at least one organized sport in 2008 in the United States (Sabo & Veliz, 2008). This pattern becomes worse for female students than males (Eime et al., 2013; Hallal et al., 2012; Johnston et al., 2007).

To make things worse, students from minority subgroups participate less in sport and physical activities. Pate, Trost, Levin, and Dowda (Pate et al., 2000) showed that White students were more physically active and participated in sports more than Black and Hispanic students. Johnston, Delva, and O'Malley's study (Johnston et al., 2007) showed that sports participation was lower in Black and Hispanic groups and negatively correlated with SES. Sports participation rates were even lower, declined in higher grades, and were lower among low-SES and Hispanic students. Some researchers (Gordon-Larsen, P et al., 2006) attributed the fewer sports participation of minority and low-SES students to the lack of human capital and socio-economic resources. Moreover, students living in low-income and minority neighborhoods tended to have limited access to facilities for physical activities and opportunities, discouraging them from participating in sports (Estabrooks et al., 2003; Gordon-Larsen, P et al., 2006, 2006).

Notably, many researchers tried to explain the lack of Hispanic students' sports participation relating to linguistic barriers. Singh et al. (Singh et al., 2008) showed lower sport participation levels and higher inactivity among immigrant Hispanic children with foreign-born parents. Similarly, Liu et al. (Liu et al., 2009) indicated that first and second-generation Hispanic youths were less involved in physical activity than third-generation youths. Also, Hispanic adolescents living in homes where English was not the primary language showed less physical activity. For the less physical activities of the minority groups, Salinas et al. (Salinas et al., 2014) blamed the language barrier of immigrant families. Parents of students from non-English-speaking households get easily discouraged from attending school events such as regular parent-teacher conferences and volunteer activities. Such limited access to resources in the broader community can pose another significant barrier to learning about school sports' extracurricular opportunities (Springer et al., 2010). Often, parents who are not familiar with school-based athletic programs cannot provide strong support for their children's participation in interscholastic sports. It has become more evident that school plays an essential role in encouraging students, particularly minority students, to receive physical, psychological, and social benefits through extracurricular athletic programs.

It is expected a positive influence of sport participation as intervening problem behaviors in school. Unfortunately, little research examines students' involvement in school athletics and its effect on their school problem behaviors. Few studies investigated the impact of interscholastic sports participation of minority students, students from low-income families on their school disciplinary behavior. One of the few studies by Melnick, Sabo, and Vanfossen (Melnick et al., 1992) examined the outcomes of high school athletic participation among Black and Hispanic youth. The authors found that the dropout rates of rural black males, suburban Hispanic males, and rural Hispanic females were lower when they participated in interscholastic sports. The authors reasoned that the positive effects of sports for those minorities have occurred because they found sports participation was fun and satisfying and enjoyed the friendships and popularity fostered by their athletic participation. Similarly, Lumpkin and Favor (2012) found that fewer high school athletics dropped out of school than did non-sport participants and noted the dropout rates between athletes and non-athletes were the highest White group than other racial groups.

## **Research Method**

### ***Data Source***

This study used a US national longitudinal dataset, the Education Longitudinal Study (ELS) data collected by the National Center for Education Statistics (NCES). The ELS was first collected from 16,200 10th-grade students in 2002 using a multistage stratified sampling method and followed the four years after their high school until 2013. Among four waves of the available ELS data, we used two waves of 10th-grade and 12th-grade data analyzing the effect of student participation in interscholastic sports participation on the two types of school disciplinary behaviors: school misbehavior and suspension. This dataset was well suited for this study because it contains rich information on students' school program participation and disciplinary behaviors. It provided a wide array of student-level items on school misbehaviors, suspension, and various types of interscholastic sports participation, as well as demographic information.

## Variables

The primary predictor variable of the study is 10th-grade students' interscholastic sports participation. The ELS contains students' participation in seven types of interscholastic sports: baseball, softball, basketball, football, soccer, team sports, and solo sports. All seven items were used to create a composite variable called "sports."

Students chose one option among 'no interscholastic team during data collection,' 'did not participate,' 'participated at the junior varsity level,' 'participated at the varsity level,' or 'participated as varsity captain' for each sport. In the study, we coded 0 for no interscholastic team or did not participate, 1 for participating at the junior varsity level, and 2 for participating at the varsity level or as a varsity captain. The sports variable is the summation of the seven sports participation. The range of the sports variable is 0 to 14, and most students (42.6%) did not participate in any sports.

One of the study's outcomes, the misbehavior variable, was considered a lower disciplinary behavior level. The variable was constructed using factor analysis with four school misbehaviors, such as the frequencies of being late for school, cutting or skipping classes, absences from school, and getting in trouble (see Table 1). When analyzing the four school misbehaviors using the confirmatory factor analysis, the four items displayed high loadings ranging from 0.84 to 0.97, indicating similar misbehavior patterns. In other words, when a student revealed high occurrences of one misbehavior, she or he tended to show high incidents of the different three misbehaviors.

*Table 1. Composite of school misbehavior*

<b>Indicator</b>	<b>Loading</b>	<b>SD</b>	<b>T</b>
How many times late for school	0.90**	0.01	78.57
How many times cut/skip classes	0.90**	0.01	71.88
How many times absent from school	0.84**	0.02	54.49
How many times got in trouble	0.97**	0.01	73.98

*Note: \* indicates significant at 0.05, and \*\* indicates significant at 0.01*

Another main outcome variable was a student's suspension, considered a severe level of disciplinary behavior. It was a composite variable of three types of suspension collected in students' 12th grade: in-school suspension, probation, and transfer due to disciplinary behaviors. The in-school suspension question asked students, "How many times put on in-school suspension?" with five options (0 = never, 1 = 1-2 times, 2 = 3-6 times, 3 = 7-9 times, and 4 = 10 or more times). The probation question asked students, "How many times suspended/put on probation?" with the same options. The transfer question asked, "How many times transferred for disciplinary reasons?" with the same options. The composite suspension variable ranged from one to five incidents having the highest frequency with 76.1% for zero incident (0 = 12321, 76.1%; 0.5 = 1339, 8.3%; 1 = 577, 3.6%; 1.5 = 140, 0.9%; 2 = 84, 0.5%; 2.5 = 33, 0.2%; 3 = 22, 0.1%, 3.5 = 9, 0.1%; 4 = 46, 0.3%).

We paid particular attention to the effects of students' minority status, which research has indicated a significant association with students' disciplinary behaviors (Skiba & Rausch, 2006; Vavrus & Cole, 2002). In the study, we used the three groups of White ( $n = 9,034$ , 66.3%), Black ( $n = 2,166$ , 15.9%), and Hispanic ( $n = 2,433$ , 17.8%) for the analysis, and the White group was served as a reference group for the comparison of two minority groups.

In addition, the two variables closely associated with students' disciplinary behaviors, family SES status (Hemphill et al., 2009; Hemphill et al., 2006; Skiba & Rausch, 2006; Vavrus & Cole, 2002) and male students (Hemphill et al., 2009; Hemphill et al., 2006; Skiba & Rausch, 2006; Vavrus & Cole, 2002) also analyzed the effects in this study. The study used the SES quartile variable which is a standardized composite variable created by NCES, using parents' education, parents' occupation, and family income (SESQ1=Lowest SES quartile:  $n = 2,972$ , 21.8%; SESQ2=Second SES quartile:  $n = 3,114$ , 22.8%; SESQ3=Third SES quartile:  $n = 3,196$ , 23.4%; SESQ4=Highest SES quartile:  $n = 3,637$ , 26.7%). The student's sex was coded 1 for male ( $n = 6,784$ , 49.9%) and 0 for female ( $n = 6,851$ , 50.2%).

## Results

### *Difference of Sports Participation, Misbehavior, and Suspension among Various Groups*

As preliminary analyses, we conducted descriptive statistics, analysis of variance (ANOVA), Cronbach alpha, and exploratory factor analysis presented the results in Table 2. We found significant differences in all three domains when examining the racial disparities in sports participation, misbehavior, and suspension. As shown in ANOVA results in Table 2, in sports participation, the White group displayed the highest participation, followed by the Black and the

Hispanic. In misbehavior, Hispanic showed the highest frequency, Black was the second, and White was the last. The student suspension also showed a significant difference among the races.

As shown in previous research (Skiba & Rausch, 2006; Vavrus & Cole, 2002), the Black was the highest, the Hispanic was the second, and the White was the last.

As in the analysis of SES, the first SESQ (lowest) group showed the lowest sports participation, followed by the second SESQ group and the third SESQ group. As expected, the fourth SESQ group had the highest sports participation. The disciplinary behaviors showed reverse patterns as the sports participation confirming prior research (Hemphill et al., 2009; Skiba & Rausch, 2006). For misbehavior, the first SESQ group showed the highest frequencies, followed by the second SESQ group. And the third and fourth SESQ groups together displayed the lowest frequencies. For suspension, the first SESQ group showed the highest incidents, and the next were the second and the third SESQ groups. The fourth SESQ group had the lowest incidents.

The sex effect confirmed the expectation. Male students displayed higher sports participation, higher frequencies of misbehavior, and higher incidents of suspension than female students.

*Table 2. Comparison of sports, misbehavior, and suspension by race, SES, and sex groups*

	<b>White</b>	<b>Black</b>	<b>Hispanic</b>		<b>ANOVA <i>F</i></b>
Sports	1.59 (1.97)	1.44 (2.09)	1.18 (1.96)		35.59**
Misbehavior	-0.06 (0.95)	0.09 (0.98)	0.20 (1.11)		62.54**
Suspension	-0.06 (0.80)	0.20 (1.22)	0.11 (1.43)		58.96**
	<b>SESQ1</b>	<b>SESQ2</b>	<b>SESQ3</b>	<b>SESQ4</b>	
Sports	1.14 (1.99)	1.37 (2.04)	1.55 (1.90)	1.83 (1.97)	68.34**
Misbehavior	0.14 (1.06)	0.08 (1.04)	-0.03 (0.96)	-0.14 (0.88)	48.89**
Suspension	0.12 (1.15)	0.03 (0.92)	0.00 (1.10)	-0.09 (0.86)	22.40**
	<b>Male</b>	<b>Female</b>			
Sports	1.74 (2.13)	1.25 (1.81)			184.78**
Misbehavior	0.03 (1.02)	-0.01 (0.96)			5.17*
Suspension	0.13 (1.22)	-0.11 (0.74)			174.81**

*Note: \* indicates significant at 0.05, and \*\* indicates significant at 0.01*

### **Correlation among Sports, Misbehavior, Suspension, Race, SES, and Sex for All Students**

Correlation results in Table 3 show the overall relationships among variables. Sports showed a significantly negative correlation with misbehavior, indicating when sports participants had lower frequencies of misbehavior. Sports had significantly positive correlations with suspension and SESQ, indicating that sports participants tended to show high incidents of suspension and high SES status. Sports had significant negative correlations with Black, Hispanic, and sex. Therefore, Black, Hispanic, and female students less participated in sports than White and male students, confirming our ANOVA results provided in the previous section.

Misbehavior had a significant, negative correlation with the SES quartile, indicating that students from higher SES families tended to show less misbehavior. Misbehavior also had significant, positive correlations with Black and Hispanic and a significant, negative correlation with sex. The results indicated that Black and Hispanic students displayed high frequencies of school misbehavior than White students, while females showed low frequencies of misbehavior than males. Misbehavior, however, did not lead a significant relation with suspension.

Suspension showed significant, positive correlations with Black and Hispanic, confirming the previous results that Black and Hispanic students showed higher incidents of suspensions than White students. The suspension had significant, negative correlations with SES quartile and sex, having higher SES and female students with fewer suspension incidents.

Table 3. Inter-correlation among sports, misbehavior, suspension rates, SES, and sex

	Sports	Misbehavior	Suspension	Black	Hispanic	SES Quartile	Sex
Sports	1						
Misbehavior	-.079**	1					
Suspension	.027**	.008	1				
Black	-.012	.036**	.079**	1			
Hispanic	-.072**	.087**	.044**	-.203**	1		
SES Quartile	.128**	-.110**	-.074**	-.093**	-.181**	1	
Sex	-.122**	-.021*	-.121**	.001	.001	.008	1

Note: \* indicates significant at 0.05, and \*\* indicates significant at 0.01

### **Sports Effects on School Misbehavior of Different Groups**

We conducted a series of regression analyses to examine the effects of sports participation on student misbehavior and suspension in school (see Table 4). In the first set of analyses, we examined the differential effects of sport participation on three racial groups. As we expected, the effects on school misbehavior were significant in all groups. When students more frequently participated in interscholastic sports, they tended show less frequencies of misbehavior (White:  $B = -0.028$ ,  $SE = 0.005$ ,  $p < 0.01$ , Black:  $B = -0.028$ ,  $SE = 0.005$ ,  $p < 0.01$ , Hispanic:  $B = -0.028$ ,  $SE = 0.005$ ,  $p < 0.01$ ).

When we analyzed the sports effects on school misbehavior for four different SES groups, we also noted significant effects across the all SES groups (SESQ1:  $B = -0.040$ ,  $SE = 0.010$ ,  $p < 0.01$ , SESQ2:  $B = -0.042$ ,  $SE = 0.010$ ,  $p < 0.01$ , SESQ3:  $B = -0.026$ ,  $SE = 0.009$ ,  $p < 0.01$ , SESQ4:  $B = -0.024$ ,  $SE = 0.008$ ,  $p < 0.01$ ), having frequent sports participants show less misbehavior. The sports participation was also significant for both male and female (Male:  $B = -0.033$ ,  $SE = 0.006$ ,  $p < 0.01$ , Black:  $B = -0.052$ ,  $SE = 0.007$ ,  $p < 0.01$ ).

After separate analyses for three racial groups, four SES groups, and two sex groups, we conducted analyses for the two vulnerable groups for disciplinary behaviors: One group was the Black, SESQ1, and male group (Black\_SESQ1\_Male), and the other was Hispanic, SESQ1, and male group (Hispanic\_SESQ1\_Male). The sports participants in the Black, SESQ1, and male group had significantly less misbehavior ( $B = -0.101$ ,  $SE = 0.028$ ,  $p < 0.01$ ). Although the effect for the Hispanic, SESQ1, and male group was not significant, they showed less misbehavior when they participated in sports.

### **Sports Effects on School Suspension for Different Groups**

The effects of sports participation on suspension were against our expectations. For White and Black students, we did not note the significant effects of sports participation on suspension. On the other hand, when Hispanic students participated more in sports, they tended to have more school suspensions ( $B = 0.080$ ,  $SE = 0.016$ ,  $p < 0.01$ ). When examining the effects of the sports for four SESQ groups, sports participation significantly affected the suspension of the SESQ1 group ( $B = 0.063$ ,  $SE = 0.011$ ,  $p < 0.01$ ). Sports participants from low-income families had more suspension, while the other three SESQ groups did not show significant effects. And there is no significant effect of sports participation on two sex groups, either.

Although the sports effect on suspension of the Black, SESQ1, and male group (Black\_SESQ1\_Male) was not significant, it was significantly negative on the suspension of the Hispanic, SESQ1, and male group (Hispanic\_SESQ1\_Male:  $B = 0.121$ ,  $SE = 0.031$ ,  $p < 0.01$ ) indicating that more frequent sports participation of that group had more suspension incidents.

Table 4. Sports effects on school misbehavior and suspension by races, SES, and sex

	Misbehavior			Suspension		
	B	SE	R-Square	B	SE	R-Square
White	<b>-0.028**</b>	0.005	0.003	-0.001	0.005	0.000
Black	<b>-0.047**</b>	0.011	0.010	0.021	0.014	0.001
Hispanic	<b>-0.054**</b>	0.013	0.009	<b>0.080**</b>	0.016	0.013
SESQ1	<b>-0.040**</b>	0.010	0.006	<b>0.063**</b>	0.011	0.012
SESQ2	<b>-0.042**</b>	0.010	0.007	0.016	0.008	0.001
SESQ3	<b>-0.026**</b>	0.009	0.003	0.009	0.011	0.000
SESQ4	<b>-0.024**</b>	0.008	0.003	-0.006	0.008	0.000
Male	<b>-0.033**</b>	0.006	0.005	0.012	0.007	0.000
Female	<b>-0.052**</b>	0.007	0.010	-0.002	0.005	0.000
Black_SESQ1_Male	<b>-0.101**</b>	0.028	0.045	0.027	0.032	0.003
Hispanic_SESQ1_Male	-0.036	0.025	0.005	<b>0.121**</b>	0.031	0.037

Note: \* indicates significant at 0.05, and \*\* indicates significant at 0.01

## Discussion and Conclusion

The purpose of the study was to examine the effectiveness of the sports participation of high school students by relating to the reduced incidents of their misbehavior and suspension in high school. Considering a lack of studies examining the effects of athletic participation effects on students with disciplinary problems, we paid particular attention to student groups who face high-school disciplinary issues. Specifically, we examined the differential effects of interscholastic sports on school misbehavior and suspension of Black and Hispanic students, students from the lowest SES quartile families, and male students. While interpreting the analysis results, we also examined the effects of the sport on White students, students from higher SES families, and female students for the comparison. The study's initial motivation was to see interscholastic sports as an effective school intervention to reduce high school students' school misbehavior and one step further in reducing the suspension incidents.

Our ANOVA and correlation analyses noted a large discrepancy in interscholastic sports participation among racial minority students (Pate et al., 2000). Specifically, we found significantly lower rates of sports participation from Black and Hispanic groups than the White group. Contrastingly, the highest frequencies of student misbehavior were noted in the Hispanic, followed by the Black and the White. Moreover, the suspension incidents were the highest in the Black, the second in the Hispanic, and the last in the White, confirming several studies that studied the racial differences in school suspension rates (Skiba & Rausch, 2006; Vavrus & Cole, 2002).

Using ANOVA analyses, we also found that students from the lowest-income group least participated in sports and showed the highest misbehavior and suspension occurrences. The results match previous results (Hemphill et al., 2009; Skiba & Rausch, 2006). As Johnston, Delva, and O'Malley (2007) indicated, physical education is noticeably lacking in minorities and low-SES students due to limited resources available to those groups.

Although we defer interpreting that the disciplinary behavior was attributed to the lack of sports participation, we can say that less participation in sports and high occurrences of disciplinary behavior are caused by some common factors (i.e., lack of capital and resources) of Black, Hispanic, and low SES groups. As shown in the study of Estabrooks, Lee, and Gyurcsik (2003), the lack of capital and resources of the minority or the poor students can be the primary cause of both the fewer sports participation and many disciplinary problems. The study's result also recognized that male students' interscholastic sport participation rates were higher than female students (Johnston et al., 2007).

Our analysis of correlation for all students show that there is a significant relationship between sports participation and student misbehavior, indicating when students participated in interscholastic sports, they displayed significantly lower frequencies of misbehavior compared to non-sports-participants, confirming the previous research indicated the positive effects of adolescents' sports participation (Chapple et al., 2005; Lumpkin & Favor, 2012). However, we noted unexpected outcomes from the correlation analysis for all students. Sports participants had higher incidents of suspensions, indicating the opposite results from previous results (Cusick et al., 2012; Elder et al., 2000).

Another impressive result is that misbehavior is not significantly correlated with suspension. That is, student misbehavior was not a precursor of student suspension against our expectations. Therefore, we urge future researchers to pay divided attention to the two types of disciplinary behaviors because those behaviors are caused by different motivations and display different dynamics relating to sports participation.

In the next series of analyses, we examined the effects of the sport on the high-risk groups for disciplinary behaviors. We analyzed students of Black, Hispanic, the lowest SES (SESQ1), and males by comparing the results from their counterpart groups. Confirming the results of several studies (Craig, 2016; Yamada et al., 2013), we found that sport participants displayed significantly fewer school misbehaviors in all groups with one exception. The Hispanic, SESQ1, and male group (Hispanic\_SESQ1\_Male) tended to show less misbehavior, but the effect was not significant. Therefore, sports participants show fewer misbehaviors such as being late for school, cutting or skipping classes, absences from school, and getting in trouble.

Our study produced unexpected results, having a new addition to the literature on sport participation. We found that sports effects were not significant on school suspension in almost all groups (White, Black, SESQ2, SESQ3, SESQ4, male, female, and Black\_SESQ1\_Male). Making matters worse, sports effects for Hispanic or the SESQ1 groups on suspension were significant, having sports participants displayed higher incidents of suspension than their counterparts. The sports effect for the Hispanic\_SESQ1\_Male group was pronounced, indicating that when students of Hispanic\_SESQ1\_Male more participated in sports, they had more episodes of school suspension. Interestingly, the same effect was not significant for the Black\_SESQ1\_Male group. These were quite contrasting results from the previous research that substantiated the positive effects of sports on severe disciplinary behaviors (Elder et al., 2000; Lumpkin & Favor, 2012).

We first interpreted the results relating to sports' extra burden for students from the Hispanic and low-income groups. Although Hirschi (1969) only highlighted the favorable aspects of sports involvement, the benefits do not work for Hispanic or low-income students. Students' sport participation inevitably requires a big deal of devotion and sacrifice, costing a significant amount of time and energy for academic and required activities. It is particularly costly for those with limited resources, causing them to involve in more incidents of suspensions.

In particular, Hispanic students have families and parents whose primary language is not English. They are not familiar with school-based athletic programs, oftentimes, and cannot provide strong support for their children's sports participation (Liu et al., 2009; Salinas et al., 2014; Springer et al., 2010). Perhaps, many Hispanic parents try to discourage their children's sports participation because they may believe that sports will cost their children's academic achievement. We can offer another explanation of the adverse effects of sports for Hispanic students as their language barrier. When non-English speaking Hispanic students participated in sports a significant amount of time that requires mental, physical, and financial investment, they can't afford their time and energy to learn English and study harder to catch up with their English-speaking peers. Therefore, sports participation for non-English speaking students may be considered a luxurious option. We suggest that further research should be done to identify the factors concerning the reverse effect of interscholastic sports participation on the suspension of Hispanic students, low-income students, and Hispanic\_Low-income\_Male students.

Although the study produced significant results, the study is not without limitation. In the study, we had a narrowed focus on individual student factors in the analysis of interscholastic sports participation and disciplinary behaviors. As many researchers such as Artiles et al. (2010) pointed out, school suspension is also closely related to the school policies dealing with disciplinary behaviors. Therefore, the analyses of those suspensions should be interpreted in school contexts rather than understanding only individual levels. We suggest that future studies should be done for the investigation of interscholastic sports participation and its effects on school suspension in consideration of school disciplinary policy.

### **Summary of findings**

In closing this research, we can summarize our major finding as follows: We first noted the significantly lower rates of sports participation of students from Black, Hispanic, the lowest-income, and female groups. In contrast, the high incidents of misbehavior and suspension from Black, Hispanic, and the lowest-income groups. Second, we found significant effects of sports participation in reducing students' misbehavior incidents except for Hispanic, low-income, male students. And the misbehavior is not significantly correlated with suspension. Third, the interscholastic sports participation had significantly reverse effects for Hispanic students, low-income students, or Hispanic\_Low-Income\_Male students; having more sports participation led to more suspension incidents. The effects were not significant for other groups.

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