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LEVELING THE PLAYING FIELD: COVID-19'S IMPACT ON INTERSCHOLASTIC ATHLETIC PARTICIPATION IN NEW YORK STATE PUBLIC SCHOOLS: AN EX POST FACTO ANALYSIS OF DISTRICT DEMOGRAPHICS AND SPORT

Justin T. Cobis

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ATHLETIC PARTICIPATION IN NEW YORK STATE PUBLIC SCHOOLS:
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Justin T. Cobis

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Justin T. Cobis   Dr. James R. Campbell

ABSTRACT

LEVELING THE PLAYING FIELD: COVID-19'S IMPACT ON INTERSCHOLASTIC ATHLETIC PARTICIPATION IN NEW YORK STATE PUBLIC SCHOOLS: AN EX POST FACTO ANALYSIS OF DISTRICT DEMOGRAPHICS AND SPORT

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Each year in New York state, tens of thousands of student-athletes participate in interscholastic athletics on over 15,000 public school teams. The purpose of this study was to evaluate the impact of the COVID-19 pandemic on interscholastic athletic participation rates in New York state public schools and their relationship to school districts' demographics, including percentage of non-White students, percentage of economically disadvantaged students, total enrollment, and graduation rates. The sample consisted of 218 public school districts located throughout New York state, with approximately 20 participant districts from each of the 11 New York State Public High School Athletic Association's governing sections. This study adds to the growing literature on equitable participation in interscholastic athletics. This ex post facto quantitative analysis relied on archived data from the New York State Public High School Athletic Association's annual participation survey and the New York State Education Department's enrollment data from the 2018–2019 and 2021–2022 school years. The data provided variables for path analysis that allowed the researcher to infer that the COVID-19 pandemic affected athletic participation across different demographics. It is important for educational leaders to consider equity and access to participation in interscholastic athletics and all of the associated benefits that attend such

participation. The findings of this research provide additional quantitative data for educational leaders looking to build culturally responsive school communities that extend outside the classroom into the realm of extracurricular participation.

DEDICATION

This journey has been rewarding, challenging, and at times exhausting. Along the way, the sacrifices made have been felt directly by my family. This project is dedicated to all of you. To my wife and best friend, Stacy, thank you for putting up with my late nights working on this dissertation, all of the online classes when I was locked in the office, and evenings away at class. To my children, Jackson and Zoe, thank you for all of your patience, love, and encouragement.

To my parents, Joe and Doreen, who always supported me in everything I've done. From the beginning, you always provided an environment where I could succeed and never had to worry about anything else.

Finally, to my grandfather Al, who set a great example by attending night classes for 8 years to earn his college degree with honors. We said our goodbyes during my senior year of college, but I have always felt you've been with me as I've continued my studies throughout the years.

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CHAPTER 1

Each year, millions of students participate in interscholastic athletics in public schools across the United States, and school districts spend billions of taxpayer dollars on these programs. According to the National Center for Education Statistics, 25% of public school students attend high-poverty schools, and moreover, a disproportionate percentage of them are Black and Hispanic, at 45% each (National Center For Education Statistics, 2023). The equity and access to interscholastic athletic programs and all the positive impacts that accompany participation in them require scholarly investigation. Previous research has linked the benefits of athletic participation to academic achievement and, more recently, self-esteem (Wretman, 2017). In New York State alone, over 700 public school districts provide interscholastic athletics, accounting for hundreds of millions of dollars spent on student-athletes. Little is known, however, about whether these resources are distributed equitably so they reach the students who need them the most.

In May of 2021, the New York State Board of Regents voted and approved a policy statement on diversity, equity, and inclusion in New York state schools. The Board of Regents stated they intended the policy to

> encourage and support efforts at the State and local level to create within every
> school and ecosystem of success that is built upon a foundation of diversity,
> equity, inclusion, access, opportunity, innovation, confidence, trust, respect,
> caring and relationship building. All students must feel that they are welcome,
> they belong and they are supported in every school. (Young, 2021, p.1)

Before the New York State Board of Regents approved its policy on diversity, equity, and inclusion, they developed a culturally responsive—sustaining education

framework to support education stakeholders as they develop and implement policies designed to equitably educate all students and provide services to best promote positive student outcomes. This framework has four principles at its core: a welcoming and affirming environment, high expectations and rigorous instruction, inclusive curriculum and assessment, and ongoing professional development (New York State Education Department [NYSED], 2019).

Purpose of the Study

The purpose of this study was to research and measure how interscholastic participation rates in New York public schools varied depending on the demographic makeup of the school district before and after the COVID-19 pandemic. Due to the COVID-19 pandemic and the toll it took on access to many extracurricular activities, a greater need emerged to research whether or not this impact more significantly affected some school districts than others according to demographic makeup. The researcher studied the relationship between the demographic makeup of New York state school districts and interscholastic participation rates before and after the pandemic to identify trends or significance. Educational leaders must understand if access to interscholastic athletics is equitable among different school districts throughout New York and use that information to empower stakeholders with the data needed to make adjustments so these programs can become more culturally relevant in their application of resources.

The participants in this study included school districts throughout the state of New York that were members of the New York State Public High School Athletic Association (NYSPHSAA). Specifically, 20 districts from each of the 11 governing sections of

NYSPHSAA were included in the study. The participant pool and sample size exceeded 200.

This research may help educational leaders adjust how they provide access to interscholastic athletic resources to student-athletes throughout the state. Educational leaders and stakeholders can gain a better understanding of resource allocation using information from this study to initiate reviews and reform as needed to distribute access to interscholastic athletics in a more culturally relevant manner.

Conceptual Framework

The researcher chose a series of school district demographic-based data, including graduation rate, socioeconomic status, racial composition, and total enrollment in Grades 9–12 as the independent variables for this study. The researcher selected a structural equation model to conduct path analyses for the prepandemic Spring 2019 school year and the postpandemic Spring 2022 school year. Comparing the data from pre- and post-COVID-19 allowed the researcher to measure the impact of the pandemic on school districts with different demographic makeups throughout the state of New York to identify and measure significance (see Figure 1).

Figure 1

Conceptual Framework
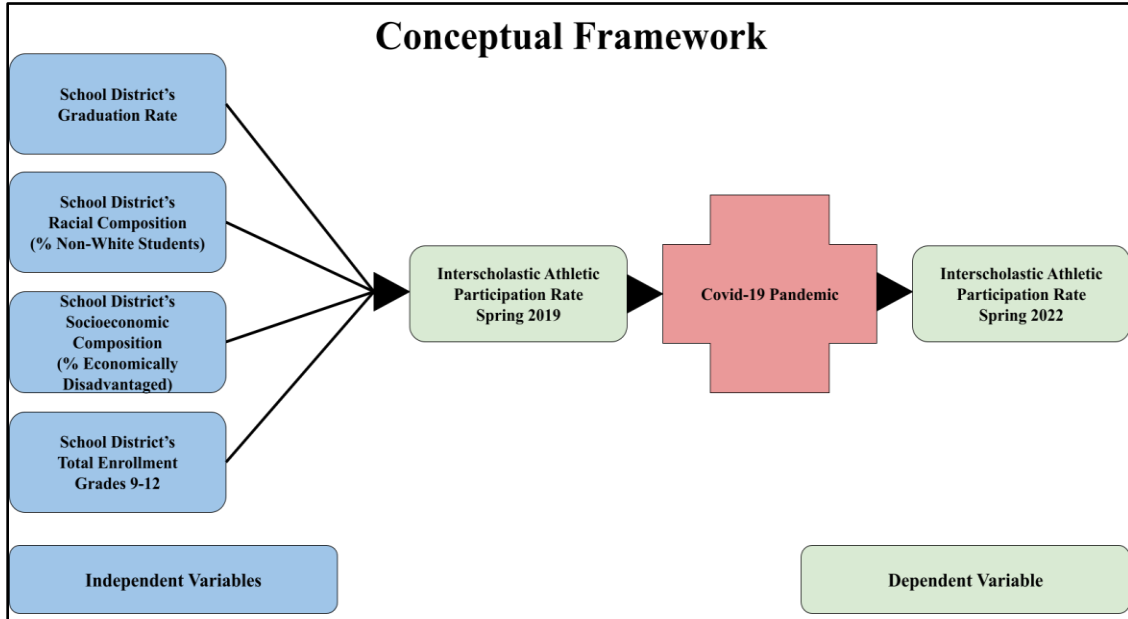
Significance of the Study

Since the Spring 2021, public school districts throughout New York state have implemented board policies that take into account elements outlined in the state's Board of Regents statement, which include governance, teaching and learning, family and community engagement, workforce diversity, diverse schools and learning opportunities, and student supports, discipline, and wellness (Young, 2021). Although NYSED releases a plethora of data each year regarding academic achievement as it relates to different and diverse subgroups (e.g., ethnicity and socioeconomic status), no research existed that explained how members of these subgroups access extracurricular opportunities, including interscholastic athletics. Each year, the NYSED and the NYSPHSAA collect and release data, but none of the data released by NYSED takes into account

interscholastic athletic participation, and none of the athletic participation data released by NYSPHSAA includes school district or individual student demographics.

In the current study, the researcher used data from both of these sources to establish a baseline of research to contribute to the ongoing work related to diversity, equity, inclusivity, and culturally responsive school leadership.

Connection With Social Justice or Vincentian Mission in Education

St. John's University's Vincentian values and mission include providing an excellent education for "all people, especially those lacking economic, physical, or social advantages" ("Our Mission and Vision," 2023, para. 3). The research in this study and the quantitative data that resulted provide educational leaders with a valuable snapshot as to the current access that students from all demographic backgrounds experience related to interscholastic athletic participation in New York state's public schools. The results will empower school leaders at the local, regional, and state levels who oversee the governance of interscholastic athletics with further data and information to consider when presented with opportunities to become more culturally responsive about access to sports in New York state's public schools. The researcher aimed to capture a quantitative profile of Interscholastic Athletic Participation Rates in a sample that represented a wide cross-section of New York. This data will allow educational leaders to reflect critically on their leadership behaviors and provide information to help them work toward promoting a more culturally responsive and inclusive environment.

Research Questions

The following research questions guided this study.

RQ1. Is there a significant relationship between interscholastic athletic participation and a school district's graduation rate?

RQ2. Is there a significant relationship between interscholastic athletic participation and a school district's racial composition (i.e., percentage of non-White students)?

RQ3. Is there a significant relationship between interscholastic athletic participation and a school district's socioeconomic status (i.e., percentage of economically disadvantaged students)?

RQ4. Is there a significant relationship between interscholastic athletic participation and a school district's size (i.e., total enrollment of students Grades 9–12)?

The research questions produced the following hypotheses:

H_0 The model does not explain significant variance in interscholastic athletic participation rate ($R^2 = 0$).

H_1 The model explains significant variance in interscholastic athletic participation rate ($R^2 > 0$).

$H1_0$ There is no association between the school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_1 = 0$).

$H1_1$ There is an association between a school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_1 \neq 0$).

H2$_0$ There is no association between the school district's racial composition and the district's interscholastic participation rate ($\beta_2 = 0$).

H2$_1$ There is an association between the school district's racial composition and the district's interscholastic participation rate ($\beta_2 \neq 0$).

H3$_0$ There is no association between the school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_3 = 0$).

H3$_1$ There is an association between a school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_3 \neq 0$).

H4$_0$ There is no association between the school district's total enrollment in Grades 9–12 and the district's interscholastic participation rate ($\beta_4 = 0$).

H4$_1$ There is an association between a school district's total enrollment in Grades 9–12 ($\beta_4 \neq 0$).

Definition of Terms

The researcher used the following key terms and definitions during the course of this study.

The New York State Education Department, or *NYSED*, is part of the University of the State of New York, one of the most complete, interconnected systems of educational services in the United States. The NYSED mission is to raise the knowledge, skill, and opportunity of all the people in New York. The vision is to provide leadership for a system that yields the best-educated people in the world (*About the New York State Education Department*, 2023).

The New York State Public High School Athletic Association, Inc., or *NYSPHSAA*, is a nonprofit, voluntary, educational service organization composed of public, parochial, and

private schools dedicated to providing equitable and safe competition for the students of its member schools. Membership is open to secondary schools providing interscholastic athletic activities for boys and girls in Grades 7–12. The association serves as a central organization through which its member high schools in the state may cooperate to encourage as many pupils as possible to participate in athletic games, promote sportsmanlike conduct in all athletic contests, maintain essential minimum standards of eligibility, provide means to settle disputed athletic contests amicably and authoritatively, conduct appropriate athletic meets and tournaments, cooperate with the state's education department in fostering educationally sound athletic programs, adapt rules governing sports contests to the particular conditions governing high school competition, and continually seek data to support rule changes leading to greater safety for high school athletes. The NYSPHSAA was founded in 1923 (*About NYSPHSAA*, 2023).

Interscholastic athletic participation rate refers to the percentage of students from a sampled NYSED school district participating in an NYSPHSAA-governed sport during the 2018–2019 or 2021–2022 school year in Grades 9–12.

Culturally responsive school leadership refers to practices and actions, mannerisms, policies, and discourses that influence school climate, school structure, teacher efficacy, and student outcomes (Khalifa et al., 2016).

Social justice refers to the exercise of altering institutional and organizational arrangements by actively engaging in reclaiming, appropriating, sustaining, and advancing the inherent human rights of equity, equality, and fairness in social, economic, educational, and personal dimensions (Goldfarb & Grinberg, 2002).

Diversity is a reality created by individuals and groups from a broad spectrum of demographic and philosophical differences. These differences can exist along dimensions of race, ethnicity, gender, language, heritage, sexual orientation, socioeconomic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies (NYSED, 2019).

Equity is the state, quality, or ideal of being just, impartial, and fair. The concept of equity is synonymous with fairness and justice. To be achieved and sustained, equity must be thought of as a structural and systematic concept and not as an ideal. Equity is a robust system and dynamic process that reinforces and replicates equitable ideas, power, resources, strategies, conditions, habits, and outcomes (NYSED, 2019).

Inclusive refers to more than simple diversity and numerical representation. The act of being inclusive involves authentic and empowered participation and a true sense of belonging. In an inclusive school, leaders design the social and instructional space such that all students have access to the curriculum, and there are many opportunities for students to succeed (NYSED, 2019).

Economically disadvantaged students are those who participate in, or whose family participates in one or more of the available U.S. economic assistance programs, such as free or reduced-price lunch programs, social security insurance, food stamps, foster care, refugee assistance (cash or medical assistance), the earned income tax credit, the home energy assistance program, safety net assistance, U.S. Department of the Interior Bureau of Indian Affairs assistance, or Temporary Assistance For Needy Families. If one student in a family is identified as low-income, all students from that household (i.e., economic unit) may be identified as low-income (NYSED, 2019).

Non-White refers to races or ethnicities not typically identified as White with which the student primarily identifies as indicated by the student or the parent or guardian. These races and ethnicities include American Indian or Alaska Native, Asian American, Native Hawaiian or Other Pacific Islander, Black or African American, Hispanic or Latino, or multiracial (NYSED Glossary).

CHAPTER 2

At the start of 2018, the New York State Board of Regents gave a directive to the office of pre-K–12 education and higher education to convene a panel of experts and stakeholders who could create a state-level plan addressing culturally responsive practices in public education. Since that time, the NYSED has passed a policy on diversity, equity, and inclusion in New York state schools. This study is important to the field of education because it can provide data to gain a better understanding of how students are accessing resources, in this case, interscholastic athletics. The purpose of this literature review was to explore the different elements of culturally responsive school leadership and inclusive leadership.

Theoretical Framework

Khalifa's (2018) culturally responsive school leadership framework and Chrobot-Mason and Roberson's (2022) model of inclusive leadership served as this study's theoretical framework. Together, these theories offer a lens through which to examine how school leaders can self-reflect on leadership behaviors, develop culturally responsive teachers, promote culturally responsive and inclusive school environments, and engage students, parents, and indigenous contexts.

The first of the four tenets in Khalifa's (2018) culturally responsive school leadership framework centers on critical self-reflection on leadership behaviors. Khalifa cited a 2012 study by Gooden and Dantley that centered on race in a framework for school leadership preparation. According to Gooden and Dantley (2012), a framework of educational leadership should be formulated to address the changing demographics in schools across the United States. Self-reflection, theory-based construction, praxis, race

language, and pragmatism represent central aspects of preparing school leaders to address inequities and achievement gaps related to race in education. Gooden and Dantley offered that when a leader in education critically self-reflects on data, it becomes necessary for that leader to create an agenda to reform and clear the system of policies and practices that lead to inequitable results and outcomes.

According to Khalifa's 2018 culturally responsive school leadership framework , in order for schools to promote a culturally responsive and inclusive school environment, leaders should use school data to discover disparities and track them in academic and disciplinary settings. In his 2007 study, Theoharis identified the analysis of school and student performance data as a leadership practice present in principals promoting social justice in the educational environment. Theoharris focused on the school leader as the unit of study and also highlighted elements of resistance faced by school leaders as they worked toward social justice.

Chrobot-Mason and Roberson (2022) listed three goals for inclusive leadership. They include: (a) creating a shared identity among group or organizational members so each feels a sense of belonging, (b) reducing status differences and ensuring that each individual is treated with respect and concern, and (c) encouraging and facilitating involvement and participation of all so that each member has input making decisions.

Chrobot-Mason and Roberson (2022) anchored their model of inclusive leadership in the concept of inclusion, defined as a basic human need that people experience in their interpersonal relationships. Chrobot-Mason and Roberson listed three main components in their model of inclusive leadership: antecedent conditions, inclusive leadership behaviors, and outcomes. The first component involves a series of preceding

factors referred to as antecedent conditions. These include leadership characteristics, group diversity cognitions, and organizational policies and practices. The authors identified the next component of the inclusive leadership process as inclusive leadership behavior. Examples of leadership behaviors include ensuring justice and equity, appreciating all views and contributions, showing support, and encouraging different viewpoints. The third and final component of the inclusive leadership model consists of outcomes that may result in positive results for the organization, such as enhanced group function, increased innovation and creativity, and the creation of a safe environment for learning from mistakes (Chrobot-Mason & Roberson, 2022).

Review of Related Research

In their study, DeMeulenaere (2010) utilized a qualitative research approach for the purpose of examining six ways that student involvement in sport promotes student success. These include structuring schedules, creating incentives, building confidence, developing positive adult and peer role models, and getting students to develop future aspirations. The researcher largely grounded the framework for this study in the work of John Ogbu, who argued that academic identity results from the sociopolitically determined status of an individual's racial group. Ogbu goes on to name additional work from Fordham and Davis. The researchers in all of these studies adopted a quantitative approach to explore the connection between urban student involvement and academic achievement. DeMeulenaere took a deeper look into the different ways that participation in sport promotes student achievement. DeMeulenaere's sample included four students (i.e., one female and three males) who identified as student-athletes. The researcher

selected these four students from a larger qualitative research study that included eight participants.

DeMeulenaere (2010) collected data over the course of 2 years and included observations and recorded and transcribed interviews with the student participants as well as their family members, teachers, coaches, and tutors. The researcher documented examples from the participants as to how student involvement in sports promoted success in structuring schedules, creating incentives, building confidence, developing adult and peer role models, and creating future aspirations. Additional findings provided by DeMeulenaere included the observation that sport involvement enabled students to maintain a positive reputation with classmates by promoting their popularity and offering justification for their academic efforts. In other words, being a student-athlete helped justify and legitimize the participants' dedication to school and their desire to perform well among their peers. DeMeulenaere distinguished that for students in an urban school setting, participation in sport played an even more critical role, given the other challenges these students navigated on a daily basis. The study reinforced the findings of many other quantitative studies in the same area (i.e., the relationship between athletic participation and student achievement.

DeMeulenaere's (2010) study provides high-value data because it gives a more intimate look at the topic of participation in sport among students in an urban setting. Most researchers who have examined the impact of interscholastic athletic participation do so from a quantitative perspective, allowing for large samples to create statistical power. Accordingly, DeMeulenaere's study has some limitations, the first being the size of the sample. With only four participants, the researcher was limited to a small number

of perspectives for consideration. Additionally, the setting of the research, although intentionally urban, may not transfer to other nonurban settings. Despite these limitations, there is a strong inherent value in taking the time and attention to work with a small group of participants in an urban setting. The researcher took 2 years to gain an intimate and detailed account of how participation in sport positively impacted participants' academics. Such qualitative accounts provide value, especially as educators seek to increase equity and access to resources that lead to academic improvement for students from all backgrounds.

Nasir and Hand (2008) conducted a qualitative study in which they examined support for engagement in the settings of high school basketball and high school math classrooms. The researchers explored the access to domain, opportunities to take on integral roles, and opportunities for self-expression in both high school basketball participation and high school mathematics classrooms. They aimed to explore student interactions during mathematics and basketball activities and the individuals involved in engagement, as well as to note key differences in the basketball team and math class with a focus on support for engagement. Although not directly stated, the researchers noted the previous studies that focused on the framework of student engagement and the link to academic achievement. Their study, therefore, builds on the work of several researchers (e.g., Bandura, 1997; Dweck, 1999; Eccles et al., 1998; Skinner et al., 1998; Stipek, 2002). The sample in Nasir and Hand's qualitative study included eight African American high school varsity basketball players at a school in Northern California. Of the eight student-athletes, the researchers considered four to be high achievers in math and the other four to be average math achievers. In the end, the researchers focused on two of

the eight participants: Kevin and Vaughn. To collect data, the researchers observed the players as they participated in both basketball practice and mathematics class and captured field notes and videotape.

Nasir and Hand (2008) also interviewed the participants about their engagement and learning in both settings. The researchers recorded 19 hr of math class, 15 hr of basketball practice, and 12 hr of basketball games. Their findings focused on two of the eight participants, introducing each one and then comparing their engagement within basketball and mathematics class through analyses of their interactions and the coaches' and teachers' perspectives. The researchers noted that Kevin and Vaughn were both strong basketball players who were dedicated to academics, but they observed that grades and class participation indicated Kevin was significantly more successful in math. The researchers provided a series of transcribed interactions for each participant in both math class and basketball practice and took special note of access to the domain, opportunities for integral roles, and opportunities for self-expression. In summary, the researchers found that participation in basketball allowed for strong engagement across all three dimensions (i.e., access to the domain, opportunity for integral roles, and opportunities for self-expression). In contrast, participation in math classes allowed for less access to the domain, less opportunity to take on integral roles, and fewer opportunities for self-expression. Nasir and Hand noted that these differences are linked to the differences in practice in each setting.

Nasir and Hand (2008) provided another quality perspective from a more intimate and deeper qualitative approach. The researchers spent a significant amount of time video-recording eight participants. They then focused their findings by presenting several

transcribed interactions from each of the two selected participants to illustrate critical

interactions dealing with student engagement in both basketball and mathematics

activities. The authors described the study's limitations worth considering. First, the

comparison of engagement in a mandatory activity (e.g., math class) versus a voluntary

activity (e.g., basketball) could be considered questionable because the participants chose

to participate in basketball but had no choice about joining math class. Another possible

limitation was the low number of participants in the study and the limited scope of

including only basketball and math without other sports or academic subjects. Despite

these limitations, the study provided a valuable and detailed account of how students

engaged in different contexts when involved in an interscholastic athletic opportunity.

In another study, Kanters et al. (2012) examined the differences in participation

between intramural and interscholastic programs among middle school student-athletes.

The authors utilized a quantitative approach and focused on a sample of students between

the ages of 11 and 14. Kanters et al. aimed to measure the degree of overall sport

participation among middle school students and compared participation rates between

those operating in an intramural model and those taking part in an interscholastic model.

Additionally, the researchers sought to determine if participation varied by race,

socioeconomic status, and gender. Kanters et al. obtained data via an online survey

administered to students in Grades 6–8 at four public middle schools. The authors

administered the survey under the supervision of a teacher and research assistant about 4

weeks before the end of the school year. Two schools were purposefully selected as part

of the sample because they were known to operate an intramural program for their

students, and an additional two schools were selected that had a more traditional

interscholastic sports program. The sets of schools resembled one another in their demographic makeup, including race and income levels.

To gain permission for students to participate in the survey, Kanters et al. (2012) sent an opt-out letter to each family outlining the basics of the study. The study included a total sample of 2,582 students from the four schools. Although over 89% of the students completed the survey, there was a low completion percentage among Asian American and Hispanic students, so the researchers chose to only include Black and White students in their analysis. Kanters et al. did not specifically provide a theoretical framework for their study, but they did provide a series of references to previous studies that explored disparities between student participation in athletics based on race. Therefore, the researcher in this current study assumed Kanters et al. adopted an equity-based approach to student participation in athletics. For this experiment, the dependent variable was sports participation, which was measured in percentages.

Kanters et al. (2012) conducted several statistical analyses, including a chi-square analysis that tested for relationships between sport participation and school sport delivery methods, which served as the independent variables (i.e., intramural programs and interscholastic programs). Another chi-square analysis measured the associations between participation in specific sports, which served as the independent variables (i.e., track, football, soccer, softball, volleyball, and basketball). Lastly, the authors conducted a regression analysis with different demographics and sport delivery methods as independent variables (i.e., gender, race, Socioeconomic Status). Kanters et al. determined that overall, 31% of students surveyed participated in a sport the previous

year. At schools that delivered sports utilizing interscholastic programs, the percentage was higher (35.9%), and it was lower at schools with an intramural program (27.3%).

Additional Kanters et al. (2012) results illustrated that variables such as gender, race, and socioeconomic status provided some insight as to how intramural programs yielded more participation than interscholastic programs. Males were more likely to participate in sports in schools with intramural programs, with little to no difference found for female students. A higher percentage of students who qualified for free or reduced lunch participated in sports offered in schools with intramurals than those with interscholastic athletics. Results from the regression concluded that race and gender were stronger predictors of sport participation in schools with intramurals, while at schools with interscholastic sports, socioeconomic status was a stronger predictor. Ultimately, the researchers suggested that as resources become tighter each year and sport offerings are considered during the budgeting process, it would make more sense to allocate those funds to intramural programs rather than interscholastic sports at the middle school level because the former was shown to be more popular (Kanters et al., 2012).

Kanters et al. (2012) provided great value to the literature because the authors explored an age group that has not been studied as much as others (i.e., middle school students). With a sample of over 2,500 students, the study has strong statistical power. It also took place in a very acute location of the country, which could compromise its transferability. Interestingly, Kanters et al. focused on interscholastic versus intramural sport participation, especially in middle school students. The regression analysis that considers demographics, including race, socioeconomic status, and gender, allowed the

researchers to apply the results to other districts in search of increasing access, equity, and inclusivity for all students in the educational community.

Shakib and Veliz (2013) examined how different racial demographic groups experienced varying levels of encouragement for sport participation in their study. The authors aimed to use a nationally representative sample of students in third through 12th grade to determine if African American children are encouraged more than other children to participate in sport and if African American family members were more likely to encourage their children to participate in sport than members of other non-African American families. The researchers cited previous studies (i.e., Sallis et al., 2000; Shakib & Dunbar, 2002, 2004) that established how close friends and family members play a large role in a child's sport-related decision-making process as a foundation for their framework. Shakib and Veliz acquired the data for their study from the Go Out and Play survey published by Sabo and Veliz in 2008.

Shakib and Veliz (2013) conducted this survey during the spring of the 2006–2007 school year and the fall of the 2007–2008 school year. The researchers administered the survey to a sample of students attending public and private schools in different regions around the United States. The final sample involved 95 schools and a total of 2,185 students. A lengthy list of people comprised the study's dependent variables, including mother, father, grandparents, brother, sister, acquaintances, friends who are girls, friends who are boys, physical education teacher, and teacher or coach. The survey offered four encouragement levels for respondents to choose from (i.e., *encouraged me a lot*, *encouraged me a little*, *did not encourage me*, and *not in my life*). Race served as the independent variable for this study. Shakib and Veliz conducted an ordinary least squares

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regression analysis to measure if race predicted the amount of sports-related encouragement participants received from their family and nonfamily members.

Shakib and Veliz (2013) broke the results down into four models. The first model measured total encouragement received by students from both family and nonfamily members. The authors found that African Americans received more sports-related encouragement than students who identified as being White, Hispanic, or Asian American. In total, the study also showed that elementary school students received more encouragement than did middle and high schoolers. In the second model, the authors examined the level of encouragement students received from their families. In line with the results from the first model, results showed that African American students received more sports-related encouragement than students from other ethnic backgrounds. In the third model, Shakib and Veliz explored the level of encouragement that students received from nonfamily members. Once again, in line with the first two models, they found that African American students received more sport-related encouragement than White, Asian America, or Hispanic students. In the fourth and final model, the authors investigated who gave more sport-related encouragement: family or nonfamily members. The researchers found that students received similar levels of encouragement from both family and nonfamily members. Additionally, African American, White, and Hispanic students received similar levels of sport-related encouragement from their families, with only a significant difference occurring among Asian American students who received less (Shakib & Veliz, 2012).

The study by Shakib and Veliz (2012) produced valuable data illuminating a key factor in determining how and why students choose to participate in sport:

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encouragement. The sample of over 2,000 students collected from different regions around the United States gives the study both strong statistical power and solid transferability. Perhaps more importantly, the authors collected the empirical evidence they sought to avoid generalizations. When looking through a lens of equity and inclusivity, researchers should note the study showed both White and Hispanic family members were just as likely to encourage their children to participate in sport as African American family members.

In 2021, Higginbotham utilized a quantitative approach in their examination of social identity, pride, and the experience of African American student-athletes transitioning to college. Higginbotham aimed to investigate whether identifying as an athlete, as a scholar, or both benefited African American males and females in their transition to college. The study builds on an established theoretical framework used to explore the systematic oppression of African American males (Hooks, 2004) and the historical context of athletics as the singular pathway for African Americans to achieve status (Edwards, 1971; Messner, 1989). Higginbotham secured the data for this quantitative study from the National Longitudinal Survey of Freshman. The author broke the study into two parts. The first utilized a cross-sectional analysis and had a sample of 1,011 African American students. The second study had a sample of 822 African American students and utilized a longitudinal analysis. The author deployed a chi-square analysis with multiple dependent variables depending on the research question being addressed. In the first study, grade point average (GPA) served as the dependent variable, and the independent variables included the degree to which each participant identified as

a good student and a good athlete. These dependent variables were quantified using a 3-point scale (2 = *very true* to 0 = *not at all true*).

Other dependent variables included gender and peer acceptance. Results indicated that perceived identity as both a student and athlete did not impact African American female student achievement either way; however, those African American males who identified as both a student and an athlete performed at a higher level during their freshman year of college. In the second part of the study, Higginbotham (2021) took a similar statistical approach but substituted social transition for African American students in their first year of college for academic achievement as the dependent variable. Results indicated that those students who identified as both strong students and strong athletes had a better and more successful social transition in their freshman year of college than did students who did not identify as strong athletes. This result was limited to African American males, as there was little difference among African American females.

Higginbotham's (2021) quantitative study provides value because the author attempted to quantify the impact and importance of athletic participation and athletic identity on student achievement and success in the college transition. By focusing on African American students, the researcher more deeply explored historically and systematically imposed social norms, discrimination, and the impact of these factors on student identity. The study included over 200 participants, which gave it strong statistical power, but the data set originated in 1999, so consideration of the results must account for the possibility the data did not represent current student experiences. Although extremely intricate, Higginbotham took a direct approach and provided insight into the impact on athletic identity and the importance it may play in future success.

Equity and Access in Interscholastic Athletic Participation

With established and measurable benefits linking athletic participation and student achievement, equity and access to athletic participation become extremely important factors for school leaders to consider. Sabo et al. (1993) utilized a quantitative multiple regression design and studied archived data from a 1980 base-year survey. The authors explored how athletic participation impacts postsecondary mobility from a lens of different demographics to understand the variability of participation and its associated benefits. Three questions guided the research. First, the authors measured the dependent variable (i.e., high school athletic participation) using a 7-point Likert scale during the participants' sophomore and senior years. The independent variables included different demographic groups (e.g., race, gender) and locations (e.g., rural, suburban, urban), socioeconomic status, and postsecondary mobility gains. This survey had several follow-ups and eventually included 13,381 participants in the sample. The researchers found that White students had a strong correlation between educational mobility and high school athletic participation. Sabo et al. suggested future researchers further investigate the factors leading to discrepancies across race and gender.

Sabo et al. (1993) took care to factor demographics into their independent variables. These demographic categories provided the foundation for a deeper look into equity and access questions that can be expanded on in further research. The study is statistically powerful in that it had a large sample that consisted of participants from around the United States, which made it easily transferable. The authors noted that a similar study from a qualitative lens would help to document the intricacies and nuances of how athletic participation impacts students differently across race and gender.

Accordingly, in a quantitative study, Goldsmith (2003) examined why African American and White students participated in different high school sports at different rates. Goldsmith focused on Black and White students' participation in six sports: basketball, football, cheerleading, baseball and softball, swimming, and soccer. Goldsmith collected the archived data for this ex post facto study using the National Education Longitudinal Survey from 1990 and the 1990 U.S. Census. The random sampling included 24,599 eighth-grade participants from 1,052 public and private middle schools. The author utilized competition theory and cultural division of labor theory as a framework for examining the research question. Goldsmith's results accounted for a host of other variables, including race, socioeconomic status, class size, and school enrollment. The author used a multinomial logistic regression for statistical analysis and found that "cultural differences are created by inequalities between African Americans white people and by the relations between them.

Goldsmith (2003) effectively conducted a meaningful examination of race and athletic participation using a quantitative approach. Published in 2003, Goldsmith's study builds on earlier work and opens the door for useful discussions about equity and access to interscholastic athletic participation. The author also identified which types of athletics students were more likely to take part in based on race, which provides valuable information for school leaders aiming to increase inclusivity.

Miller et al. (2005) conducted a quantitative study that extends previous work on the topic as the authors sought to "untangle the links among athletic involvement, gender, race and adolescent academic outcomes" (p.181). The authors surveyed a sample of 586 students to measure their athletic involvement in relation to their academic outcomes.

Miller et al. asked students to provide their gender, race, socioeconomic status, jock identity, GPA, and academic conduct. The 586 students sampled included 321 females, 264 males, 173 Black students, and 411 White students. The strongest predictor variable in the sample was GPA, and the study confirmed the importance of distinguishing among dimensions of athletic involvement. The self-reporting nature of this study, however, lent itself to some reliability and validity concerns (Miller et al., 2005).

Conclusion

In the current study, the researcher sought to build upon and extend the research reviewed in this chapter by centering interscholastic participation as a focal point. To measure how different demographic variables impacted interscholastic athletic participation rates at over 200 New York State Public Schools before and after the COVID-19 pandemic, the researcher collected data and compared it to existing research results. The researcher hoped this data would help educational leaders create more inclusive and culturally responsive practices related to athletic participation.

CHAPTER 3

This chapter provides details about the research questions that anchored the study's quantitative design. The chapter includes an explanation and outline of the research design, data collection processes, reliability factors, sample, population, and research ethics.

Research Questions

The following research questions guided this study.

RQ1.   Is there a significant relationship between interscholastic athletic participation and a school district's graduation rate?

RQ2.   Is there a significant relationship between interscholastic athletic participation and a school district's racial composition (i.e., percentage of non-White students)?

RQ3.   Is there a significant relationship between interscholastic athletic participation and a school district's socioeconomic status (i.e., percentage of economically disadvantaged students)?

RQ4.   Is there a significant relationship between interscholastic athletic participation and a school district's size (i.e., total enrollment of students Grades 9–12)?

The researcher conducted a path analysis to determine if racial composition, economic composition, and graduation rates at public school districts in the state of New York predicted interscholastic athletic participation rates. The model estimated was: $= \beta_0 + \beta_1$ (total enrollment racial composition) $+ \beta_2$ (economic composition) $+ \beta_3$ (graduation

rate) $+ \beta_4$ (total enrollment). The research question generated the following hypotheses for this statistical test:

H_0 The model does not explain significant variance in interscholastic athletic participation rate ($R^2 = 0$).

H_1 The model explains significant variance in interscholastic athletic participation rate ($R^2 > 0$).

$H1_0$ There is no association between the school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_1 = 0$).

$H1_1$ There is an association between a school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_1 \neq 0$).

$H2_0$ There is no association between the school district's racial composition and the district's interscholastic participation rate ($\beta_2 = 0$).

$H2_1$ There is an association between the school district's racial composition and the district's interscholastic participation rate ($\beta_2 \neq 0$).

$H3_0$ There is no association between the school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_3 = 0$).

$H3_1$ There is an association between a school district's socioeconomic composition and the district's interscholastic participation rate ($\beta_3 \neq 0$).

$H4_0$ There is no association between the school district's total enrollment in Grades 9–12 and the district's interscholastic participation rate ($\beta_4 = 0$).

$H4_1$ There is an association between a school district's total enrollment in Grades 9–12 ($\beta_4 \neq 0$).

Research Design and Data Analysis

The researcher in this study employed a nonexperimental design because there was no active independent variable or random assignment of participants. The study utilized archived data, making it ex post facto. The researcher retrieved the archived data for the 2018–2019 and 2021–2022 school years from both the NYSED and the NYSPHSAA.

The researcher conducted a path analysis utilizing a structural equation modeling approach to determine any statistically significant correlation among the independent variables (i.e., school district's graduation rate, percentage of non-White students, percentage of economically disadvantaged students, and total enrollment) and the outcome variable (i.e., school district's athletic participation rate). The researcher chose a structural equation model path analysis because it is used to measure the significance of relationships between independent and dependent variables regardless of linearity (Kock, 2016). The dependent or outcome variable was determined by measuring interscholastic athletic participation rates from the spring season during the 2018–2019 and 2021–2022 school years. For the purposes of this study, the researcher selected an alpha level of .05.

Reliability and Validity

For the purposes of this study, the researcher utilized a sample of 218 public schools in a suburban county outside New York City. This sample included over 200 participants, which allowed for adequate statistical power. Assumption checks for the sample included visual inspections of histograms and QQ plots for linearity and normality (see Appendix A). Figures A1 and A2 illustrate a normal and unimodal histogram as well as a linear QQ plot for the 2019 athletic participation sample

participants. Figures A3 and A4 illustrate a slightly negatively skewed histogram as well as a linear QQ plot for the 2019 graduation rate sample participants. Figures A5 and A6 illustrate a slightly positively skewed histogram as well as a nonlinear QQ plot for the 2019 non-White student sample participants. Figures A7 and A8 illustrate a positively skewed histogram as well as A normal linear QQ plot for the 2019 economically disadvantaged student sample participants. Figures A9 and A10 illustrate a normal and unimodal histogram as well as A normal linear QQ plot for the 2019 total enrollment sample participants. Figures A11 and A12 illustrate a normal and unimodal histogram as well as A linear QQ plot for the 2022 athletic participation sample participants. Figures A13 and A14 illustrate a slightly negatively skewed histogram as well as a linear QQ plot for the 2022 graduation rate sample participants. Figures A15 and A16 illustrate a slightly positively skewed histogram as well as a nonlinear QQ plot for the 2022 non-White student sample participants. Figures A17 and A18 illustrate a bimodal histogram as well as a normal linear QQ plot for the 2022 economically disadvantaged student sample participants. Figures A19 and A20 illustrate a normal and positively skewed histogram as well as a nonlinear QQ plot for the 2022 total enrollment sample participants.

The source of these datasets was extremely trustworthy as each district in New York state must complete the same reporting for enrollment (i.e., racial and economic composition), graduation rate, and athletic participation.

The Sample and Population

Sample

This study consisted of a sample of 218 public school districts throughout New York state, excluding New York City. The researcher selected approximately 20 school

districts from each of the 11 sections throughout New York state that fell under the governance of the NYSPHSAA. All but five counties of the state, excluding New York City, were included in this sample, with at least three sample districts from each county. The researcher selected this purposeful sampling method to include participant districts according to their geographic and demographic characteristics. Over the course of three seasons in the academic year, the districts reported over 350,000 participants to the NYSPHSAA. For the purposes of this study, the researcher focused on student-athletes who participated in spring sports, which included baseball, golf, lacrosse, softball, tennis, and track. The researcher gathered the archived data for this sampling from the NYSPHSAA and the NYSED websites.

Population

The targeted population for this study included all public school districts in New York state, excluding the New York City Department of Education. This study involved a purposefully selected and evenly distributed number of K–12 school districts throughout New York state; therefore, the results should be generalizable to all public school districts in the state.

Instruments

For the purposes of this study, the researcher did not deploy an instrument. Rather, they conducted an ex post facto analysis using archived data from two sources. First, the researcher collected data from the NYSED 2018–2019 and 2021–2022 graduation rate and enrollment databases. For the second source, the researcher gathered NYSPHSAA participation data from the 2018–2019 and 2021–2022 school years. All data utilized in this study was public, without any restriction or embargo.

The researcher extracted data from the NYSED and the NYSPHSAA for 218 public school districts throughout New York state. Although the instruments utilized for the collection of these archived data sets were sound, isolating 218 districts from the original 700+ created some threats to validity. The first threat involved the study's external validity resulting from the interaction of selection and treatment. The researcher created a sample to represent the New York state public school population, which included rural, suburban, and urban schools. The sample excluded any New York City Public Schools, which could threaten the sample's ability to represent the entire state population. Another threat to the study's external validity involved the interaction between testing and treatment. The path analysis and structural equation modeling results showed nonlinear relationships and, therefore, pushed the limits of conventional linear normality.

Procedures for Collecting Data

The researcher selected a total of four archived data sets for analysis. The first two sets of data included enrollment data and graduation rate data from the 2018–2019 and 2021–2022 school years provided by the NYSED. The NYSPHSAA also provided data utilized in this study. The researcher accessed this archived data via the NYSED and NYSPHSAA websites. The researcher collected this data directly from school districts as part of mandatory reporting and data collection in line with standard NYSED practice.

Research Ethics

The researcher followed all the required guidelines and submitted all necessary application materials to the school's institutional review board. All data from this study came from publicly available archives residing on the NYSPHSAA and NYSED

websites. The study included no student-specific data; rather, they were assigned to entire districts, so the researcher required no special permission or approval for ethical or confidentiality purposes. The institutional review board approved the study (see Appendix B) and categorized it as secondary research that did not require consent because the participation information was publicly available.

Conclusion

The purpose of this study was to research and measure how interscholastic participation rates in New York public schools varied depending on the demographic makeup of the school district before and after the COVID-19 pandemic. The researcher analyzed five different school district demographics: graduation rate, racial composition, socioeconomic status, total enrollment, and interscholastic participation rate. Comparing the different demographic makeups of the New York state school districts before and after the COVID-19 pandemic aided in further understanding how certain subgroups may have been more impacted than others.

CHAPTER 4

This chapter provides a summary of the data based on the results from two structural equation model path analyses, one from the 2019 school year (i.e., pre-COVID-19) and the other from 2022 (i.e., post-COVID-19). The chapter also provides a brief summary of graduation rate as a dependent variable for context. The purpose of this study was to research and measure how interscholastic participation rates in New York public schools varied depending on the demographic makeup of the school district before and after the COVID-19 pandemic.

2019 Results

Descriptive Statistics

This section includes a summary of descriptive statistics for the school district demographic variables from the 2019 school year. The section also provides results from the structural equation model path analysis. Additionally, curves of best fit illustrate the relationship between each independent variable and athletic participation rate.

Of the 218 participant school districts in this 2019 sample, the average athletic participation rate was 29.79% during the 2019 spring season. The sample district's average graduation rate was 88.31%, 23.00% non-White, 43.50% economically disadvantaged, and had an average total enrollment of 742.72 students (see Table 4).

Table 1

Descriptive Statistics 2019 Sample

Variable	*N*	*M*	*SD*	Min	Max
Percentage of athletic participation Spring 2019	218	29.79	.13	0	78
Percentage of 4-year graduation rate Spring 2019	218	88.31	10.76	0	100
Percentage of non-White students Spring 2019	218	23.00	25.87	0	100
Percentage of economically disadvantaged students Spring 2019	218	43.50	18.30	0	91
Total enrollment of 9–12 student body Spring 2019	218	742.72	689.15	38	4,530

The researcher conducted a path analysis to measure the relationship between athletic participation and several school district demographic variables, including graduation rate, percentage of non-White students, percentage of economically disadvantaged students, and total enrollment. The data shows a significant correlation between athletic participation rate and two other variables: graduation rate and total enrollment (see Figure 2).

Figure 2

SEM Path Analysis of Athletic Participation Rate and District Demographics 2019
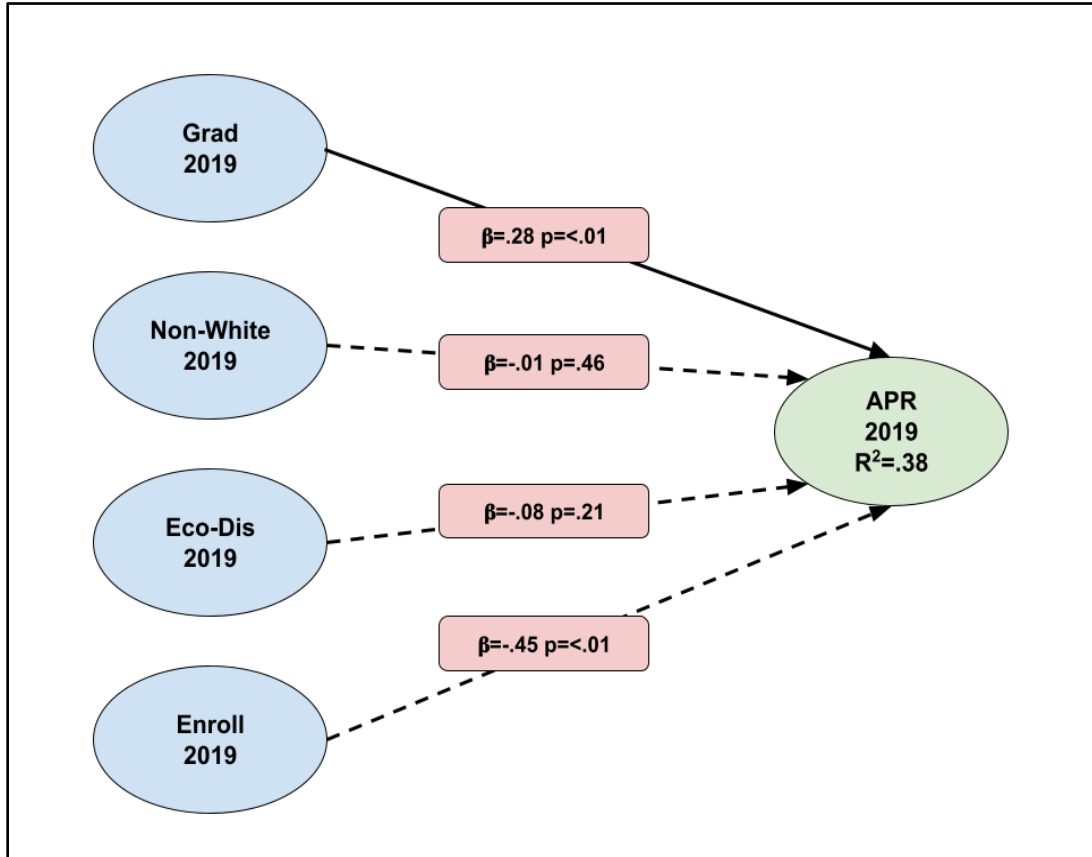
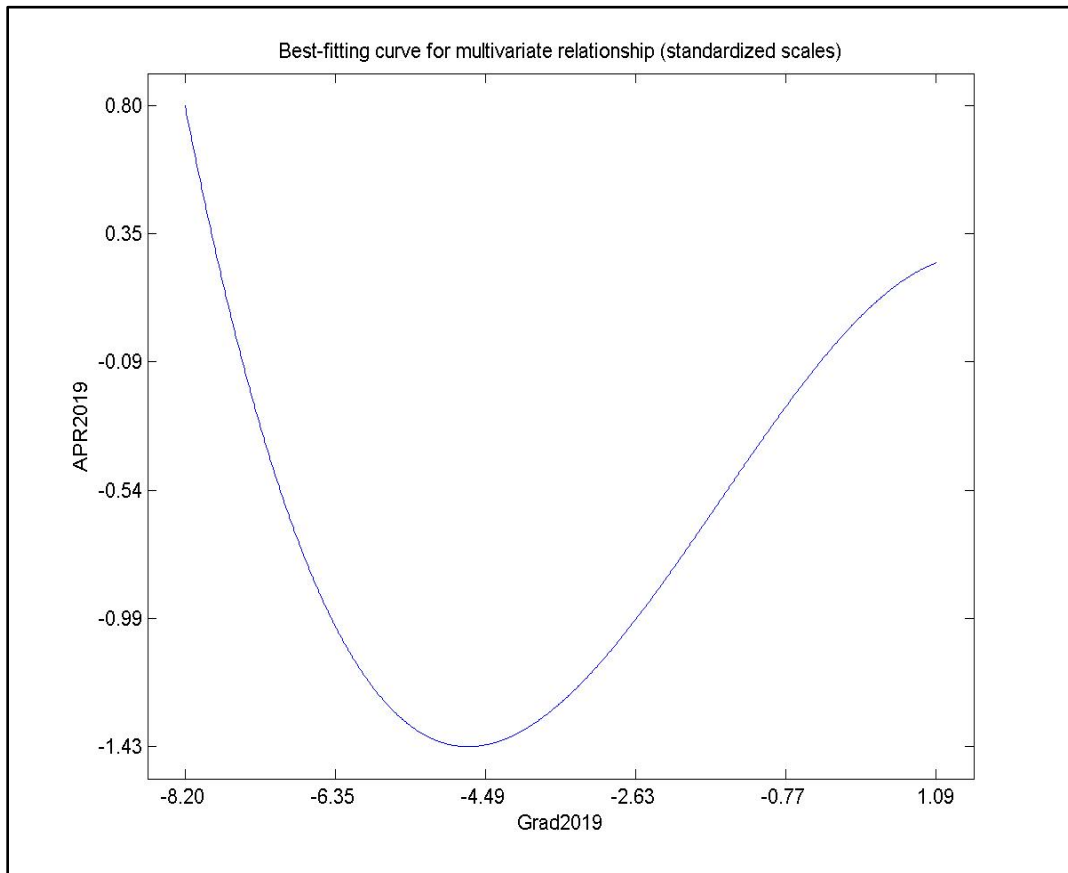*Note.* SEM = structural equation models, APR = athletic participation rate.

Athletic Participation Graduation Rates

Data from the path analysis showed a significant relationship between a school district's 4-year graduation rate and athletic participation rate ($\beta = 0.28$, $p < .01$). The best-fitting curve for athletic participation and graduation rates from the 2019 dataset illustrated a nonlinear relationship with higher levels of athletic participation at the extremes of student performance. As shown in Figure 3, among the sample in this study,

athletic participation was highest in schools with well-below-average and above-average graduation rates.

Figure 3

Best-Fitting Curve for Multivariate Relationship: APR and Graduation Rate

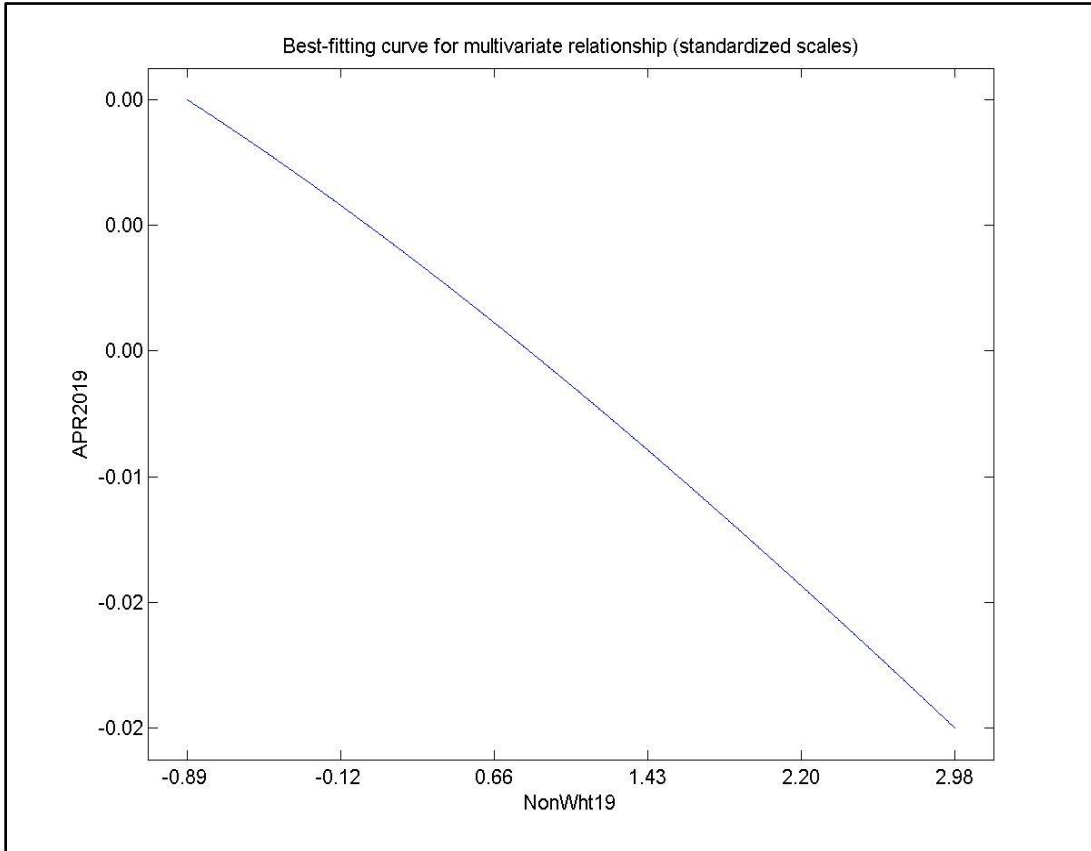Best-fitting curve for multivariate relationship (standardized scales)

Note. APR = athletic participation rate.

Athletic Participation Rate and Percentage of Non-White Students

Data from the path analysis showed no significance between a school district's percentage of non-White students and athletic participation rate (β = -0.01, p = .46). The best-fit graph (see Figure 4) illustrates a negative linear relationship between athletic participation rate and the percentage of non-White students. Although not a significant correlation, as the percentage of non-White students in the sample increased, the participation in athletics decreased.

Figure 4

Best-Fitting Curve for Multivariate Relationship: APR and Non-White Students

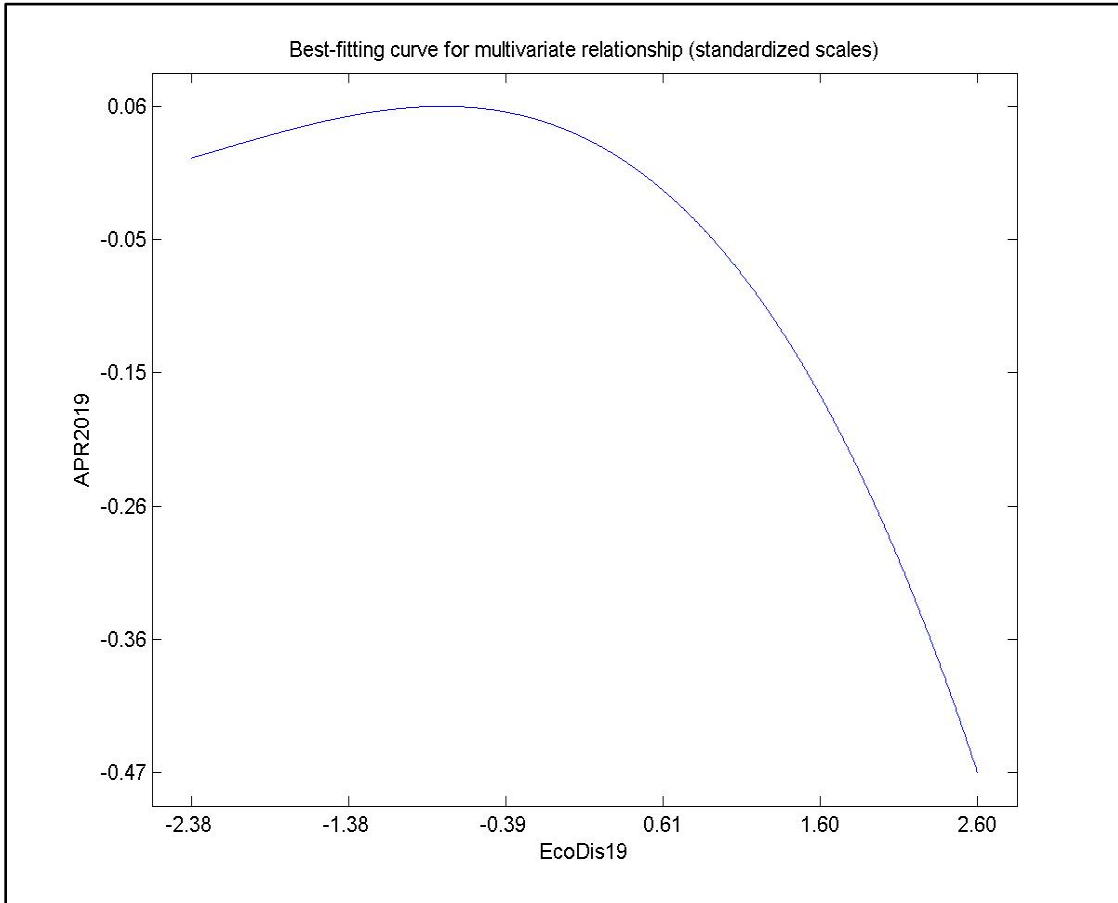*Note.* APR = athletic participation rate.

Athletic Participation Rate and Percentage of Economically Disadvantaged Students

Data from the path analysis showed no significant relationship between a school district's percentage of economically disadvantaged students and athletic participation rate ($\beta = 0.08$, $p = 0.12$). The best-fit graph (see Figure 5) illustrates a slightly skewed relationship between athletic participation rate and the percentage of economically disadvantaged students. Once again found to be insignificant, the figure illustrates a sharp

decline in athletic participation that closely aligns with the increase of non-White students in a school district.

Figure 5

Best-Fitting Curve for Multivariate Relationship: APR and Economically Disadvantaged

Students

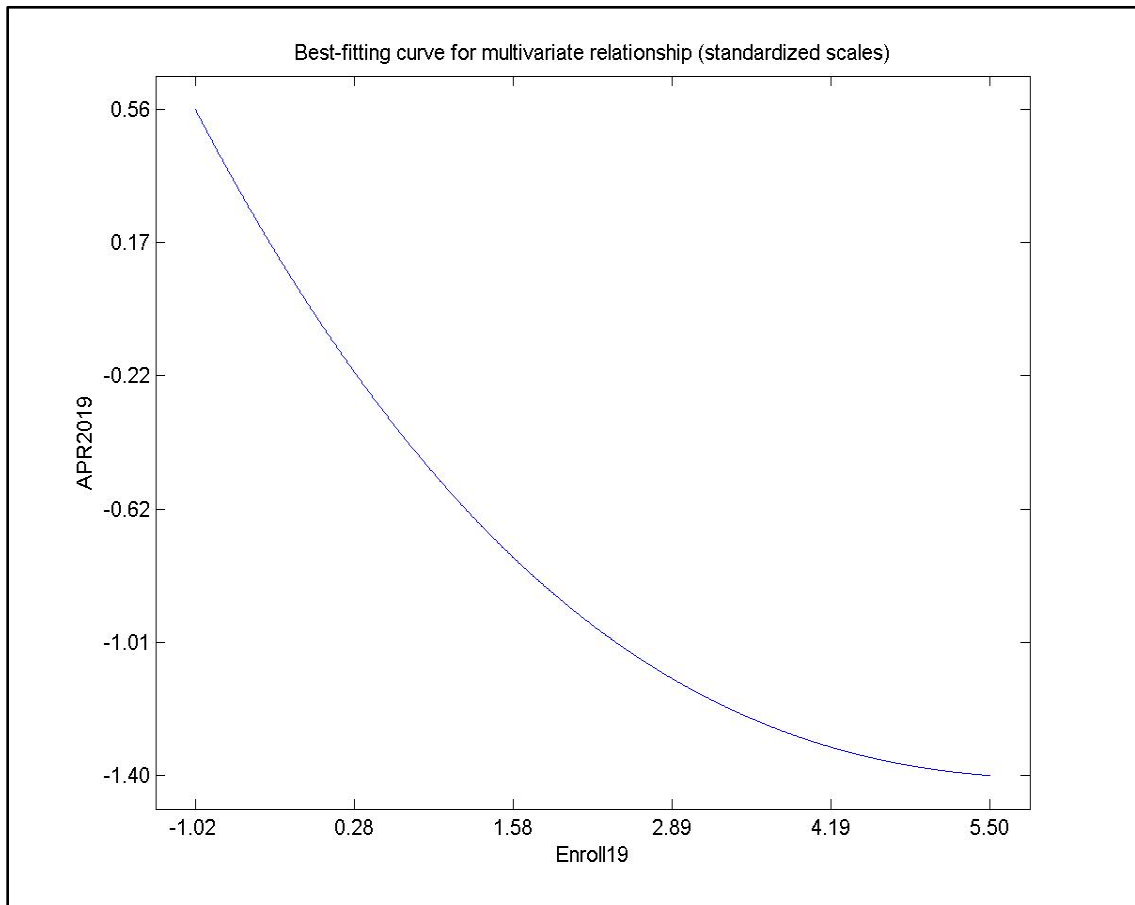

Note. APR = athletic participation rate.

Athletic Participation Rate and Total Enrollment

Data from the path analysis showed a significant relationship between a school

district's total enrollment and athletic participation rate (β = -0.45, p < .01). The best-fit

graph (see Figure 6) illustrates an indirect relationship between athletic participation rate

and a school district's total enrollment. Results indicated that as school enrollments

increased, the overall athletic participation rate decreased.

Figure 6

Best-Fitting Curve for Multivariate Relationship: APR and Total Enrollment

Note. APR = athletic participation rate.

2022 Results

This section provides a summary of descriptive statistics for the school district demographic variables from the 2022 school year. Results from the structural equation model path analysis are provided. Additionally, the section provides curves of best fit to illustrate the relationship between each independent variable and athletic participation rate.

Of the 218 participant school districts in this sample, the average athletic participation rate was 29.65% during the 2022 spring season. The sample districts' average graduation rate was 88.84%, and it had a non-White student body of 25.35%, a 41.81% rate of economically disadvantaged families, and an average total enrollment of 721.84 students (see Table 2).

Table 2

Descriptive Statistics 2022 Sample

Variable	N	M	SD	Min	Max
Percentage of athletic participation Spring 2022	218	29.65	.13	3	79
Percentage of 4-year graduation rate Spring 2022	218	88.84	9.49	3	100
Percentage of non-White students Spring 2022	218	25.35	26.82	1	100
Percentage of economically disadvantaged students Spring 2022	218	41.81	17.83	0	100
Total enrollment of 9–12 student body Spring 2022	218	721.84	677.79	34	4,250

The researcher conducted a path analysis to measure the relationship between athletic participation and several school district demographic variables, including graduation rate, percentage of non-White students, percentage of economically disadvantaged students, and total enrollment. The data showed a significant correlation between athletic participation rate and three other variables: percentage of non-White students, percentage of economically disadvantaged students, and total enrollment (see Figure 7).

Figure 7

*SEM Path Analysis of APR and District Demographics*
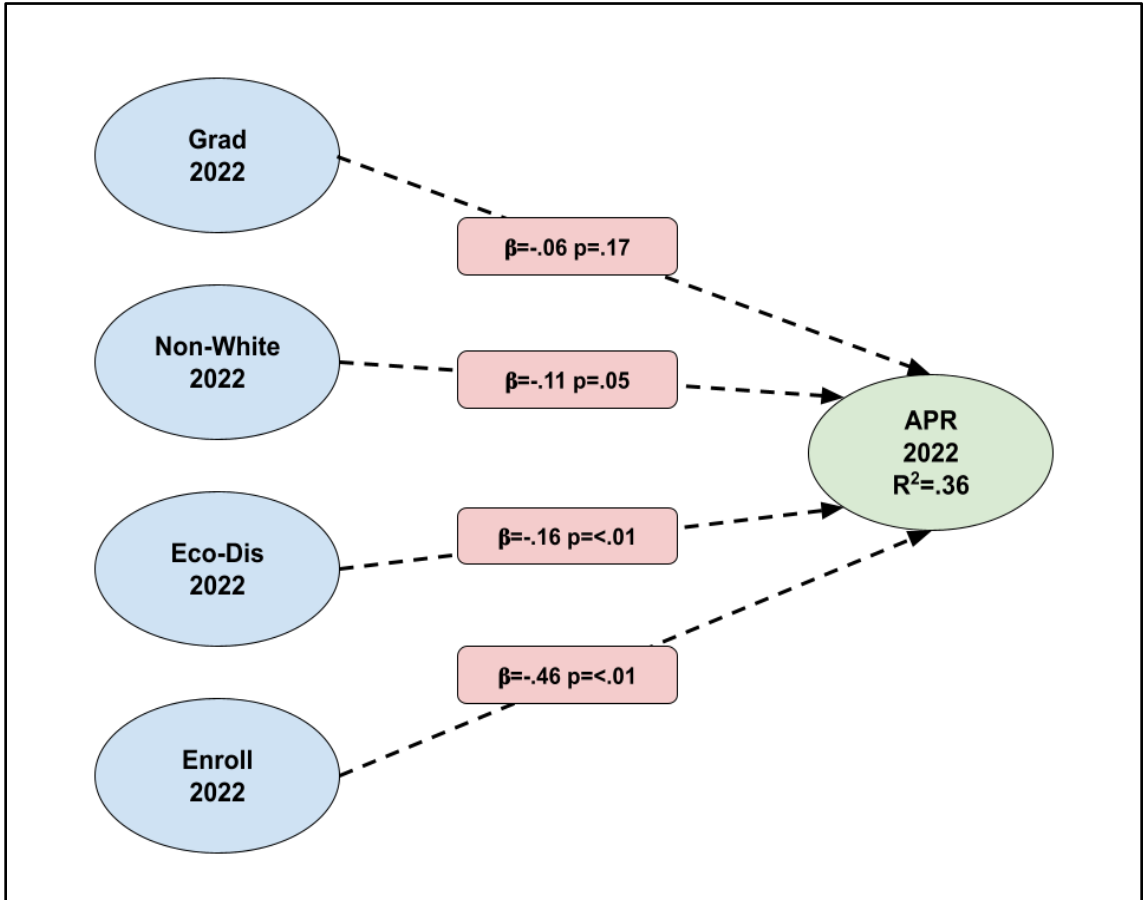
Note. SEM = structural equation models, APR = athletic participation rate.

Athletic Participation and Graduation Rates

Data from the path analysis showed no significance between a school district's 4-year graduation rate and athletic participation rate (see Figure 8).

Figure 8

Best-Fitting Curve for Multivariate Relationship: APR and Graduation Rate
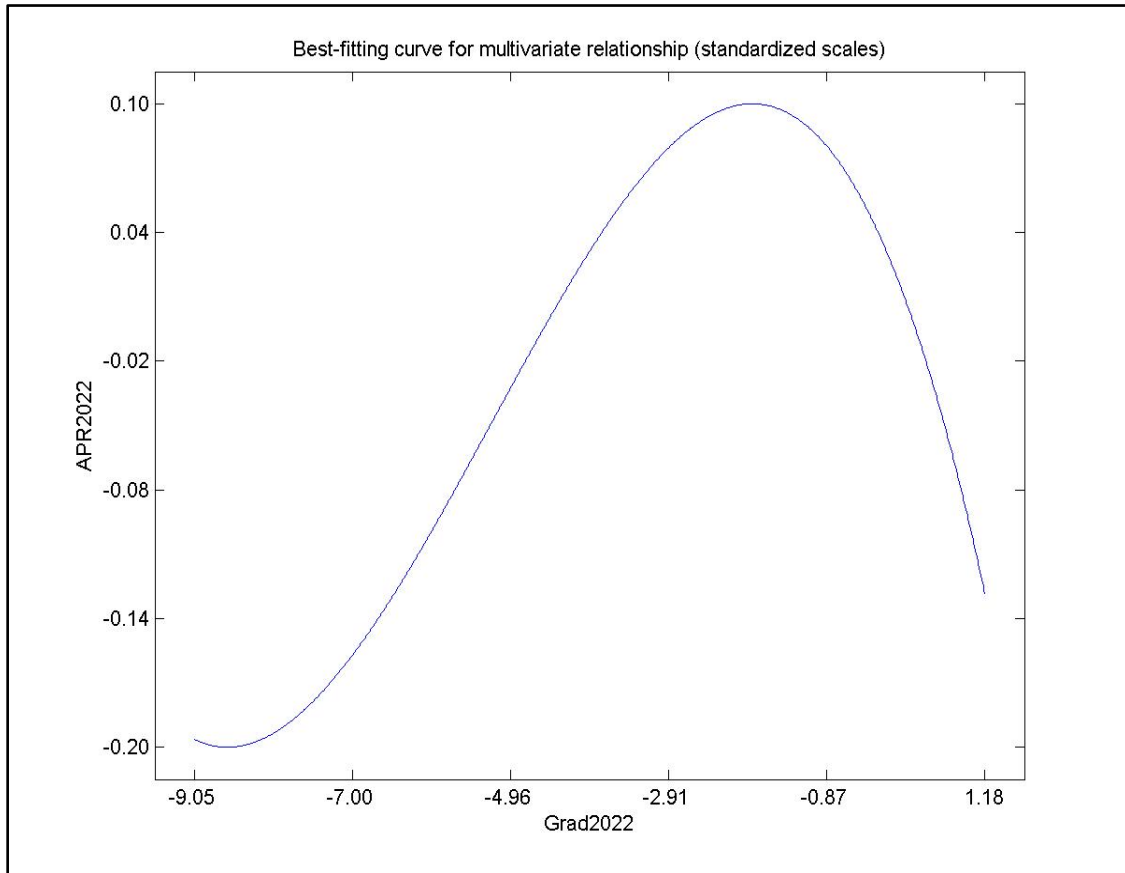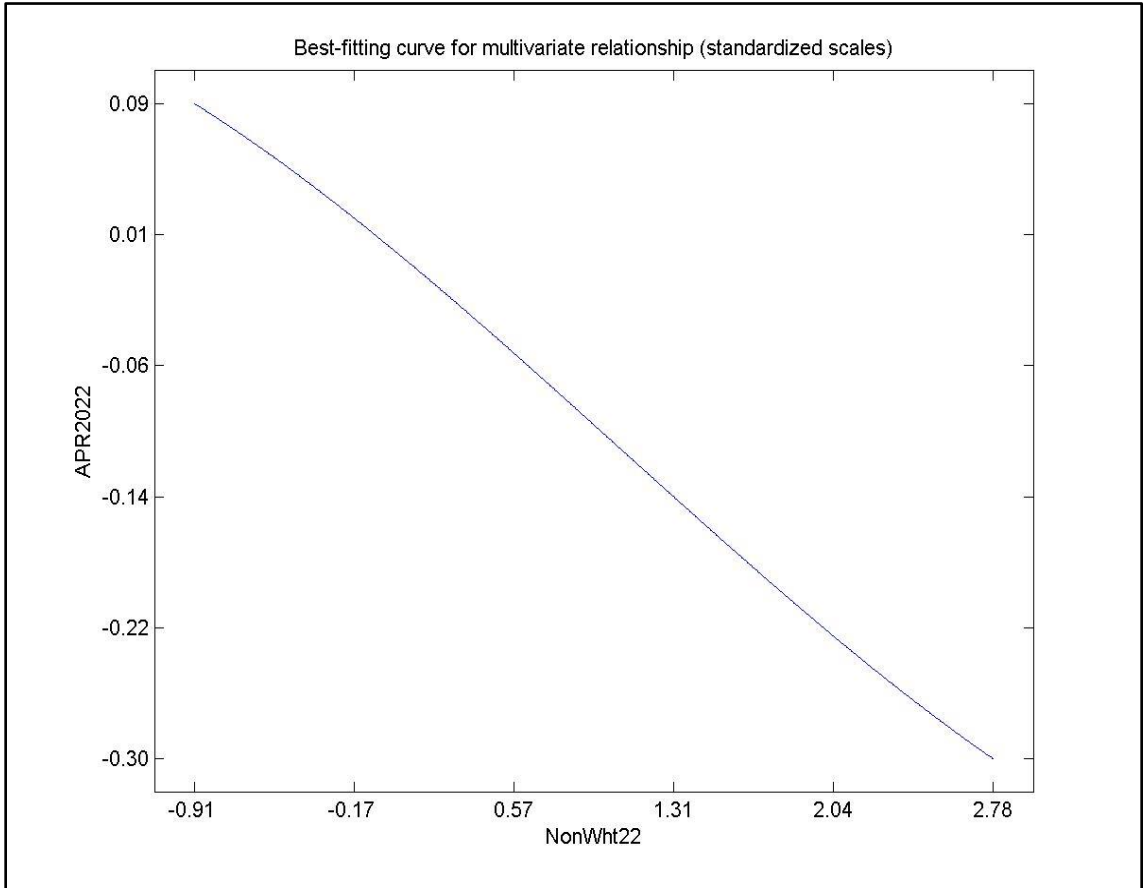

Note. APR = athletic participation rate.

Athletic Participation Rate and Percentage of Non-White Students

Data from the path analysis showed a significant relationship between a school district's percentage of non-White students and athletic participation rate (β = -0.11, p = .05). The best-fit graph (see Figure 9) illustrates a negative linear relationship between athletic participation rate and the percentage of non-White students. It was clear that in school districts with higher percentages of non-White students in the postpandemic spring of 2022, participation rates were negatively impacted more so than in districts with fewer non-White students.

Figure 9

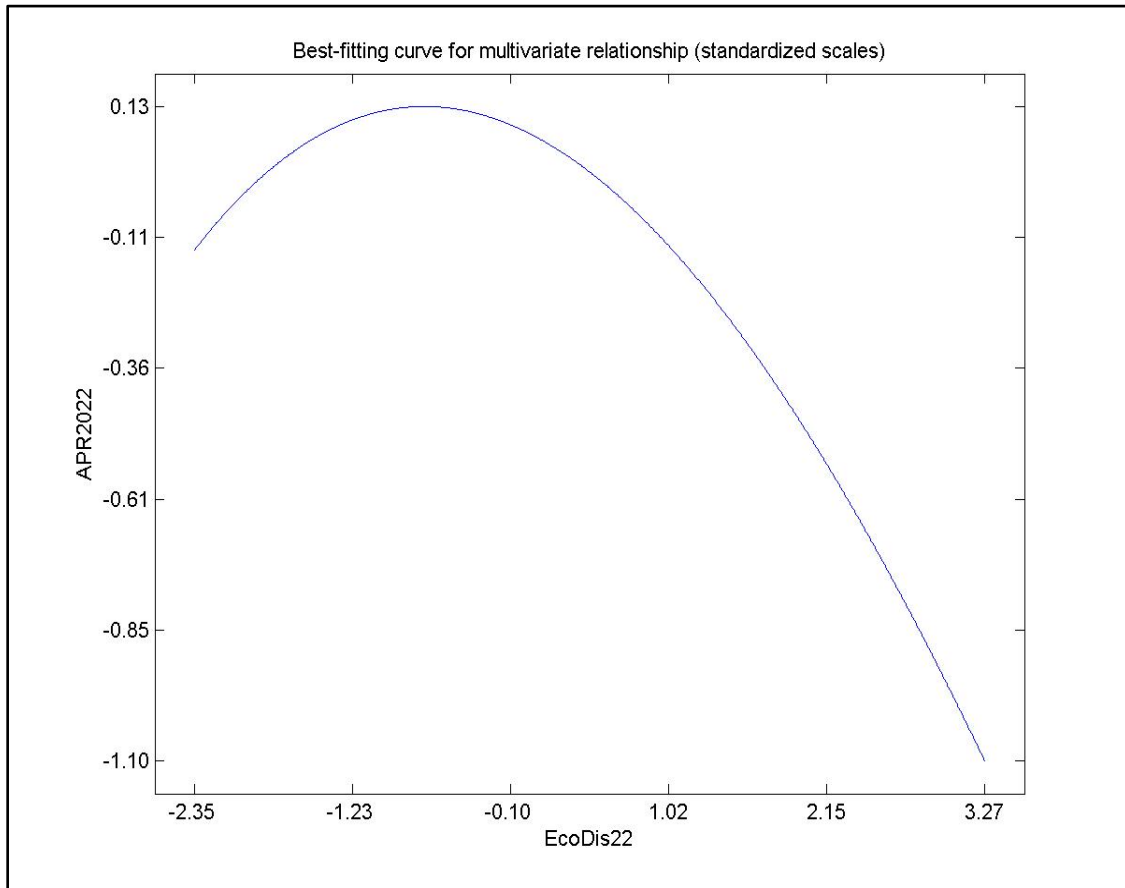*Best-Fitting Curve for Multivariate Relationship: APR and Non-White Students*

Note. APR = athletic participation rate.

Athletic Participation Rate and Percentage of Economically Disadvantaged Students

Data from the path analysis showed a significant relationship between a school district's percentage of economically disadvantaged students and athletic participation rate ($\beta = -0.16$, $p < .01$). The best-fit graph (see Figure 10) illustrates a slightly skewed relationship between athletic participation rate and the percentage of economically disadvantaged students.

Figure 10

Best-Fitting Curve for Multivariate Relationship: APR and Economically Disadvantaged

Students
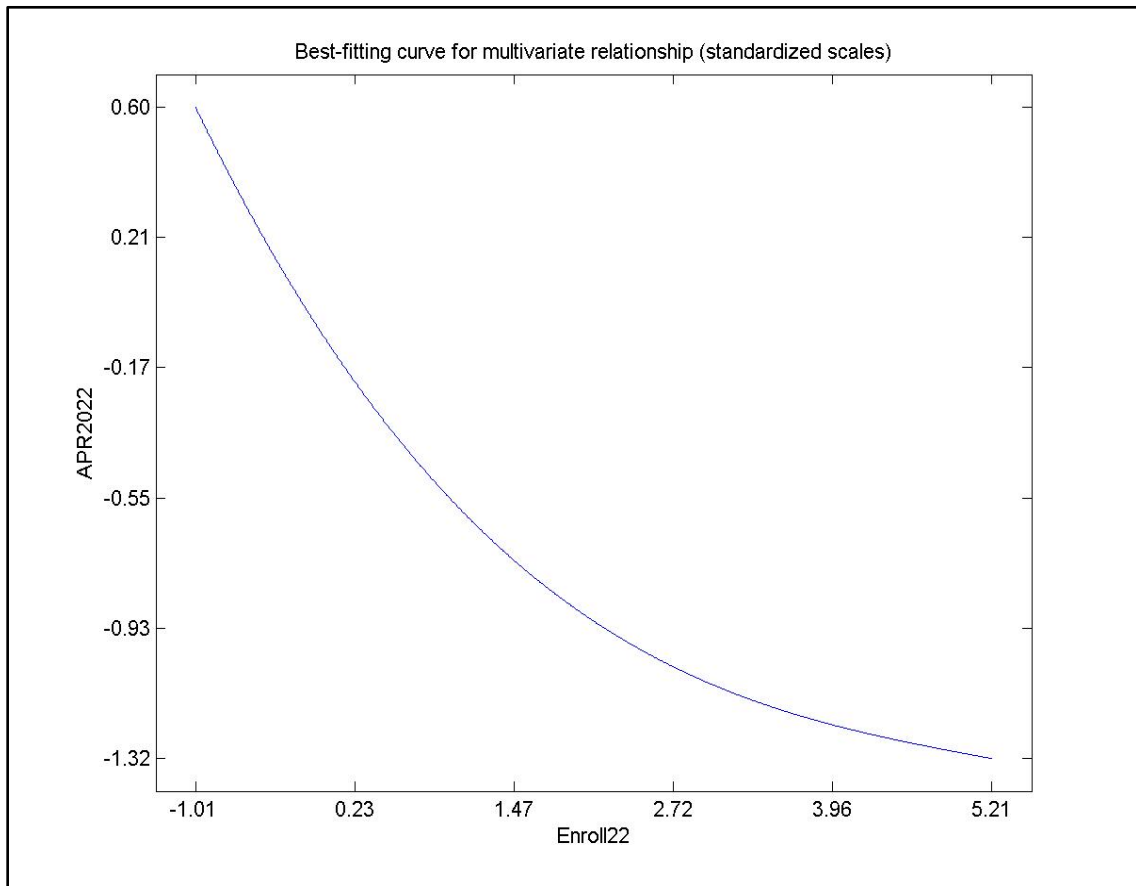

Note. APR = athletic participation rate.

Athletic Participation Rate and Total Enrollment

Data from the path analysis showed a significant relationship between a school

district's total enrollment and athletic participation rate (β = -0.46, *p* < .01). The best-fit

graph (see Figure 11) illustrates an indirect relationship between athletic participation

rate and a school district's total enrollment. Results indicated very clearly that as school enrollments increased, the overall athletic participation rate decreased.

Figure 11

Best-Fitting Curve for Multivariate Relationship: APR and Total Enrollment

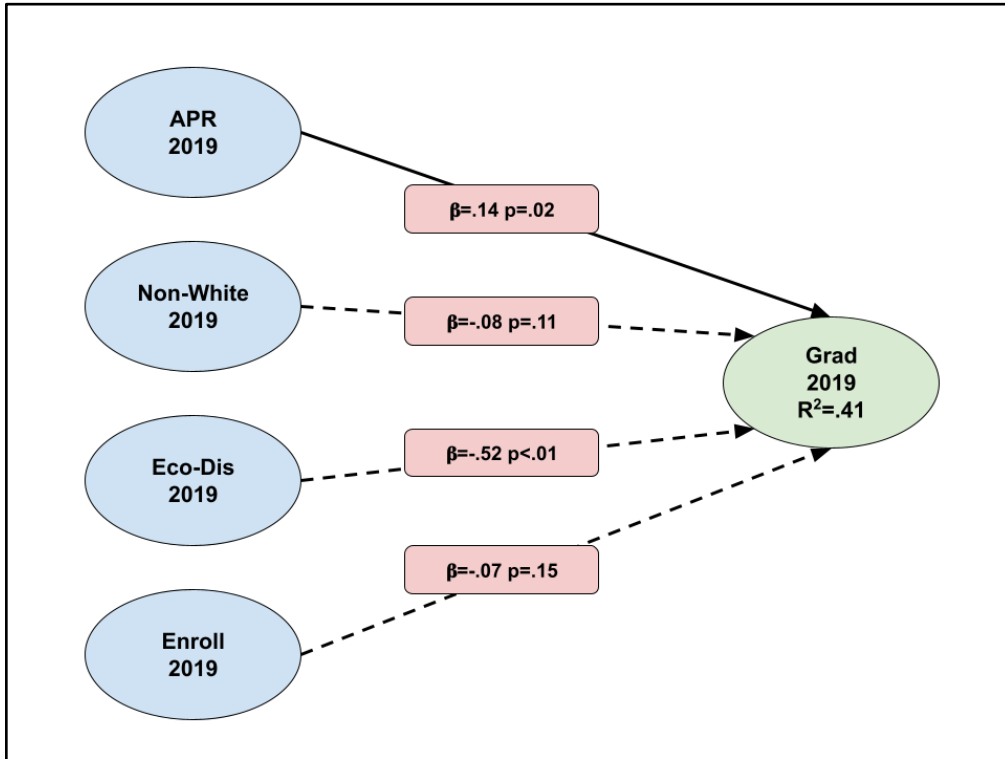*Note.* APR = athletic participation rate.

Graduation Rate and Interscholastic Athletic Participation

Although the current study focused on the school district's graduation rate as the dependent variable in both path analyses, the researcher conducted a brief analysis that included school district graduation rate as the dependent variable for the 2019 and 2022 samples from the same data sets.

As shown in Figure 12, two variables indicated graduation rate with statistical significance for the 2018–2019 school year. Athletic participation rate ($\beta = 0.14$, $p = .02$) directly and significantly correlated to graduation rate in the 2019 data that included 218 participant districts. The percentage of economically disadvantaged students ($\beta = -0.52$, $p < .01$) also served as a statistically significant indicator of graduation rate for the 2019 sample of 218 New York state public schools. While measuring graduation rate as the dependent variable for the 2018–2019 school year, $R^2 = 0.41$ indicated that 41% of the proportion of variance for the model was explained.

Figure 12

SEM Path Analysis of Graduation Rate and District Demographics
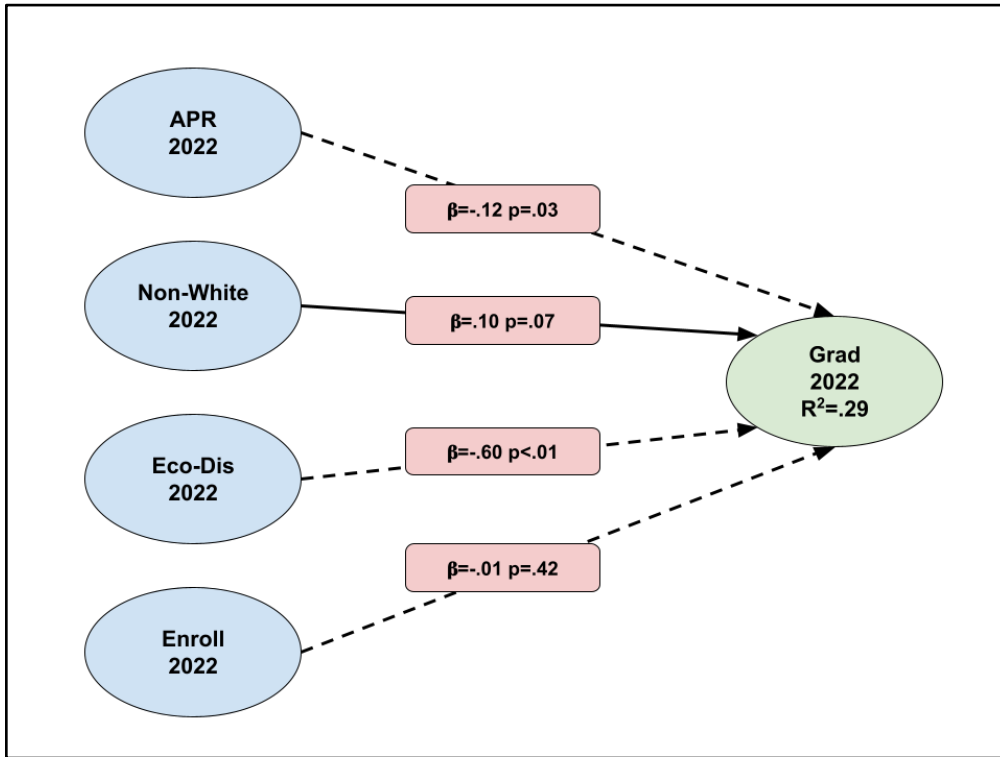

Note. SEM = structural equation models.

As shown in Figure 13, two variables indicated graduation rate with statistical significance for the 2021–2022 school year. Athletic participation rate (β = -0.12, p = .03) directly and significantly correlated to graduation rate in the 2022 data that included 218 participant districts. The percentage of economically disadvantaged students (β = -0.60, p < .01) also served as a statistically significant indicator of graduation rate for the 2022 sample of 218 New York state public schools. While measuring graduation rate as the dependent variable for the 2021–2022 school year, R^2 = 0.29 indicated that 29% of the proportion of variance for the model was explained.

Figure 13

SEM Path Analysis of Graduation Rate and District Demographics

Note. SEM = structural equation models.

Both prior to COVID-19 in the spring of 2019 and after COVID-19 in the spring of 2022, socioeconomic status (i.e., the percentage of economically disadvantaged students) served as the strongest indicator of graduation rate in the sample districts. The interscholastic athletic participation rate served as the other statistically significant indicator of graduation rate in both 2019 and 2022. Most notably, prior to COVID-19 in 2019, participation in athletics had a positive impact on graduation rate ($\beta = 0.14$, $p = .02$), but in 2022, a negative impact on graduation rate emerged ($\beta = -0.12$, $p = .03$).

2019 Results Versus 2022 Results and COVID-19's Impact

Research Question 1

The first research question was: Is there a significant relationship between interscholastic athletic participation and a school district's graduation rate? As previously stated, during the 2018–2019 school year, a significant relationship existed between graduation rate and athletic participation rate was significant ($\beta = 0.28$, $p < .01$). Following the COVID-19 pandemic, during the 2021–2022 school year, no significant relationship existed between a school district's graduation rate and athletic participation rate ($\beta = 0.06$, $p = .17$).

Although the mean graduation rate for both years was still 88% for the sample, several factors may have contributed to this change. During the pandemic and throughout the spring of 2022, the NYSED made revisions to graduation requirements and pathways to account for the impact of COVID-19 on the education of children throughout New York state (Rosa, 2021).

Research Question 2

The second research question was: Is there a significant relationship between interscholastic athletic participation and a school district's racial composition (i.e., percentage of non-White students)? Prior to the pandemic, during the 2018–2019 school year, no significant correlation existed between a school district's racial composition and its athletic participation rate ($\beta = 0.01$, $p = .46$). In contrast, during the 2021–2022 school year, a significant correlation emerged between the same two variables ($\beta = -0.11$, $p = .05$).

In one explanation, school districts with higher percentages of non-White students may have lacked equitable access to interscholastic athletic opportunities when compared to districts with fewer non-White students. Results indicated that districts with higher percentages of non-White students represented larger marginalized communities, which were hit harder by the COVID-19 pandemic. Perhaps the pandemic exposed a lack of culturally responsive practices in place in districts with larger non-White student populations. Either way, the results indicated a disparity between districts' athletic participation rate with a focus on race that cannot be ignored.

Research Question 3

The third research question was: Is there a significant relationship between interscholastic athletic participation and a school district's socioeconomic status (i.e., percentage of economically disadvantaged students)? The SEM path analysis from the 2018–2019 school year data showed no significant relationship between a school district's socioeconomic standing and its athletic participation rate (β = -0.08, p = .12). As was the case with racial composition, data showed a significant relationship in the 2021–2022 school year between a school district's socioeconomic status and its athletic participation rate (β = 0.18, p < .01).

Just as racial composition served as a significant indicator of school district athletic participation rate, so did school district socioeconomic status. Results clearly indicated that school districts with larger percentages of economically disadvantaged students were significantly impacted by the COVID-19 pandemic, and districts with fewer economically disadvantaged students were not. Economic stress resulting from the COVID-19 pandemic may have exposed inequitable access to interscholastic athletics

across New York state. Students and families that were placed under economic stress likely looked to their employment-aged student-athletes to contribute financially to households. Once again, school districts with larger marginalized populations, in this case economically disadvantaged students, were unable to sustain participation rates in a post-COVID-19 era when compared to districts with less socioeconomic need.

Research Question 4

The fourth research question was: Is there a significant relationship between interscholastic athletic participation and a school district's size (i.e., total enrollment of students Grades 9–12)? Of all the research questions, only this one had an outcome with consistent statistical significance for both the 2018–2019 school year (β = -0.45, p < .01) and the 2021–2022 school year (β = -0.46, p < .01).

Both before and after the COVID-19 pandemic, a school district's total ninth-through 12th-grade athletic participation rate was significantly tied to the district's athletic participation rate. Of the four school district demographic variables, total enrollment most strongly correlated to athletic participation rate. One straightforward explanation for this strong relationship was that statistically, more opportunities exist to participate in sports with limited roster capacities at schools with lower enrollment numbers. In Grades 9–12, only so many roster spots exist for any given sport. In districts with lower enrollment, students have more opportunities to participate because the school has a smaller pool of students to draw from for team rosters. There are only nine starting spots on a baseball or softball team; likewise, only 10 players can be on the field at one time in lacrosse. Although some sports, including track and field, have fewer capacity limits, most sports have a limited number of roster positions available to students.

Additionally, schools with smaller enrollments may have a more tight-knit culture that promotes and encourages participation in extracurricular activities, including interscholastic athletics. As the only variable that was a significant indicator of interscholastic athletic participation both before and after the COVID-19 pandemic, the data showed a less significant impact on smaller communities that could be the subject of further investigation.

Conclusion

The researcher set out to examine the impact of COVID-19 on athletic participation rates in New York state public schools and if district demographics played a role in the severity of the pandemic's impact. The results of this study clearly showed the COVID-19 pandemic negatively affected school districts with more non-White and more economically disadvantaged students to a greater degree than it did other school districts throughout the state. Although academic performance as measured by graduation rate was a significant indicator of athletic participation prior to COVID-19, it did not remain a significant factor after the COVID-19 pandemic. Instead, total Grade 9–12 enrollment served as the strongest and most consistent indicator of athletic participation in New York state public schools. Also of note was the R^2 value (i.e., goodness of fit) for both path analyses. For the 2018–2019 school year, the value of $R^2 = 0.38$ indicated that 38% of the proportion of variance for the model was explained. For the 2021–2022 school year, the value of $R^2 = 0.36$ indicated that 36% of the proportion of variance for the model was explained.

CHAPTER 5

This dissertation presented an ex post facto quantitative analysis of interscholastic athletic participation in New York state public schools. The researcher examined the impact of COVID-19 on school districts and explored how districts with different demographic profiles were . Furthermore, the researcher applied a theoretical framework centered on culturally responsive leadership and inclusive leadership practices. Data collection included accessing publicly available statistics from the NYSED and NYSPHSAA websites for further analysis.

Data analysis revealed several major findings. First, the COVID-19 pandemic negatively affected New York state school districts with higher percentages of non-White students more significantly than it did districts with lower percentages of non-White students. Second, COVID-19 negatively affected school districts in New York state with higher percentages of economically disadvantaged students more significantly than it did districts with lower percentages of economically disadvantaged students. Finally, both before and after the COVID-19 pandemic, the size of the district itself served as the strongest indicator of interscholastic athletic participation. Districts with smaller enrollments had significantly higher participation rates than did districts with larger enrollments.

This chapter presents the implications of the findings, their relationship to prior research, limitations of the study, recommendations for future practice, and recommendations for future research.

Implications of Findings

The quantitative analyses used to measure these research questions led to statistically significant results that indicate inequitable access to interscholastic athletics for marginalized subgroups as a result of the COVID-19 pandemic. The results show that the COVID-19 pandemic had a significant negative impact on the athletic participation rate in school districts with higher percentages of non-White students and economically disadvantaged students. These findings raise serious concerns with respect to the equity and access afforded to some of New York's most marginalized populations, including economically disadvantaged students and those who identify as People of Color, Black, or Indigenous. If these students and families cannot access interscholastic athletics, they could miss out on other extracurricular opportunities as well. In their culturally responsive school leadership framework, Khalifa (2018) called for educational leaders to self-reflect and conduct equity audits that measure student inclusiveness. The results of the current study suggest much work is needed following the COVID-19 pandemic to level the playing field and ensure all students have access to interscholastic athletics.

This study also showed that the most significant indicator of athletic participation was the total number of students enrolled—the fewer the number of students, the higher the participation rate in athletics. Results of this study suggest that schools with a smaller enrollment are more inclusive, thereby allowing for more participation in athletics. There remains much to learn from the cultural practices and values in these smaller school districts. Researchers could explore whether small school cultures better encourage athletics and extracurricular activities. Another area of interest involves whether students and families at smaller schools feel more welcomed and affirmed, making them more

likely to take advantage of such opportunities. These are just some of the questions that educational leaders should consider.

Further, results from the study showed significant disparities in access to interscholastic athletics in relation to race and socioeconomic status. Leaders in education can learn from these results and develop plans to improve athletic participation for students from all ethnic and economic backgrounds. The purpose of this study was to examine the relationships between the school district's athletic participation rates and several of its demographic characteristics. Additionally, the researcher aimed to measure the impact of COVID-19 on athletic participation rates. The results clearly suggest that despite best efforts and millions of dollars spent on recovery, the New York state educational community has not yet successfully established interscholastic athletic programs equitably for all. Educational leaders must understand how the COVID-19 pandemic impacted students both in and out of the classroom. Understanding the relationships between athletic participation rates and the impact of COVID-19 on school districts with different demographics will add further nuance to discussions about how to rectify the harm inflicted by COVID-19.

Relationship to Prior Research

Despite this study's quantitative design, it extends and builds on the previous work of DeMeulenaere's 2010 qualitative research on student involvement in sport and academic achievement. DeMeulenaere focused on student achievement and athletic participation, but in the current study, the researcher focused on demographic factors that may impact athletic participation while also accounting for the effects of COVID-19. DeMeulenaere noted that for students in urban settings with comparatively marginalized

populations, athletic participation played an even more critical role in student achievement, given some of the logistical and economic barriers that hinder student success. The current study showed that districts with larger enrollments and higher percentages of marginalized populations tended to have lower athletic participation rates after the COVID-19 pandemic. Given the connection between athletic participation and student achievement, leaders in education and interscholastic athletics must prioritize reestablishing access for all students to such opportunities.

The current study supports findings from Kanters et al. (2012), who explored differences in athletic participation according to different demographic factors. Although the current study did not find socioeconomic status or race to be a significant predictor of interscholastic athletic participation prior to COVID-19, in the post-COVID-19 year of 2021–2022, both race and socioeconomic status served as significant predictors of athletic participation, which aligns with the findings by Kanters et al.

In another relevant study, Shakib and Veliz (2012) examined levels of sport-related encouragement received by students from different demographic groups. The findings showed that African American students received more sport-related encouragement than did students from other ethnic or racial backgrounds. Although the current study measured athletic participation and not encouragement to participate, findings from the current study show a changed situation in a post-COVID-19 world. The current study found that school districts with higher percentages of non-White students had less athletic participation than districts with more non-White students.

In the oldest study included in the literature review, Sabo et al. (1993) examined how athletic participation impacted postsecondary mobility according to varying

demographic categories to understand the variability of participation and the associated benefits. The current study builds and extends on research from 2013, in which the researchers called for further investigation into the discrepancies that emerge in examinations of athletic participation and race. The findings from the current study support the findings from 1993, albeit only in the post-COVID-19 sample, which suggested that districts with fewer non-White students had higher athletic participation rates.

This current study also builds on the work of Goldsmith (2003), who examined variables such as race, socioeconomic status, and school enrollment. The current study supports Goldsmith's finding that structural inequities among racial and economic demographic categories lead to cultural differences and access issues related to interscholastic athletics.

Limitations of the Study

The researcher created a sample of 218 participant school districts across New York state, but several limitations exist. One limitation involves the calculation for this study's athletic participation rate, which relied on data from the spring seasons of 2019 and 2022. Although this calculation accurately depicts the participation rate for the spring seasons of both the 2018–2019 and 2021–2022 school years, it does not account for the participation of student-athletes in the fall or winter athletic seasons.

In another limitation, although the sample of 218 public school districts includes thousands of student-athletes, it represents the districts as wholes and does not distinguish the students as individuals. Consequently, in certain outlier scenarios, students participating locally in more than one sport in the spring season may be tallied twice.

Other outliers that participate on a combined team with a neighboring district may be tallied for a neighboring district. This method of data collection also failed to distinguish seventh- or eighth-grade students who participated on a high school team. In total, these outlier cases would account for less than 1% of the sample.

Recommendations for Future Practice

Since the most recent updates from the NYSED related to promoting a culturally responsive educational sustainable framework, the department has asked school districts across the state to examine their policy and practices with a focus on diversity, equity, and inclusivity. Few studies have addressed the impact of the COVID-19 pandemic on interscholastic athletics from a lens of diversity, equity, inclusivity, and culturally responsive practices.

The findings of this study indicate that the COVID-19 pandemic had a significantly negative impact on athletic participation rates in districts with higher percentages of non-White and socioeconomically disadvantaged students. The first recommendation supports the need for educational leaders to critically self-reflect on current practices surrounding access and equity related to interscholastic athletics for students from all backgrounds to illuminate inequities. As school leaders practice critical self-reflection, they can begin to create culturally responsive practices (Khalifa, 2018). This study provides data from a macrolevel across the state of New York. School leaders, including superintendents, principals, and athletic directors, can facilitate a shift to more culturally responsive practices by providing time to examine relevant district-specific data and current practices to understand how they contribute to or detract from diversity, equity, and inclusivity.

Another recommendation, administrators could develop an inclusive approach to bring all stakeholders to the table, including student-athletes, parents, families, coaches, and administrators, to explore if the interscholastic athletic opportunities currently offered in each district best serve the community's needs. There are only so many dollars allocated to athletics in each school district, and although that funding is substantial, its impact is only as good as the sports being offered and the buy-in from the families in the community. The inclusion of all stakeholders in this self-reflective process would best ensure a more inclusive model of operation for the district and student-athletes (Chrobot-Mason & Roberson, 2022).

Recommendations for Future Research

Several avenues for future research could expand upon the scope of this study. First, future researchers can expand the data sample to encompass additional sports as well as the fall or winter sport season. The data sample for the current study was limited to just the spring season. Adding data from additional sports and seasons would expand the sample and could lead to different findings. Another recommendation for future research involves using individual students as participants instead of school districts. This could prove challenging because the researcher would need to acquire a diverse sample across New York state that accurately represented the total population, but the results would add a microview of athletic participation rates that would complement the macroview of athletic participation rate presented in this study. Another study that would benefit the knowledge base would be a qualitative analysis of athletic participation for different demographic subgroups post-COVID-19. The findings of such a study could indicate that school districts with higher percentages of economically disadvantaged

students and non-White students were negatively impacted more by the COVID-19 pandemic than other districts in New York state. A qualitative study could give these districts, families, and students a voice. Finally, the strongest recommendation for future research involves continuing to measure athletic participation rates in post-COVID-19 New York state public schools. The findings of this study indicated no significant relationship between athletic participation rate and a school district's racial composition or socioeconomic makeup prior to COVID-19; however, a significant relationship emerged for both in analyses of data collected after the COVID-19 pandemic. Such a study could shed light on whether this negative impact subsides in time and would monitor said relationships.

Conclusion

The purpose of this study was to measure how interscholastic participation rates in New York public schools varied depending on the demographic makeup of the school district before and after the COVID-19 pandemic. Furthermore, in this study, the researcher aimed to determine if the pandemic impacted school districts with different demographic profiles more or less according to factors such as socioeconomic status, racial composition, student enrollment, and academic achievement. The results showed that the COVID-19 pandemic exposed inequities in access to interscholastic athletics in New York state public schools according to subgroups. These inequities should be addressed at both the state and local levels by educational leaders and stakeholders to ensure an environment of equity and inclusivity for all students. The results of this study also provide data that allows for critical self-reflection among school districts throughout the state of New York. Educational leaders must take time to study how easily students
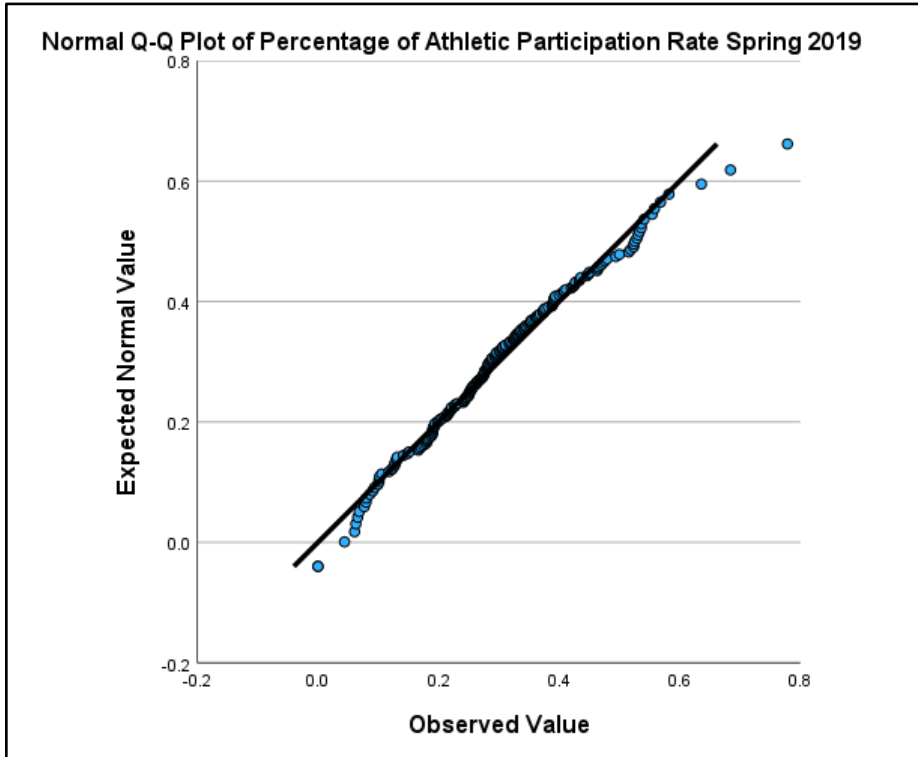
can access extracurriculars, including interscholastic athletics, and the obstacles that

hinder participation. By doing so, school leaders can work toward leveling the playing

field for all students.

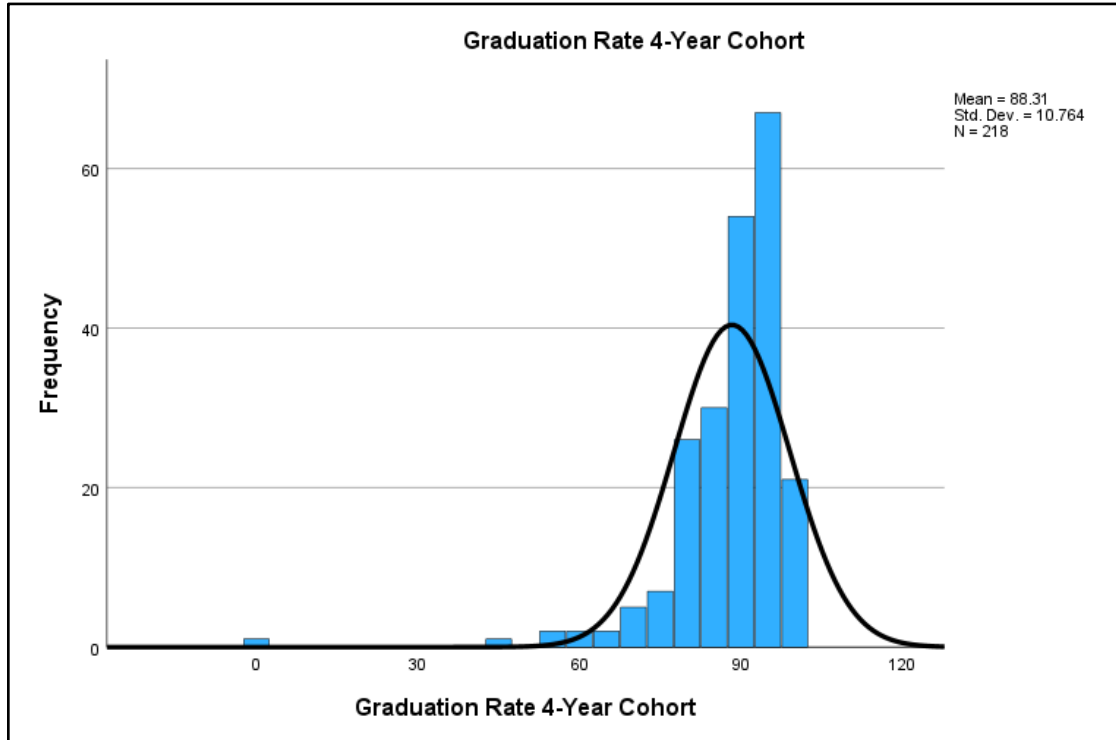# APPENDIX A HISTOGRAMS AND QQ PLOTS FOR LINEARITY AND

NORMALITY

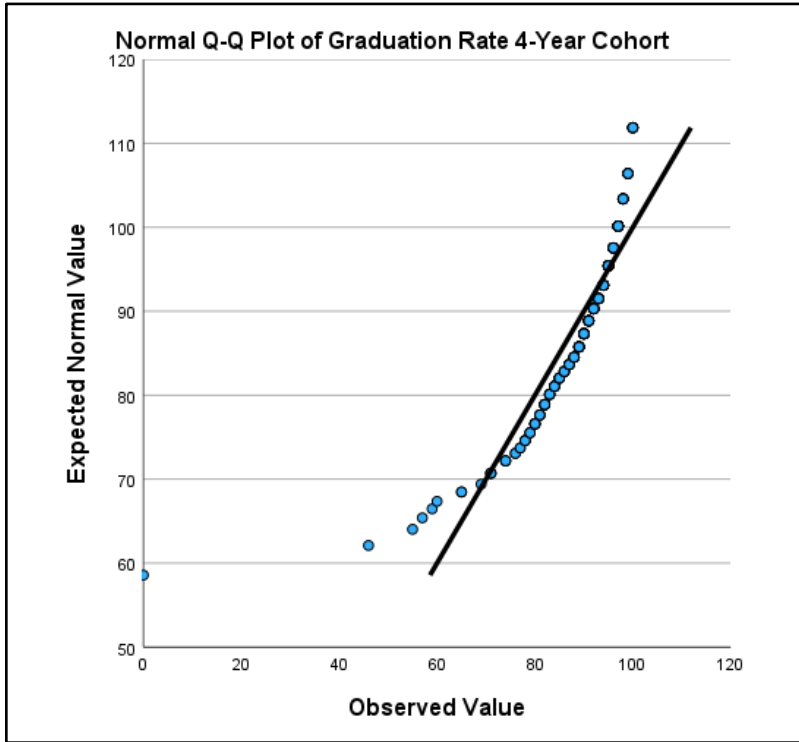*Athletic Participation Rate 2019 Sample Histogram*
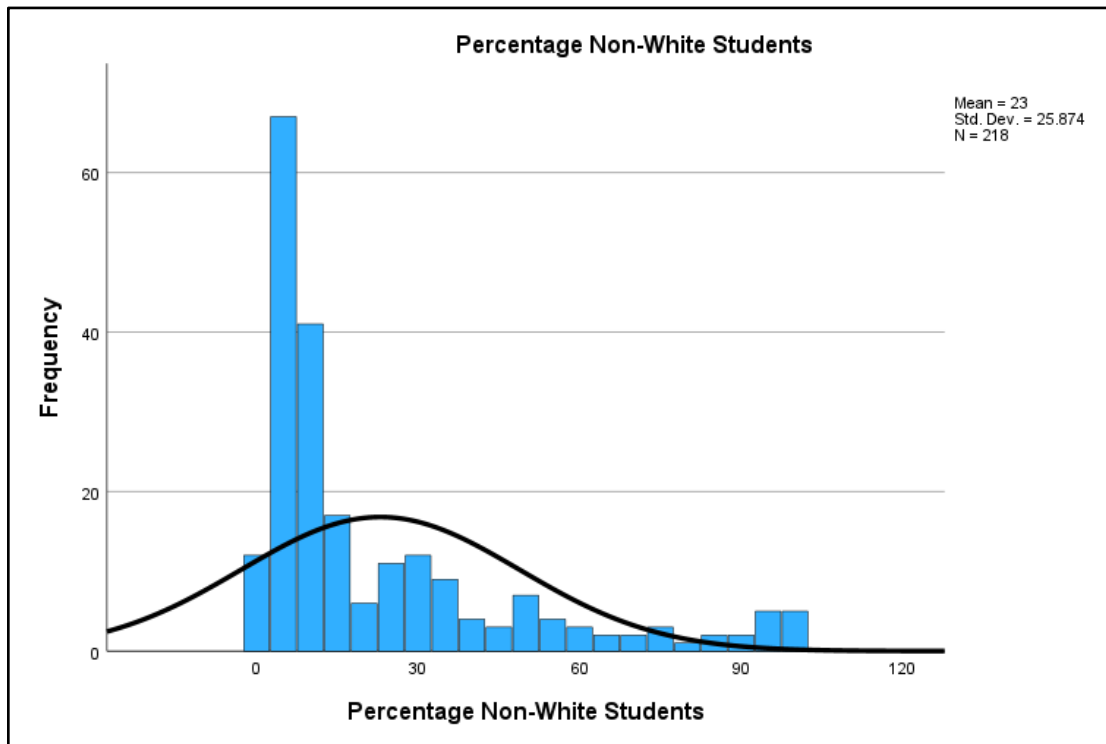

Percentage of Athletic Participation Rate Spring 2019

Athletic Participation Rate 2019 Sample QQ Plot

Normal Q-Q Plot of Percentage of Athletic Participation Rate Spring 2019

Graduation Rate 2019 Sample Histogram

Graduation Rate 4-Year Cohort

Mean = 88.31
Std. Dev. = 10.764
N = 218

APR 2019 Sample QQ Plot

Normal Q-Q Plot of Graduation Rate 4-Year Cohort

Non-White Students 2019 Sample Histogram

Non-White Students 2019 Sample QQ Plot

Normal Q-Q Plot of Percentage Non-White Students

Economically Disadvantaged Students 2019 Sample Histogram

Economically Disadvantaged Students 2019 Sample QQ Plot

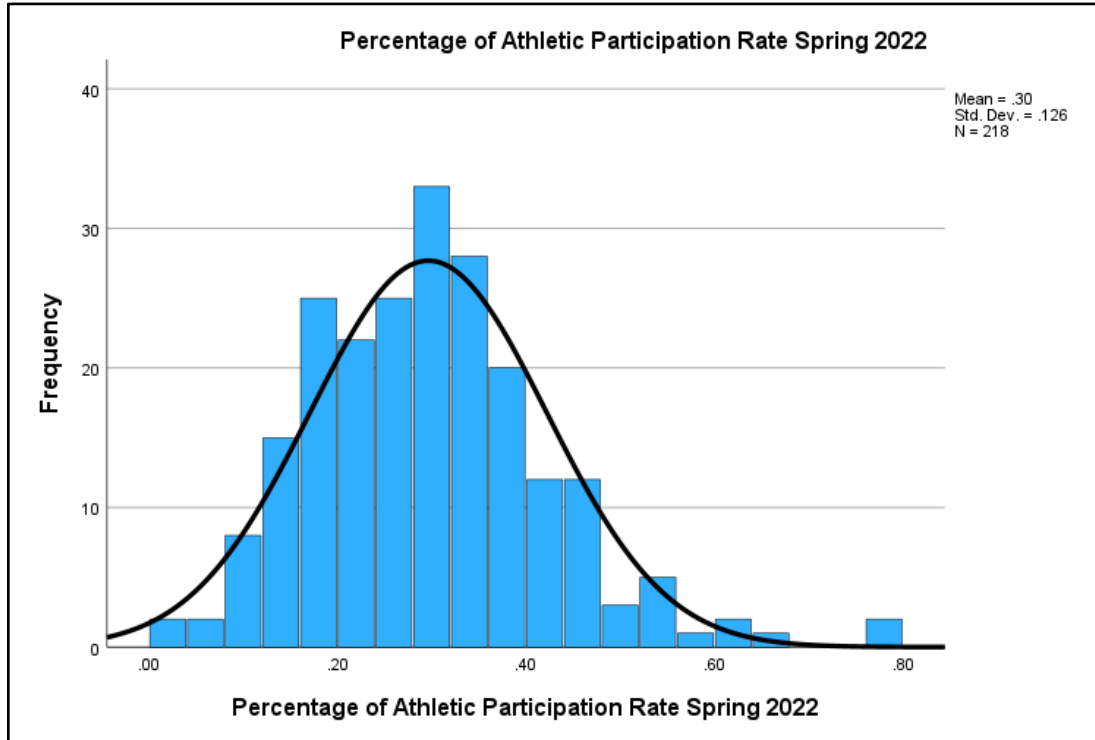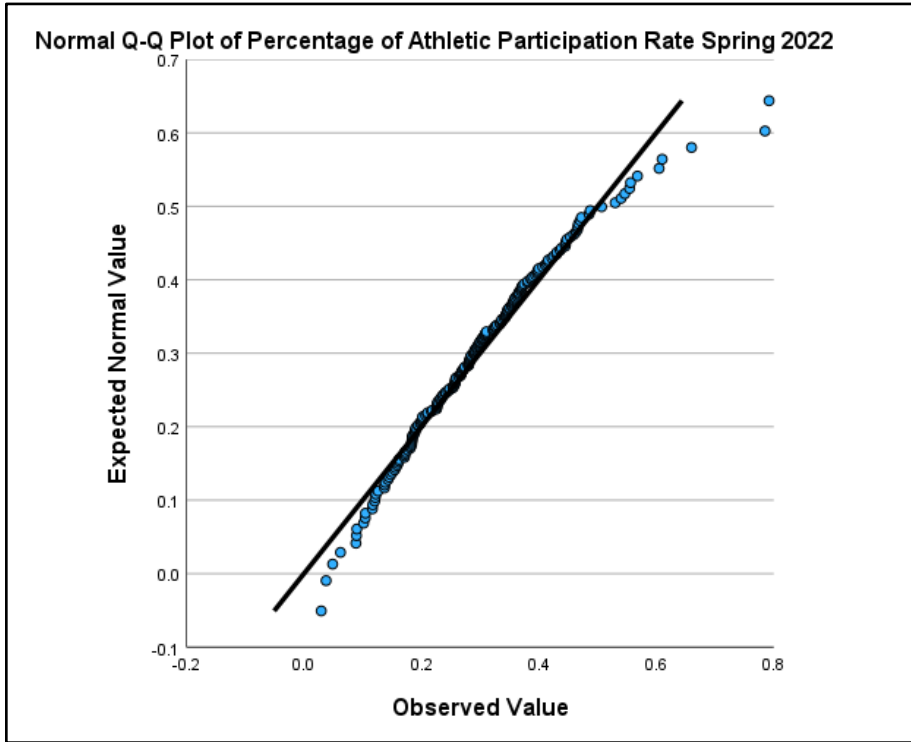Normal Q-Q Plot of Percentage Economically Disadvantaged Students

Total Enrollment 2019 Sample Histogram

Total School Enrollment Grades 9-12

Mean = 742.72
Std. Dev. = 689.149
N = 218

Total Enrollment 2019 Sample QQ Plot

Normal Q-Q Plot of Total School Enrollment Grades 9-12

Athletic Participation Rate 2022 Sample Histogram

Percentage of Athletic Participation Rate Spring 2022

Mean = .30
Std. Dev. = .126
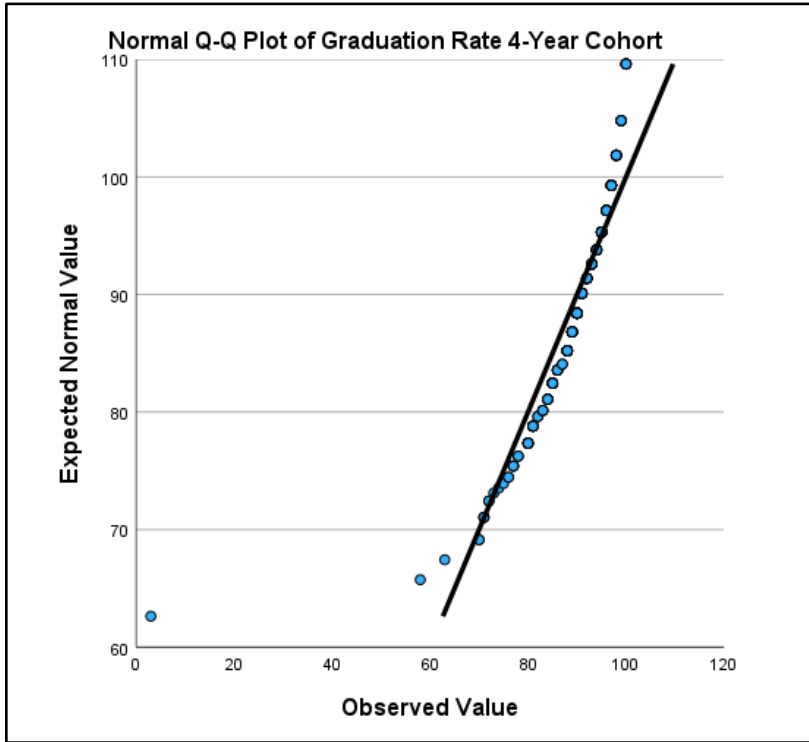N = 218

Athletic Participation Rate 2022 Sample QQ Plots

Graduation Rate 2022 Sample Histogram

Graduation Rate 4-Year Cohort

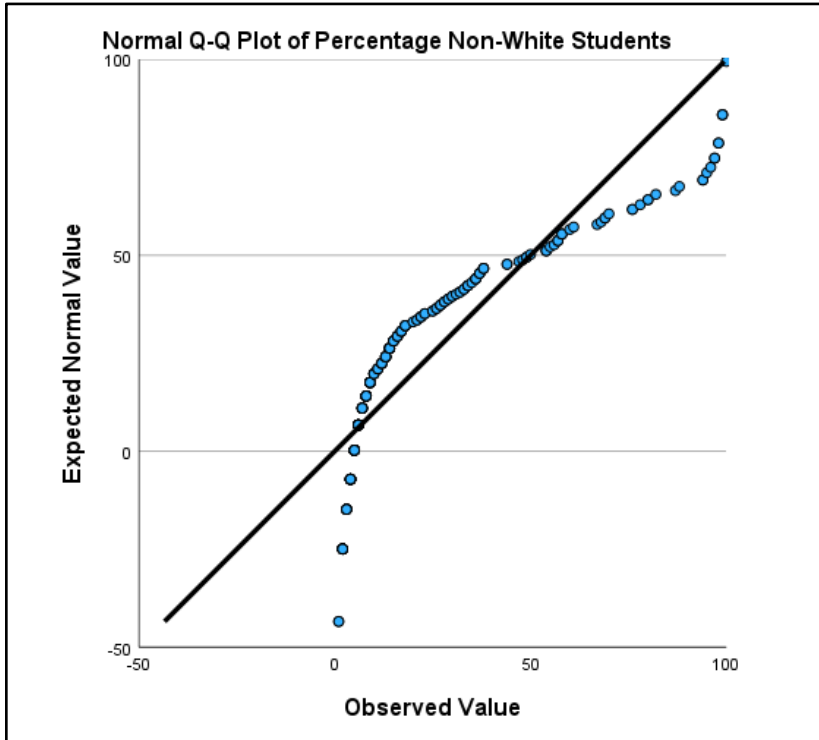Mean = 88.84%
Std. Dev. = 9.488%
N = 218
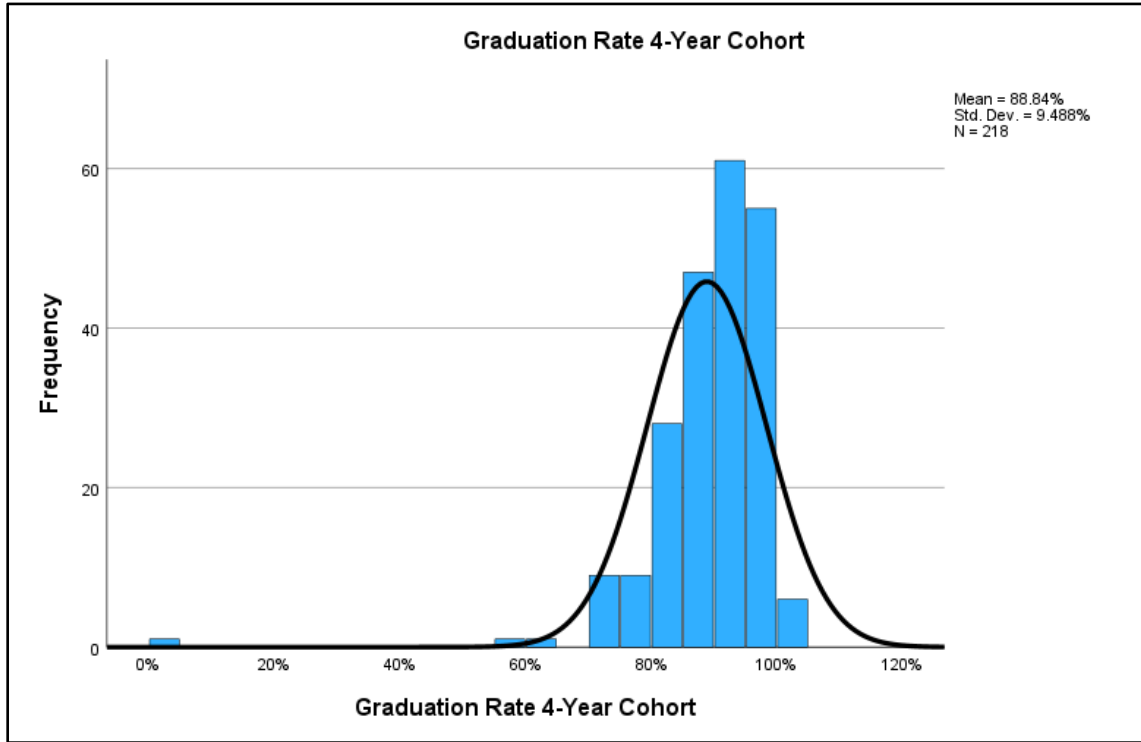
Graduation Rate 2022 Sample QQ Plot

Non-White Students 2022 Sample Histogram
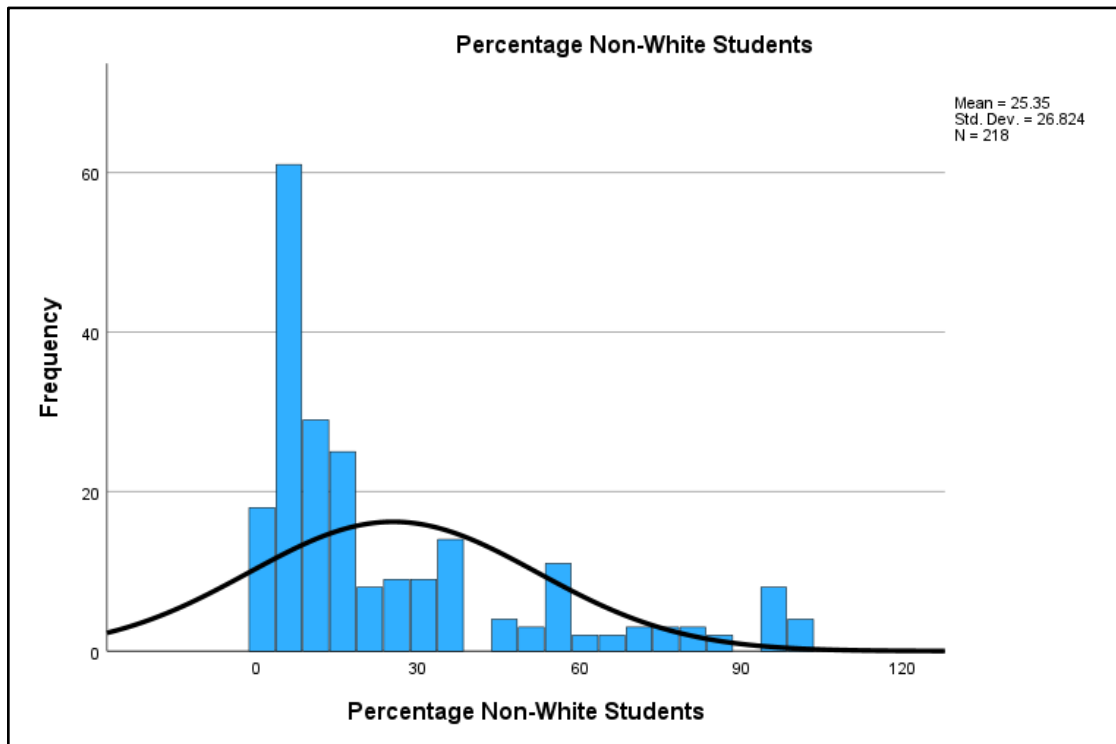
Non-White Students 2022 Sample QQ Plot

Normal Q-Q Plot of Percentage Non-White Students
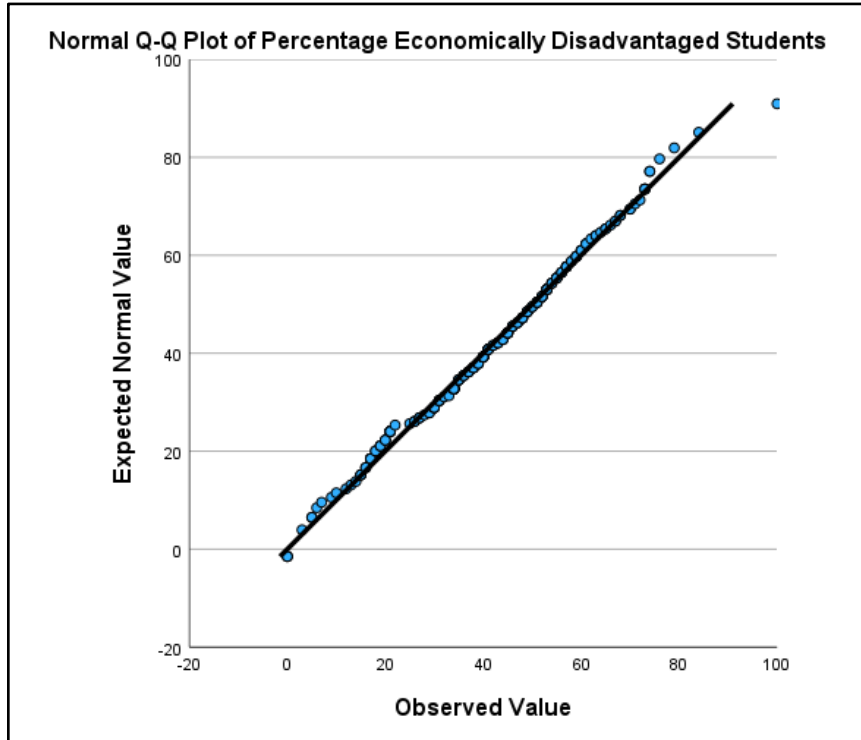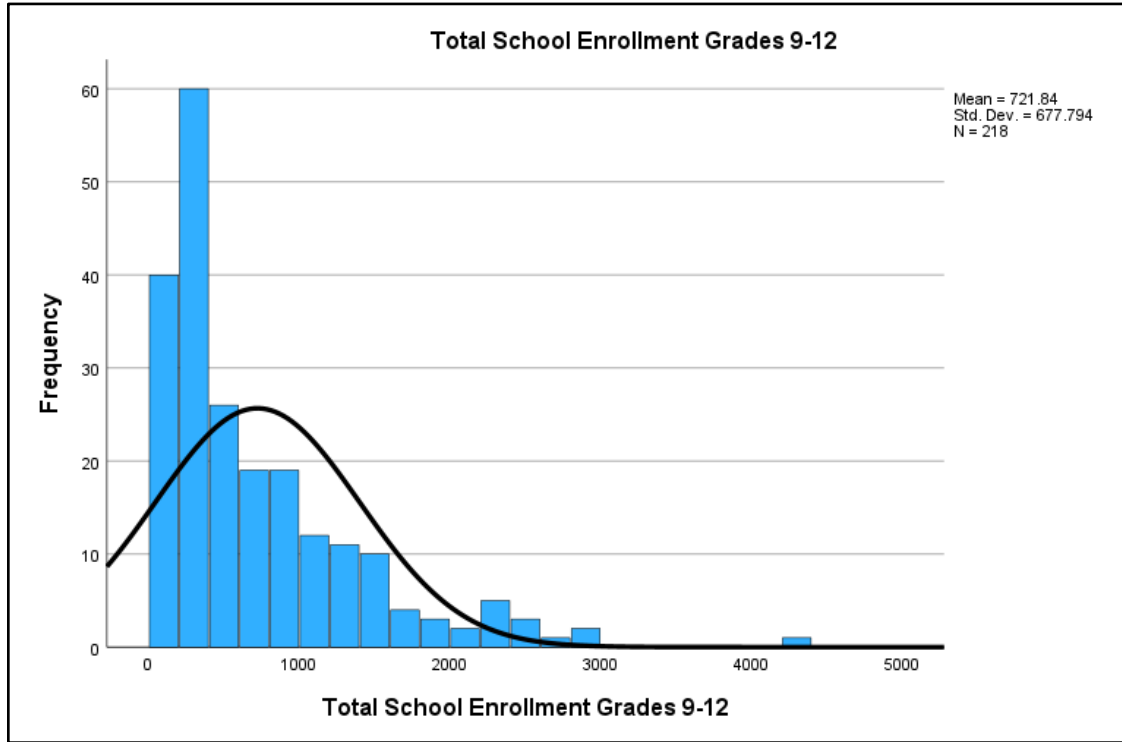
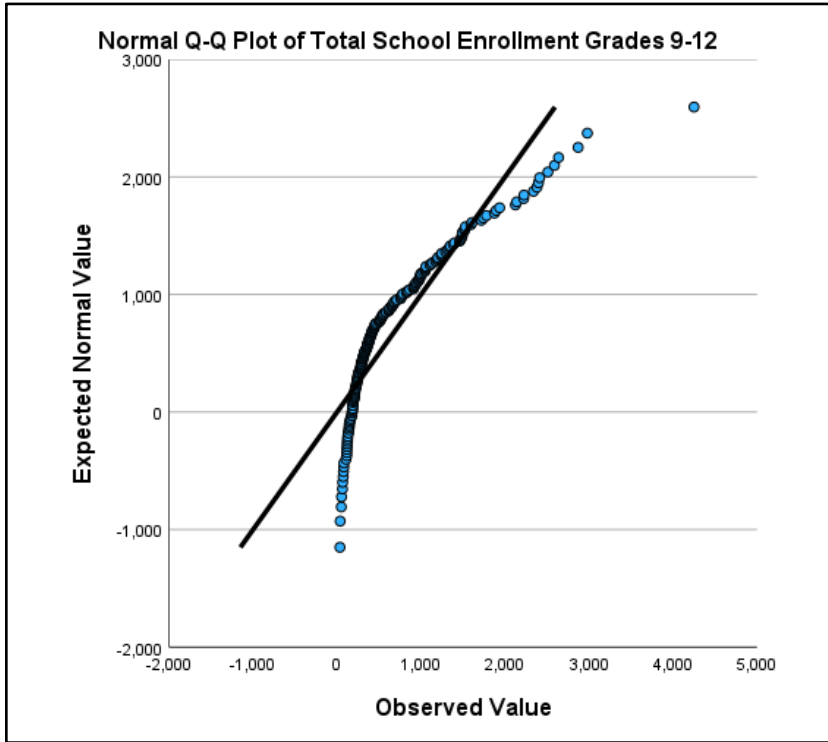*Economically Disadvantaged Students 2022 Sample Histogram*
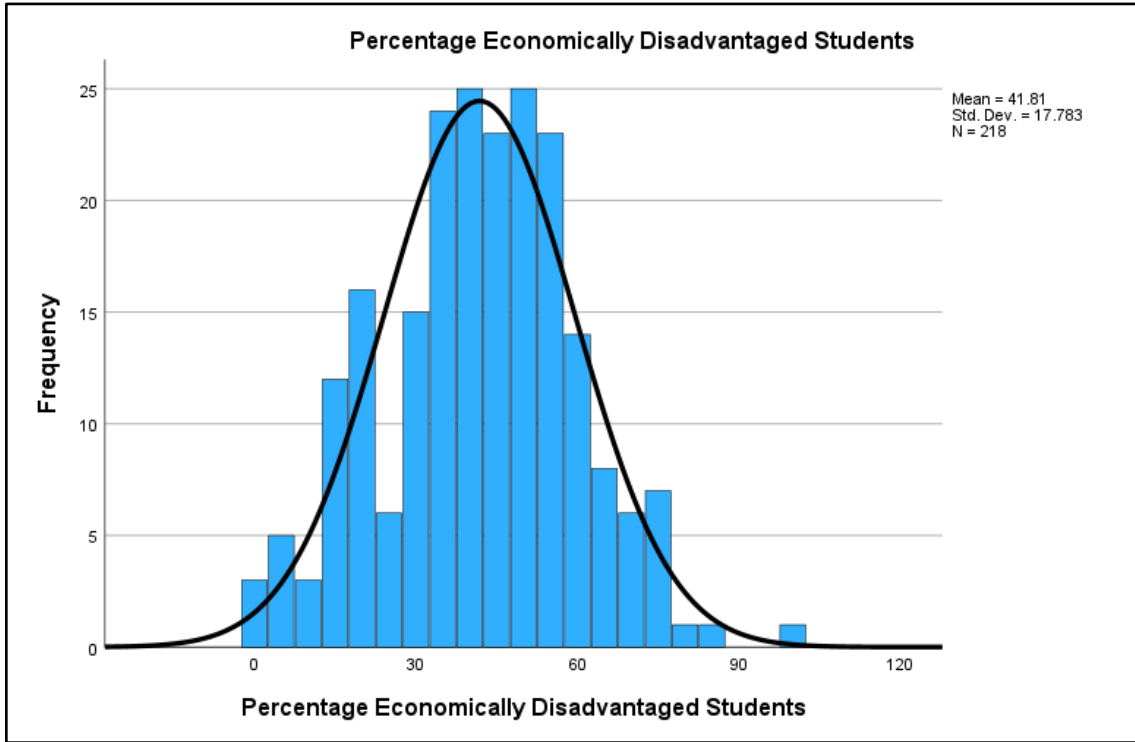
Economically Disadvantaged Students 2022 Sample QQ Plots

Total Enrollment 2022 Sample Histogram

Total Enrollment 2022 Sample QQ Plot

APPENDIX B INSTITUTIONAL REVIEW BOARD APPROVAL DOCUMENTS

ST. JOHN'S UNIVERSITY

Federal Wide Assurance: FWA00009066

Jun 13, 2023 1:54:42 PM EDT

PI: Justin Cobis
CO-PI: James Campbell
Ed Admin & Instruc Leadership

Re: Expedited Review - Initial - **IRB-FY2023-351** *LEVELING THE PLAYING FIELD: COVID'S IMPACT ON INTERSCHOLASTIC ATHLETIC PARTICIPATION IN NEW YORK STATE PUBLIC SCHOOLS - AN EX POST FACTO ANALYSIS OF DISTRICT DEMOGRAPHICS AND SPORT*

Dear Justin Cobis:

The St John's University Institutional Review Board has rendered the decision below for *LEVELING THE PLAYING FIELD: COVID'S IMPACT ON INTERSCHOLASTIC ATHLETIC PARTICIPATION IN NEW YORK STATE PUBLIC SCHOOLS - AN EX POST FACTO ANALYSIS OF DISTRICT DEMOGRAPHICS AND SPORT.* The approval is effective from June 13, 2023 through --.

Decision: Exempt

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Selected Category: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Sincerely,

Raymond DiGiuseppe, PhD, ABPP
Chair, Institutional Review Board
Professor of Psychology

Certificate of Completion

ST. JOHN'S UNIVERSITY

fhi360
THE SCIENCE OF IMPROVING LIVES

THIS ACKNOWLEDGES THAT

Justin Cobis

HAS SUCCESSFULLY COMPLETED
THE IRB COURSE IN THE PROTECTION OF HUMAN SUBJECTS

Raymond DiGiuseppe 01/10/2023

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VITA

Name	*Justin T. Cobis*
Baccalaureate Degree	*Bachelor of Science, St. John's University Jamaica, New York Secondary Education*
Date Graduated	*May, 2006*
Other Degrees and Certificates	*Master of Science, St. John's University, Jamaica, New York School Building Leadership*
Date Graduated	*August, 2007*