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The Mediating Role of Parental Support in the Relationship between Administrative Support and Individual vs. Team Sport Participation among University Student-Athletes: A Binary Logistic Regression Analysis

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Abstract: University student-athletes often face challenges in balancing institutional structures and family influences when deciding whether to participate in individual or team sports. This study aimed to examine the mediating role of parental support in the relationship between administrative support and the nature of sport participation among university student-athletes. A quantitative approach with a cross-sectional design was employed to collect data from 520 student-athletes who participated in intervarsity competitions. The participants represented both major sports (Cricket, Football, Hockey, Rugby) and minor sports (Volleyball, Basketball, Badminton, Table Tennis). Standardized instruments were used to measure administrative support, parental support, and type of sport participation, while statistical analyses included t-tests, binary logistic regression, and mediation analysis. Results indicated that student-athletes in minor sports reported higher levels of both parental and administrative support compared to those in major sports. Although the direct effect of administrative support on sport participation was not significant, the indirect effect through parental support was significant, confirming its mediating role. Logistic regression further revealed that parental support significantly predicted participation in minor sports, whereas administrative support alone did not. These findings suggest that while administrative structures are important, their effectiveness in shaping sport participation is enhanced when supported by strong parental involvement.

Introduction

Universities and colleges that foster athletic programs do more than provide venues and equipment; they must also deliver strong administrative support to ensure student-athletes can participate, thrive,

and balance their academic and athletic responsibilities. Administrative support generally includes funding, access to quality facilities, scheduling flexibility, qualified coaching and staff, clear policies, and academic coordination between athletic and academic departments. These resources act as structural enablers that influence not only *whether* students participate in sports, but *which type* of sport (team vs. individual) they choose (Khan et al., 2024).

Several lines of research underline the importance of administrative structures in shaping sport participation. For instance, Khan et al. (2024) reported a strong correlation between administrative support and the drive to succeed in sports among Pakistani university-level student-athletes, demonstrating that organizational clarity and institutional support boost sports motivation. Similarly, Al-Saadi (2024) investigated Iraqi universities and found that organizational and administrative support was often lacking for sports teams during inter-university competitions, highlighting how inadequate support from decision-makers constrained team participation. These findings emphasize the direct link between administrative quality and student-athletes' ability to remain engaged in their sport (Khan, Ullah, & Saba, 2024).

Administrative planning and logistical arrangements have also been found to play an important role in enabling sports participation more broadly. Al-Muthanna and Ismail (2019) showed that in Baghdad schools, administrative organization and planning improved the implementation and effectiveness of school sports programs, as teachers perceived greater structural support for delivering physical education. Such results suggest that administrative factors are not only relevant at the university level but also across educational stages, influencing athletes' opportunities and perceptions of support (Al-Muthanna & Ismail, 2019). In terms of outcomes, administrative support is linked to athletic achievement, mental well-being, and continuity of participation. When universities provide strong support in scheduling, coaching, resources, and academic flexibility, student-athletes face fewer barriers such as time conflicts, limited facilities, or academic stress (Khan et al., 2024).

Parental support has long been viewed as one of the most critical social and psychological influences on children's and adolescents' involvement in sports. It encompasses emotional encouragement, providing financial resources, logistical and moral backing, co-participation, and having favorable attitudes toward sport participation (Gao, Chee, Norjali Wazir, Wang, & Zheng, 2024). Research shows that when parents are supportive, young athletes exhibit higher enjoyment, persistence, perceived competence, and lower drop-out rates in sports (The role of parental involvement in youth sport participation and performance, 2003; Gao et al., 2024). In contrast, lack of parental support or high parental pressure may undermine intrinsic motivation and even lead to stress or negative experiences (The role of parental involvement in youth sport participation and performance, 2003).

As a mediator, parental support is theorized to bridge external structural or environmental influences (e.g. administrative support, school or university policies) and individual outcomes in sport involvement. In other words, institutional or administrative interventions may be more effective when parents also provide support—emotional or material—that reinforces the athlete's engagement and decision-making. For example, in studies of school students, parental financial support, perception, and motivation have been found to correlate positively with sports participation (Nazeer, Atta, & Wahid, 2021).

Empirical studies provide evidence for partial mediation effects of parental support in different sport-related outcomes. For instance, in Pakistan, a study investigating the relationship between sports participation and academic achievement found that parental support (along with self-esteem) fully mediated the relationship between sports involvement and academic performance (Qurban Haroona,

Siddique Hassan, Wang Jin, Morris Tony, et al., 2018). Although that study did not compare individual vs. team sport participation, it illustrates how parental support can act as an intervening variable through which other constructs exert their effect. Similarly, systematic reviews indicate that parents, who adopt autonomy-supportive styles, avoid over-control or excessive pressure, and foster positive values contribute significantly to athletes' motivation, enjoyment, and sustained participation (Gao et al., 2024).

Universities offer student-athletes a wide array of sport options, broadly categorized as team sports (e.g. soccer, basketball, volleyball) and individual sports (e.g. swimming, track and field, tennis). The type of sport chosen by student-athletes often reflects different motivational, psychological, social, and structural factors. Team sports typically emphasize cooperative strategies, collective goals, social cohesion, and shared responsibility, whereas individual sports often demand self-reliance, personal discipline, individual focus, and greater accountability for one's own performance (Moradi, Bahrami, & Dana, 2020).

Motivation differs between athletes in individual versus team sports in multiple respects. Moradi et al. (2020) found that team sport athletes may be more motivated by social aspects (friendship, belonging) and achievement in group contexts, whereas individual sport athletes may place more weight on personal achievement, mastery, or self-improvement (Moradi et al., 2020). Other studies show that individual sport athletes tend to have higher self-esteem or confidence in their personal skills because outcomes rely more on their own effort, training, and performance, while team sport athletes gain from the social support network inherent in teams (Self-esteem comparison in MDPI study). Psychological characteristics also differ by sport type among university (or college/young adult) athletes. For example, athletes in team sports tend to report greater levels of extraversion, agreeableness, and preference for social connection and group dynamics, while individual sport athletes may score higher on traits such as neuroticism or have stronger internal locus of control due to the solitary nature of training and competition (Mollazadeh et al., 2020).

In university settings in particular, practical factors can influence the choice between team and individual sports. Scheduling demands, travel for competitions, dependency on teammates, facility availability, coaching resources, and administrative support all can interact differently depending on sport type. Team sports often require coordination of many participants, larger space, group coaching, and consistent administrative backing to manage logistics of practice, matches, and travel. On the other hand, individual sports might allow for more flexibility, fewer dependencies, and may appeal to students who prefer greater control over their training and competition schedule. These structural and logistical differences can lead to differential participation rates, satisfaction, and persistence among student-athletes in individual vs. team sports (Jackson, 2021; Moradi et al., 2020).

Objectives

1. To examine how administrative characteristics and the type of sport involvement among college student-athletes are mediated by parental support.
2. To investigate the differences in administrative factors between student-athletes participating in major sports and those participates in minor sports.
3. To analyze the differences in parental support between student-athletes participating in major sports and those participating in minor sports.

Method and Materials

Research Design

In order to investigate the correlations between variables, the current study used a quantitative research approach, which enables the methodical collecting and statistical analysis of numerical data. Quantitative methods are particularly useful for testing hypotheses and drawing generalizable conclusions from large populations (Creswell & Creswell, 2018). In this study, the quantitative approach enabled the researcher to measure administrative support, parental support, and the type of sport participation (major vs. minor) among university student-athletes through standardized instruments and statistical tests.

Furthermore, a cross-sectional research design applied, that involves collecting data from participants at a single point in time. This design is commonly used in social and behavioral sciences to analyze the prevalence of certain behaviors or relationships between variables without manipulating the study environment (Setia, 2016). By using a cross-sectional design, the study captured the perceptions of student-athletes regarding administrative and parental support and their association with sport participation patterns within the same time frame.

Participants

The participants of this research consisted of a total of 520 university student-athletes who actively participated in intervarsity sports competitions. The participants were drawn from both major and minor games to ensure a representative distribution of sport types. The major sports category included athletes from Cricket, Football, Hockey, and Rugby, while the minor sports category comprised athletes from Volleyball, Basketball, Badminton, and Table Tennis. This categorization was based on the level of popularity, recognition, and institutional emphasis given to these games at the intervarsity level. By including both major and minor sports, the study captured a broad spectrum of student-athletes' experiences, making the findings more generalizable to different types of sport participation within the university context.

Frequency and Percentage of name of Sport (Minor and Major Sports)

Descriptive detail of Demographics

Name of Sports	Name of Sports	Sports	Frequency	Percent	Valid Percent	Cumulative Percent
Name of Sports	Major	Cricket	123	16.2	16.2	16.2
		Football	116	15.3	15.3	31.4
		Hockey	114	15.0	15.0	46.4
		Rugby	159	20.9	20.9	67.4
	Minor	Volleyball	83	10.9	10.9	78.3
		Basketball	83	10.9	10.9	89.2
		Badminton	41	5.4	5.4	94.6
		Table Tennis	41	5.4	5.4	100.0
		Total	760	100.0	100.0	

Out of 760 student-athletes, most were involved in the major sports. Rugby had the highest participation with 159 students (20.9%), followed by cricket with 123 (16.2%), football with 116 (15.3%), and hockey with 114 (15.0%). Together, these four sports made up about two-thirds of the total participants (67.4%). In the minor sports, volleyball and basketball each had 83 players (10.9% each), while badminton and table tennis had 41 players each (5.4% each). Overall, major sports attracted more

students, but minor sports also had a good level of participation, showing that students are involved in a variety of both team and individual sports.

Frequency and Percentage of nature of Sport (Minor and Major Sports)

Nature of Sports				
	Frequency	Percent	Valid Percent	Cumulative Percent
Nature of Sports				
Major	520	68.4	68.4	68.4
Minor	240	31.6	31.6	100.0
Total	760	100.0	100.0	

Out of 760 student-athletes, 520 (68.4%) participated in major sports such as cricket, football, hockey, and rugby, while 240 (31.6%) were involved in minor sports including volleyball, basketball, badminton, and table tennis. This shows that more than two-thirds of the athletes preferred major sports, whereas about one-third participated in minor sports, highlighting the greater popularity of major games among university students.

Mean wise differences of Administrative Factors and Parental Support

Statistics	Administrative Factors	Parental Support
Mean± Standard Deviation	3.3699± .24790	1.7844± .31903
Minimum	2.70	1.08
Maximum	4.05	2.50
Range	1.35	1.42
Skewness	-.046	.063
Kurtosis	-.166	-.637
Std. Error of Mean	.00899	.01157

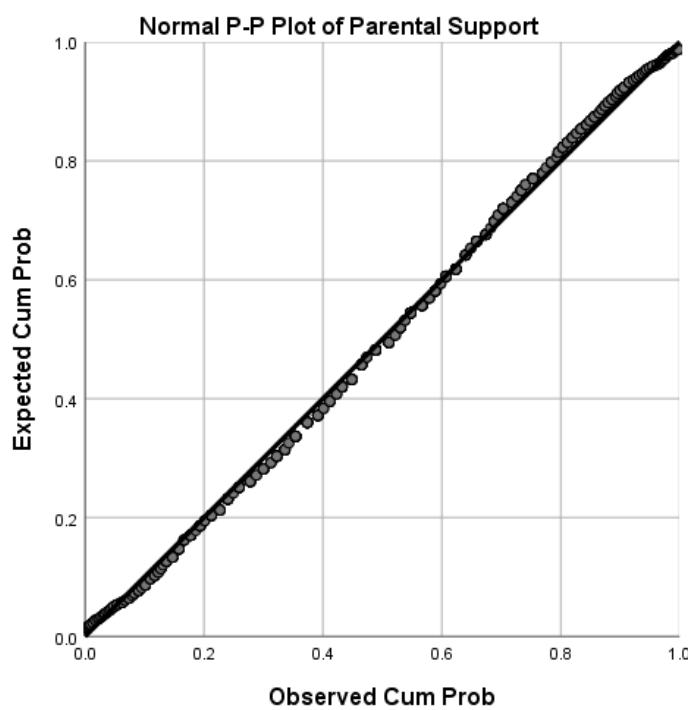
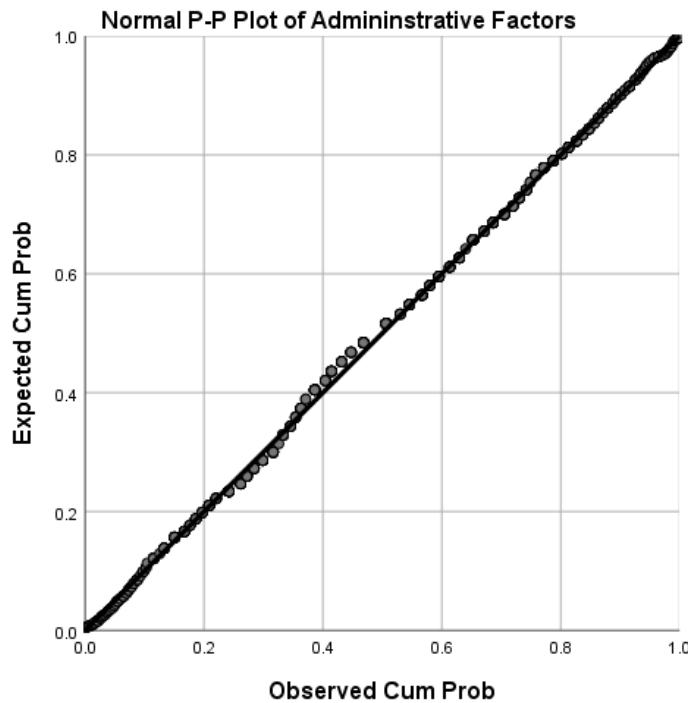
The descriptive statistics showed that the mean score for administrative factors was 3.37 (SD = 0.25), with scores ranging from 2.70 to 4.05. The distribution was approximately normal, as indicated by skewness (-0.046) and kurtosis (-0.166), both values being close to zero. For parental support, the mean score was 1.78 (SD = 0.32), with values ranging from 1.08 to 2.50. The distribution was also roughly normal, with skewness (0.063) near zero and kurtosis (-0.637) suggesting a slightly flatter distribution.

Data Normality Test of Administrative Factors and Parental Support

Tests of Normality			
	Kolmogorov-Smirnov ^a		
	Statistic	Df	Sig.
Administrative Factors	.032	760	.661
Parental Support	.029	760	.179

a. Lilliefors Significance Correction

According to the Kolmogorov-Smirnov test results, both variables have a normal distribution. For administrative factors, the test was non-significant ($p = .661$), and for parental support, the result was also non-significant ($p = .179$). Provided that both p-values are higher than .05, the assumption of normalcy was satisfied, indicating that both variables' data are appropriate for additional parametric analysis.



H_A1: Parental support significantly mediates the relationship between administrative factors and the nature of sport participation among university student-athletes.

Model: 4

Y: Nature of Sport X: Administrative Factors M: Parental Support n= 760

OUTCOME VARIABLE **Parental Support**

Model Summary						
R	R-sq	MSE	F	df1	df2	P
.3235	.1046	.0912	88.5796	1.0000	758.0000	.0000
Model						
	Coeff	Se	T	P	LLCI	ULCI
Constant	.3816	.1495	2.5531	.0109	.0882	.6750
Social Factors	.4163	.0442	9.4117	.0000	.3295	.5031

The regression model examined the effect of administrative factors on parental support among university student-athletes. The model was statistically significant, $F(1, 758) = 88.58$, $p < .001$, explaining about 10.5% of the variance in parental support ($R^2 = .1046$). Results showed that administrative factors had a significant positive effect on parental support ($B = .4163$, $SE = .0442$, $t = 9.41$, $p < .001$, 95% CI [.3295, .5031]). This indicates that better administrative support is associated with higher levels of parental support perceived by student-athletes.

OUTCOME VARIABLE Result		Coding of Binary Y for Logistic Regression				Major= 1
Status		(00) Minor= 2 (1.00)				
Model Summary						
-2LL	ModelLL	Df	P	McFadden	CoxSnell	Nagelkrk
935.2794	12.6759	2.000	.0018	.0134	.0165	.0232
Model						
	Coeff	Se	Z	P	LLCI	ULCI
Constant	-3.6809	1.0852	-3.3919	.0007	-5.8078	-1.5539
Administrative Factors	.5071	.3364	1.5075	.1317	-.1522	1.1663
Parental Support	.6640	.2624	2.5311	.0114	.1498	1.1782

The logistic regression model was statistically significant, $\chi^2(2) = 12.68$, $p = .002$, indicating that the predictors reliably distinguished between major and minor sports. However, the effect sizes were small, as shown by the pseudo R^2 values (McFadden = .013, Cox & Snell = .017, Nagelkerke = .023).

Examining the predictors, administrative factors did not significantly predict the likelihood of participating in major versus minor sports ($B = .507$, $SE = .336$, $z = 1.51$, $p = .132$, 95% CI [-.152, 1.166]). In contrast, parental support was a significant positive predictor ($B = .664$, $SE = .262$, $z = 2.53$, $p = .011$, 95% CI [.150, 1.178]). This suggests that greater parental support increases the likelihood that student-athletes will participate in minor sports (relative to major sports).

DIRECT, AND INDIRECT EFFECTS OF X ON Y

Direct effect of X on Y						
Effects	Se	z	P	LLCI	ULCI	
.5071	.3364	1.5075	.1317	-.1522	1.1663	
Indirect Effect (s) of X on Y						
Effects	BootSE	BootLLCI	BootULCI			

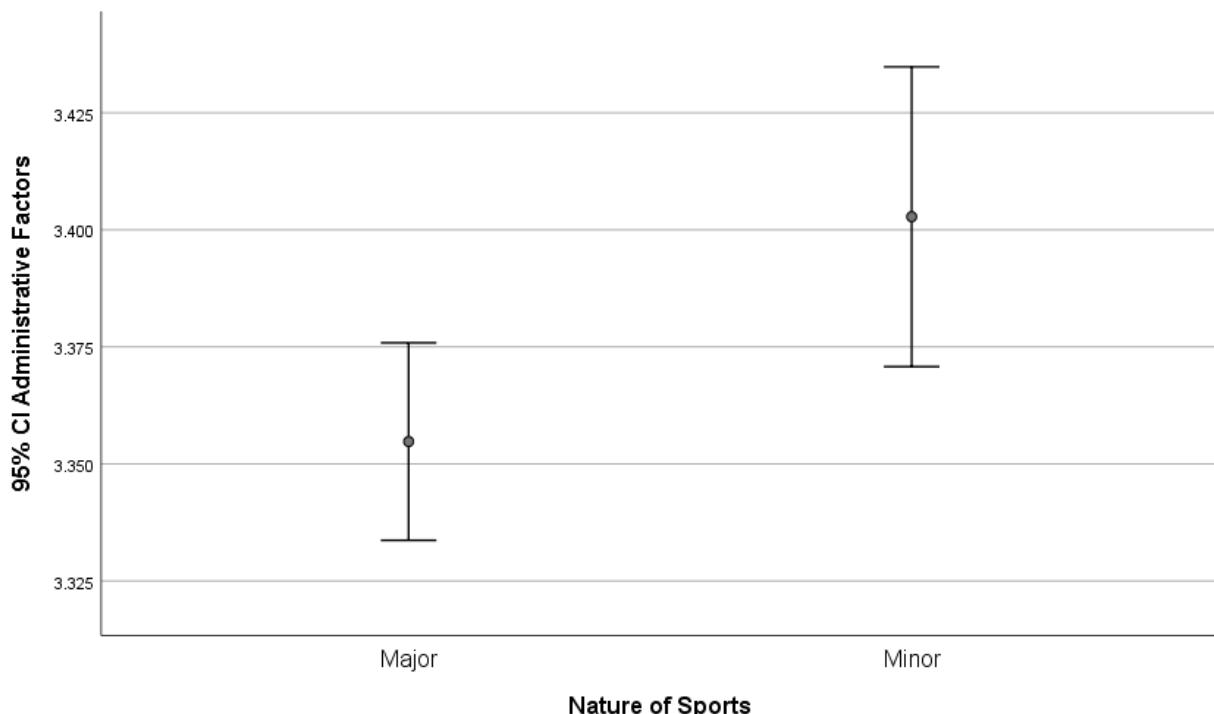
Parental Support	.2764	.1178	.0596	.5241
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A mediation analysis using PROCESS Model 4 revealed that the direct effect of administrative factors on the nature of sport participation was positive but not statistically significant ($B = .507$, $SE = .336$, $z = 1.51$, $p = .132$, 95% CI [-.152, 1.166]). However, the indirect effect through parental support was significant ($B = .276$, $BootSE = .118$, 95% CI [.060, .524]), as the confidence interval did not include zero

H_A 2: The administrative characteristics of student-athletes practicing major sports and those playing lesser sports differ significantly.

Variables	Nature of Sports	Descriptive Statistics		Levene's Test for Equality of Variances		t-test for Equality of Means		
		N	Mean	Std. Deviation	F	Sig.	t	Df
Administrative Factors	Major	520	3.3548	.24488	.132	.717	-2.491	758
	Minor	240	3.4028	.25171			-2.466	453.561

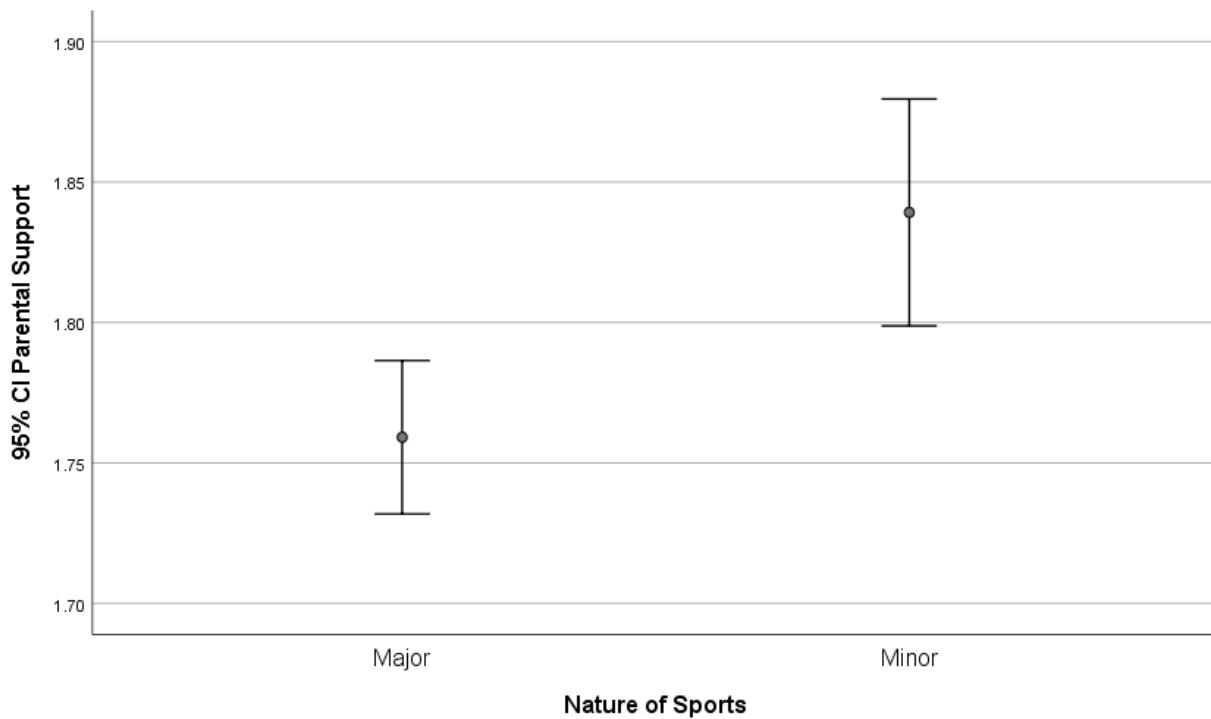
The independent samples t-test was conducted to compare administrative factors between student-athletes in major and minor sports. Levene's test indicated equal variances could be assumed ($F = .132$, $p = .717$). The results revealed a statistically significant difference, $t(758) = -2.49$, $p = .013$, with athletes in minor sports ($M = 3.40$, $SD = .25$) reporting higher perceptions of administrative factors compared to those in major sports ($M = 3.35$, $SD = .24$).



H_A 3: There is a significant difference in Parental Support between student-athletes participating in major sports and those participating in minor sports.

Variables	Nature of Sports	Levene's Test for Equality of Variances						t-test for Equality of Means		
		N	Mean	Std. Deviation	F	Sig.	t	Df	Sig. (2-tailed)	
Parental Support	Major	520	1.7591	.31684	.014	.906	-3.235	758	.001	
	Minor	240	1.8392	.31754			-3.232	463.992	.001	

The independent samples t-test compared parental support between student-athletes participating in major and minor sports. Results of Levene's test showed equal variances could be assumed ($F = .014$, $p = .906$). The findings indicated a statistically significant difference in parental support between the two groups, $t(758) = -3.24$, $p = .001$, with athletes in minor sports ($M = 1.84$, $SD = .32$) reporting significantly higher parental support compared to those in major sports ($M = 1.76$, $SD = .32$).



Conclusion

The results of the study highlight that both administrative and parental support play important roles in shaping university student-athletes' sport participation, with notable differences between major and minor sports. Student-athletes engaged in minor sports reported significantly higher levels of both parental support and perceptions of administrative factors compared to those in major sports. While the direct effect of administrative factors on sport participation was not significant, the indirect effect through parental support was significant, confirming the mediating role of parental support. Logistic regression further indicated that parental support significantly predicted participation in minor sports, whereas administrative factors alone did not show a direct influence. Overall, the findings suggest that

administrative structures can influence sport participation more effectively when supported by strong parental involvement, particularly in promoting engagement in minor sports.

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