Interplay of Sports Participation, Academic Performance and Character Development: as Mediated by Self-Efficacy

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Abstract

This study examined the role of self-efficacy as a central mechanism linking athletes' profiles and sports participation experiences to academic performance and character development. Using a descriptive research design, data were collected through observation and surveys from 143 student-athletes from the University of Perpetual Help System-Laguna. Surveys were conducted via Google Forms. Data were analyzed using frequency count, percent distribution, mean, standard deviation, Pearson correlation, multiple linear regression, and mediation analysis.

Self-efficacy was conceptualized through self-regulation, goal orientation, and identity balance, highlighting how athletes' confidence in managing dual roles as students and competitors shaped positive outcomes, as indicated by a strongly agree with an overall mean of 4.53. Independent variables included athletes' demographic and athletic profiles such as age, gender, year level, years of athletic experience, and sport played, alongside sports participation factors including engagement, training intensity, competition level, skill training, and conditioning activities. The study proposed that these independent variables significantly influenced self-efficacy, which in turn exerted a direct and positive effect on key dependent variables.

Academic performance outcomes encompassed academic standing, effective integration of studies and training, and active classroom engagement, which were rated as very satisfactory with a mean of 4.34. Concurrently, character development outcomes emphasized discipline, teamwork, time management, and leadership skills. Through consistent sports involvement and structured training environments, athletes developed adaptive self-regulation strategies, clearer goals, and a balanced identity, enabling them to excel both academically and personally.

Overall, this study underscored the synergistic benefits of sports participation when supported by strong self-efficacy. It suggested that well-designed athletic programs not only enhanced physical competencies but also promoted academic success and holistic character growth. By positioning self-efficacy as a mediating construct, the framework provided a positive, strengths-based perspective on student-athletes, affirming that engagement in sports served as a powerful avenue for developing resilient, disciplined, and well-rounded individuals capable of sustaining high performance across educational and athletic domains in higher education.

Keywords: interplay of sports participation, academic performance, character development, self-efficacy

1. Introduction

Joining in sports is important for developing college student-athletes as it provides physical strength as well as many other developing skills which help to academic performance and character development (Eime et al., 2023). Sports require teamwork, discipline, perseverance, leadership and dedication, and good time-management skills; all these conditions can easily manifest to course activity (Lazarides et al., 2021). There are many problem student-athletes face when trying to inter a demanding training schedule with school activity; however, many sources indicate that being a part of athletics helps enhance mental ability, self-management, and social skills.

Research has shown that there is an association between sports and performance in the classroom, with studies demonstrating that student athletes display greater concentration, goal setting, and leadership skills than do non-athletes (Pinto-Escalona, et al., 2022). The cooperation, leadership, and liability developed through sports participation over from the playing court to the classroom set-up resulting in enhanced academic participation and performance (Ferrell, 2019). Participation in sports has been linked to psychological well-being such as decreased anxiety and improved mental issue which, in turn, lead to greater opportunity in academics performance (White, 2021).

Studies support the inter-relation between self-efficacy, discipline, goal orientation, and identity balance, and how they all interact to the learning experiences of student-athletes. Academic performance and athletic self-efficacy, leadership skills, and essential improvement in both academic level and athletic of the students (Zhang et al., 2022). Discipline teamwork, leadership style and self-regulation helps with a proper time management and limiting behavioral problem, leading to success in both academics and athletics goals of the student athletes (Zimmerman, 2002). Setting and working toward goals has an impact on results, as well as on how students achieve their goals. Having a mastery goal focuses on intrinsic motivation and growth, whereas performance goals focus on external validation through anxiety (Elliot & McGregor, 2001). Striking a balance between academic and athletic identities builds resilience and health; failure to do this may create barriers to one's success (Settles et al., 2002).

1.1 Statement of the Problem

This study attempted to determine the interplay of sports participation on the academic performance and character development of college student-athletes in the University of Perpetual Help System – Laguna, mediating role of self-efficacy to overall school performance. Specifically, it sought to answer the following:

1. What is the demographic profile of student-athletes in terms of:
1.1 age;
1.2 gender;
1.3 year level;
1.4 years as an athlete; and
1.4 sport played?
2. What is the level of interplay sport participation in terms of:
2.1 Sports Engagement;
2.2 Training Intensity;
2.3 Competition Level;
2.4 Skill Training; and
2.5 Conditioning Activities?
3. What is the level of student-athletes' academic performance in terms of:
3.1 Academic Standing;
3.2 Studies and Training; and

3.3 Classroom Engagement?
4. What is the level of student-athletes' character development in terms of:
4.1 Discipline;
4.2 Teamwork;
4.3 Time Management; and
4.4 Leadership Skills?

5. What is the level of student-athletes' self-efficacy in terms of:
5.1 Self-Regulation;
5.2 Goal Orientation; and
5.3 Identity Balance?

6. Is there a significant relationship between student-students' interplay sports participation and academic performance?

7. Is there a significant relationship between student-athletes' interplay sports participation and character development?

8. Is there a significant relationship between student-athletes' interplay sports participation and students' self-efficacy?

9. Is there a significant relationship between student-athletes' self-efficacy and students' academic performance?

10. Is there a significant relationship between student-athletes' self-efficacy and students' character development?

11. Does students' self-efficacy mediate the relationship between student-athletes' interplay sports participation and academic performance?

12. Does students' self-efficacy mediate the relationship between student-athletes' performance and character development?

1.Methodology

The elements of this chapter include the research design, respondents in the study, the population and the method of sampling, process of collecting the data, the tools to be used for gathering data, and statistical treatment of data.

Research Design. For the present research study, a descriptive-correlational research design with mediation analysis was employed since it sought to provide a description of the demographic profile of college student-athletes as well as establish the connection between sports activities and academic/character development among these individuals. Specifically, the descriptive research design entailed a summary of the demographic information based on frequency and percentage, while correlational analysis focused on the effects of sports activities on the academic performance, discipline, teamwork, time management, and leadership skills of the participants based on Likert scale and mean analysis. The respondents in this research were student-athletes attending colleges and currently engaged in various sports programs in their schools. The reason why they were selected is that they were considered to be the best fit to serve the purposes of this research. This study aimed at evaluating the effect of engaging in sports activities on students' academic performance and character building. Age, gender, year level, and sports type were some of the important criteria for selecting the respondents so as to obtain information about how different variables affected their performance. Purposive sampling strategy was used since student-athletes were those who had the required experience in sports activities while studying in colleges. In order to make sure that the research was credible and valid, the sample size was calculated according to the population in the college of all athletes pursuing education at the

moment, ensuring that there would be enough diversity amongst the respondents from different sport categories. For this research, the following inclusion criteria have been set: all participants must be studying at the moment, participate in any sporting events, and agree to give an informed consent. In addition, no participants have been included in this research who were already graduated or who did not participate in sports activities anymore. In this particular study, the participants were college students that were actively involved in different sports programs in their respective colleges. These student athletes were selected since they were actively involved in balancing their academic work as well as their participation in various sports programs; hence, they were perfect candidates to evaluate the effect of sports activities on academic achievement and personality development. The objective of the study was to have a variety of participants among the student-athletes, considering that students are from various age groups and sex, different year levels, and play different sports. The number of sample needed for the study was determined by considering the number of student athletes present in the university. For the purposes of selecting samples for this particular study, purposive sampling technique was used. Purposive sampling technique is one of the types of non-probability sampling techniques. This sampling technique involved selection of samples based on certain predefined criteria. In this case, purposive sampling technique was considered the best for this study because the focus of the study was on student athletes. In terms of inclusion criteria for choosing respondents, there was a need that they should have been officially part of the institutional teams, involved in training and competition, and enrolled in educational programs at the time of data collection. It was also essential that respondents be willing to give their informed consent to participate in the research. On the other hand, graduates of the university or those not involved in the sport were excluded from the research. In the final stage, the sample size utilized in the study was arrived at by taking into account the availability and readiness of the respondents to participate in the research. The prime purpose of increasing the sample size in the course of conducting the research was ensuring that the results arrived at were both reliable and generalizable. This was because an increased sample size ensured variety in the sample size. Research Instrument. The research instrument used in this study was a questionnaire that was intended to provide the needed data. The questionnaire contained four main parts: Part I consisted of questions that were related to demographic data; Part II had questions that addressed the influence of sports on academic achievement; Part III addressed issues of character development; and Part IV had questions on the mediator effects of self-efficacy on the variables.

2. Results and Discussion

Table 1

Summary Table on the Interplay of Sports Participation of Student-Athletes

Indicators	Mean	SD	VI
Sports Engagement	4.50	0.527	SA
Training Intensity	4.49	0.553	SA
Competition Level	4.56	0.547	SA
Skill Training	4.56	0.549	SA
Conditioning Activities	4.57	0.555	SA
Overall	**4.54**	**0.546**	**Strongly Agree**

Legend: 1.0-1.49 (Strongly Disagree); 1.50-2.49 (Disagree); 2.50-3.49 (Neutral); 3.50-4.49 (Agree); 4.50-5.0 (Strongly Agree).

Table 1 illustrates the relationship between sports participation aspects among student athletes, showing the presence of highly strong and holistic participation in sports. The overall average of 4.54 with a standard deviation of 0.546 indicates the classification of Strongly Agree, meaning that student

athletes show a very strong level of participation in terms of all major aspects of sports participation, such as sports engagement, intensity of training, competitive nature of training, skill training, and conditioning. It can be noted that the low and almost identical standard deviations indicate uniformity in the respondents' perceptions. Among the listed indicators, conditioning activities received the highest average score (Mean = 4.57), while the second place was occupied by competition level and skill training (Mean = 4.56 each). The presented findings demonstrate that students-athletes attach much importance not only to being physically ready for competitions and staying fit but also to developing their skills and participating in competitions. This indicates that conditioning, skill acquisition, and competing go together and help to achieve the best results possible. The indicator "Sports activity" (Mean = 4.50) also scored rather high, showing that there is great enthusiasm and satisfaction associated with sports in respondents' minds. In combination, all these factors indicate that student athletes develop a highly balanced and integrated approach to participation in sport events, where motivation, training, skills, conditioning, and competitiveness influence each other in a positive way. Institutions and sports programs should rely on this great base by establishing well developed models of athletic development, which will be balanced between high quality training, competitiveness, technical and physical conditioning. This will have a positive impact on sports performance and help athletes remain involved in sport activities for a long time.

Together, this means that the student athletes develop an ideal balance among their motivations, preparations, skill acquisition, training, and competition that positively affect each other. The educational institution and the sport program itself could capitalize on such a good start through sustaining a system of training and conditioning that equally stresses quality training, opportunities for competitions, technical education, and physical training. This combination of factors would improve their athletic skills and psychological fortitude in the long run.

Table 2

Summary Table on Academic Performance of Student-Athletes

Indicators	Mean	SD	VI
Academic Standing	4.36	0.614	VS
Studies and Training	4.33	0.615	VS
Classroom Engagement	4.34	0.627	VS
Overall	4.34	0.618	**Very Satisfactory**

Legend: 1.0-1.49 (Poor); 1.50-2.49 (Unsatisfactory); 2.50-3.49 (Satisfactory); 3.50-4.49 (Very Satisfactory); 4.50-5.0 (Outstanding).

The performance record of student-athletes academically is reflected in Table 2 below, based on the outcomes of three main variables including academic standing, balance between studying and training, and class participation. Taking into account the overall mean score of 4.34 and the standard deviation of 0.618, which are classified as Very Satisfactory, one can claim that students-athletes tend to show excellent results at their academic performance, despite the fact that they are involved in different sports. It should be noted that high values of mean scores along with relatively low standard deviations mean that the student-athletes' experience of combining their sports achievements and academic performance remains similar.

Regarding these variables, the highest average values are obtained from the variable of academic status, whose average value is 4.36, whereas the standard deviation for the same is 0.614. This suggests that the students-athletes have been able to perform well academically irrespective of their involvement in sports. In addition to this, the participation of students-athletes in class was found to be 4.34, whereas its standard deviation was found to be 0.627. The lowest average value was observed in the variable of

balance between studies and training by students-athletes.

The similarity in means scores for the three dimensions shows that academic success among student athletes is a multilateral phenomenon, where success in academics requires good time management and consistent presence in the classroom. It was seen that all the factors were rated highly, and none of them scored lower than "Very Satisfactory" showing that participation in sports does not really interfere with students' educational commitments if appropriate self-discipline and structure exist. The above results show that student-athletes are able to develop equally in academic studies and sports activities. It is recommended that educational establishments encourage academic supervision and time management as well as teachers' aid.

Table 3

Summary Table on Character Development of Student-Athletes

Indicators	Mean	SD	VI
Discipline	4.67	0.549	SA
Teamwork	4.64	0.514	SA
Time Management	4.45	0.620	A
Leadership Skills	4.52	0.568	SA
Overall	**4.57**	**0.562**	**Strongly Agree**

Legend: 1.0-1.49 (Strongly Disagree); 1.50-2.49 (Disagree); 2.50-3.49 (Neutral); 3.50-4.49 (Agree); 4.50-5.0 (Strongly Agree).

Table 3 is the summary of the character development of student-athletes, which reveals very good character development based on the acquisition of positive values and personal competencies through involvement in sports activities. The average score of 4.57 with standard deviation of 0.562, which is understood to be "Strongly Agree," implies that discipline, team spirit, time management, and leadership are characteristics that are strongly developed and are shown by student-athletes.

The indicators with the highest mean values include the following; discipline with a mean value of 4.67, meaning that student athletes exhibit high levels of discipline, lawfulness, and consistency. Teamwork is another indicator with a mean value of 4.64, showing that respondents are effective communicators and exhibit teamwork.

As can be concluded from the scores above, student-athletes realize the significance of working together in order to succeed in what they do and know their role in team success. Good leadership qualities were rated highly (Mean = 4.52). Students-athletes can easily inspire their fellow team members, lead the process and exercise justice in various team-related activities. However, despite good results in this field, it could be rated higher (Mean = 4.45, Agree). This indicates that although students-athletes have developed good time management skills, it requires improvement.

Thus, participating in different types of sport activities is vital for students' character development

Sports have already been successfully used in the process of building students' characters by schools and sports programs, therefore, these programs should continue using sports to develop discipline, teamwork, and leadership skills, as well as time-management skills. Additional efforts, such as organizing workshops on leadership or time management, can help achieve better results.

Table 4

Summary Table on Self-Efficacy of Student-Athletes

Indicators	Mean	SD	VI
Self-Regulation	4.50	0.542	SA
Goal Orientation	4.58	0.518	SA
Identity Balance	4.52	0.596	SA
Overall	**4.53**	**0.552**	**Strongly Agree**

Legend: 1.0-1.49 (Strongly Disagree); 1.50-2.49 (Disagree); 2.50-3.49 (Neutral); 3.50-4.49 (Agree); 4.50-5.0 (Strongly Agree).

From Table 4, the interpretation of the self-efficacy of student-athletes reveals that there is a persistent high degree of confidence in managing one's behaviour, attaining valuable objectives, and balancing identities under the pressures of schoolwork and sports. With an average of 4.53, which has a standard deviation of 0.552, meaning Strongly Agree, implies that the students firmly believe in having high self-efficacies to deal with the challenges, succeed in their actions, and make progress. The low standard deviations imply that the self-efficacy construct is widely held among these students

Out of all elements, goal orientation turned out to have the highest mean score (M= 4.58; SD= 0.518). What this tells us is that there are students athletes who demonstrate the goal orientation associated with mastery, development, and improvement of something as opposed to comparison to other people. As for identity balance, it comes second in terms of mean score (M= 4.52; SD= 0.596). What it suggests is that there are student athletes capable of balancing the aspect of being an athlete in the way of integrating this role into their identities, attitudes, behaviours, and social life. Lastly, self-regulation comes third with its very high mean score (M= 4.50; SD= 0.542).

The high self-efficacy in the above table suggests that student athletes have sufficient competence and capability to maintain high performance levels, resilience, and well-being in both the educational as well as sporting arenas. Continued efforts by schools and the sporting community towards the creation of an environment where students set goals, self-reflection, emotion management, and identity formation are encouraged must be maintained.

Table 5

Correlation of Student-Athletes' Interplay of Sports Participation on Academic Performance

Interplay of Sports Participation	Academic Performance		
	Academic Standing	**Studies and Training**	**Classroom Engagement**
Sports Engagement	0.488***	0.555***	0.514***
Training Intensity	0.576***	0.521***	0.556***
Competition Level	0.543***	0.599***	0.579***
Skill Training	0.553***	0.561***	0.548***
Conditioning Activities	0.540***	0.623***	0.585***

*Note. * $p < .05$, ** $p < .01$, *** $p < .001$*

The relationship between students' interaction of sports participation and academic performance is presented in Table 5 and the results suggest that there is a statistically significant positive relationship among the examined variables. The level of correlation coefficients is considered moderate; they have a significance level $p < .001$. This means that students' participation in sport activities correlates positively with academic success and not negatively as one would expect from such a comparison. This means that sport participation by students affects their performance academically. Participation in sports is positively related to students' performance academically ($r = 0.488$), balance between study and training ($r = 0.555$), and class participation ($r = 0.514$).

Such statistics imply that those students who have an active attitude toward sports activities and who are motivated enough in order to practice sport activities can achieve good academic standing, cope well with their studies and trainings, and take an active part in the classroom activities. Training intensity has significant positive correlations with academic standing ($r = 0.576$), studies and training ($r = 0.521$), and classroom engagement ($r =0.556$).

In the same way, the correlation between competition, skill training, and conditioning is high among all academic variables, with some of the highest r values seen between conditioning activities and studies/training ($r = 0.623$) and classroom engagement ($r = 0.585$).

As a result, it becomes clear that those students who are academically successful and fit from an adequate training and participation in competitions must definitely be discipline when studying their subjects. Generally, based on the strong relation between both concepts, one can say that sports take on the role of the supporting structure for academic studies rather than contradicting each other. In other words, those sportsmen involved in sports and following proper training schedules become more successful in terms of academic achievement because of having a high degree of discipline, concentration, persistence and time management abilities. Academic organizations should treat the matter of sports as yet another type of education and give assistance to sportsmen in the spheres of both sports and studies.

Table 6

Correlation of Student-Athletes' Interplay of Sports Participation on Character Development

Interplay of Sports Participation	**Character Development**			
	Discipline	**Teamwork**	**Time Management**	**Leadership Skills**
Sports Engagement	0.584***	0.609***	0.535***	0.553***
Training Intensity	0.617***	0.657***	0.580***	0.695***
Competition Level	0.676***	0.666***	0.600***	0.725***
Skill Training	0.725***	0.707***	0.619***	0.689***
Conditioning Activities	0.723***	0.653***	0.617***	0.717***

*Note. * p < .05, ** p < .01, *** p < .001*

Table 6 shows the correlation between the interaction of sport participation and character building among students, and results show an extremely strong and positive relationship. All correlation values are significant at $p < .001$, meaning that high participation in sports activities is strongly correlated to high discipline, cooperation, time management, and leadership traits. This result suggests that the participation in sports activity is indeed a good avenue for character building as opposed to mere physical improvement.

Specifically, participation in sports is significantly correlated with the following dimensions: Discipline (r = 0.584), teamwork (r = 0.609), time management (r = 0.535), and leadership skills (r = 0.553). This implies that the students who are passionate and motivated to engage in sports have self-discipline, teamwork skills, efficient time management skills, and effective leadership skills. With regards to training intensity, it appears that there are highly correlated factors, particularly leadership skills (r = 0.695) and teamwork (r = 0.657), since such routine allows for responsibility, attentiveness, accountability, and leadership abilities under pressure.

Competitive levels, however, show a strong correlation with discipline (r = 0.676), teamwork (r = 0.666), time management (r = 0.600), and leadership qualities (r = 0.725), meaning that competition develops perseverance, adaptability, team spirit, and self-confidence in an individual. Skill practice and conditioning seem to correlate at an extremely high rate with discipline (r = 0.728) and leadership skills (r = 0.718) than the other character dimensions.

The implication of this is that properly organized sports help a lot in the development of good character among students. Educational organizations, therefore, ought to appreciate the developmental aspect of sports and maintain their investments in this direction. Including values-based coaching and leadership practices will add more strength to the development of discipline, teamwork, time management, and leadership.

Table 7

Correlation of Student-Athletes' Interplay of Sports Participation on Character Development

Interplay of Sports Participation	**Character Development**			
	Discipline	**Teamwork**	**Time Management**	**Leadership Skills**
Sports Engagement	0.584***	0.609***	0.535***	0.553***
Training Intensity	0.617***	0.657***	0.580***	0.695***
Competition Level	0.676***	0.666***	0.600***	0.725***
Skill Training	0.725***	0.707***	0.619***	0.689***
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Table 8

Correlation of Student-Athletes' Interplay of Sports Participation on Self-Efficacy

Interplay of Sports Participation	Self-Efficacy		
	Self-Regulation	Goal Orientation	Identity Balance
Sports Engagement	0.685***	0.680***	0.687***
Training Intensity	0.740***	0.713***	0.624***
Competition Level	0.781***	0.739***	0.728***
Skill Training	0.720***	0.713***	0.736***
Conditioning Activities	0.707***	0.722***	0.674***

*Note. * p < .05, ** p < .01, *** p < .001*

Table 8 tests the possibility of a significant relationship between the students' participation in interplay sports activities and self-efficacy, which, from the results, proves to be very significant, strong, and positive across all dimensions tested. All correlation coefficients prove to be significant at p < .001, suggesting that participation in sports activities has a high relationship with self-regulation, goal orientation, and identity balance in student athletes. The cons istent high correlation coefficients imply that sports participation has an important role to play in building students' self-efficacy.

To begin with, participation in sports proves to have high correlation to self-regulation (r = 0.685), goal orientation (r = 0.680), and balance between identities (r = 0.687). This finding means that students who participate in sports possess good capacity in managing themselves and setting up goals of achievements as well as balancing between their personality and identity of being a sportsperson. Secondly, it can be stated that there is a correlation between intense training and self-regulation (r = 0.740) and goal orientation (r = 0.713). This means that the intense training process allows one to direct oneself towards achieving goals, paying attention to them despite various pressures that emerge when one engages in sports activities. It is also necessary to state that participation in high-level competition correlates with all variables in connection with self-efficacy, especially with self-regulation (r = 0.781) and goal orientation (r = 0.739). To put it simply, involvement in high-level competition leads to an increase in self-efficacy through self-control and goal orientation.

Based on the analysis above, it can be concluded that there should be a need for positive and active involvement of students in sporting activities in order for them to develop self-efficacy. It is therefore incumbent upon the institutions which undertake sporting activities to ensure that there are continuous holistic sporting programs which entail engagement, training, competition, and education. The psychological skills in sports will be important for generating self-efficacy which will later be useful for academic endeavours.

Table 9

Correlation of Self-Efficacy on Academic Performance

Self-Efficacy	Academic Performance		
	Academic Standing	**Studies and Training**	**Classroom Engagement**
Self-Regulation	0.621***	0.586***	0.547***
Goal Orientation	0.609***	0.643***	0.539***
Identity Balance	0.662***	0.660***	0.623***

*Note. * p < .05, ** p < .01, *** p < .001*

The relationship between self-efficacy of the students and academic achievement of the students is investigated by Table 9. A significant, positive, and strong relationship is found in all the dimensions. It means that correlation coefficient is significant for all dimensions at p<.001. Hence, we can say that student athletes having more self-efficacy will show greater academic achievement. In this way, it is clear that students having high self-efficacy regarding behavioral regulation, goal setting, and balanced identity will achieve success in their academics.

More precisely, the relationship between self-regulation and such dependent variables as academic status (r = 0.621), studies and training (r = 0.586), and classroom participation (r = 0.547) is quite substantial. This means that emotional control, concentration control, and good performance contribute to achieving better results in terms of study, balancing study and training, and classroom involvement. Also, goal orientation correlates significantly with such dependent variables as academic standing (r = 0.609), studies and training (r = 0.643), and classroom engagement (r = 0.539). It means that people with set goals and the desire for personal development are more motivated, organized, and productive in terms of their academic progress. Identity balance also correlates very highly with such dependent variables as academic standing (r = 0.662) and studies and training (r = 0.660). It implies that having an appropriate sense of self beyond sports or studies can contribute significantly to functioning more efficiently in academic settings.

This demonstrates that self-efficacy is a crucial component that facilitates academic success among athletes. Through the attainment of self regulation, effective goal setting, and developing balance in one's identity, there will be improvement in one's capability to cope with academic stress and remain motivated. There is a need for educational organizations to integrate mentoring processes and self-regulation skills in their efforts to build self-efficacy among student athletes. Improvement in these individual skills will result in positive outcomes not only in academics but also in athletics.

Table 9

Correlation of Self-Efficacy on Character Development

Self-Efficacy	Character Development			
	Discipline	Teamwork	Time Management	Leadership Skills
Self-Regualation	0.647***	0.685***	0.605***	0.763***
Goal Orientataion	0.712***	0.669***	0.601***	0.702***
Identity Balance	0.614***	0.628***	0.581***	0.714***

*Note. * p < .05, ** p < .01, *** p < .001*

The correlation between self-efficacy and character development of students was tested in Table 31, and from the results it can be clearly seen that there is always a strong, positive, and significant relationship between them for all the indicators. This shows that student-athletes who have high self-efficacy regarding self-regulation, goal orientation, and balance in their identity will also exhibit higher self-discipline, teamwork ability, time management skills, and leadership abilities. In general, it can be said that self-efficacy acts as a psychological foundation for the development of character.

Among others, positive correlations were noted between self-regulation and discipline (r = 0.647), teamwork (r = 0.685), time management (r = 0.605), and especially leadership skills (r = 0.763). This means that those students, who can control their emotions, impulses, and behaviour, usually demonstrate high maturity and responsibility as well as have a good command of working in teams and leading. However, a goal orientation was positively correlated with discipline (r = 0.712) and leadership skills (r = 0.702). The reason is that when students set specific goals and concentrate on personal improvement and development, they become more responsible and influential in teams. As for identity balance, this indicator is strongly connected with all other character building aspects including discipline (r = 0.684) and, in particular, leadership skills (r = 0.714). It means that students who have an integral personality are more respectful, self-confident, and authoritative. It should be noted that the relationship with time management was somewhat weaker than that between the rest of traits.

The findings reveal that self-efficacy improvement in student athletes can bring about better results in character education. Consequently, the role of self-regulation and goal-setting strategies should be highlighted along with the formation of positive identity for the improvement of character development. Developing self-confidence in learners will help in forming such qualities as discipline, teamwork, leadership skills, and time management skills that will benefit both their sporting performance and personal development.

Table 10

Mediation Analysis of Student-Athletes Self-Efficacy in the Relationship between Student-Athletes Interplay Sports Participations and Academic Performance

Mediation Estimates

				95% Confidence Interval			
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**
Indirect	a × b	0.596	0.1136	0.3728	0.818	5.24	<.001
Direct	c	0.172	0.1275	-0.0774	0.422	1.35	0.176
Total	c + a × b	0.768	0.0712	0.6285	0.908	10.79	<.001

Path Estimates

						95% Confidence Interval			
			Label	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**
Interplay of Sports Participation	→	Self-Efficacy	a	0.874	0.0432	0.7891	0.958	20.25	<.001
Self-Efficacy	→	Academic Performance	b	0.682	0.1256	0.4354	0.928	5.43	<.001
Interplay of Sports Participation	→	Academic Performance	c	0.172	0.1275	-0.0774	0.422	1.35	0.176

The mediation analysis conducted through Table 10 reveals that there is indeed a strong evidence of mediation between the interaction of students' involvement in sports and their academic success in terms of self-efficacy. The estimation results indicate that there is a significant mediation effect since the indirect effect of students' involvement in sports on their academic success via self-efficacy is statistically significant with an estimate of 0.596, standard error of 0.1136, and 95 percent confidence interval of 0.3728 and 0.818. The respective Z value of 5.24 and probability value of <.001 make this mediation pathway significant and reliable as well. This finding proves that sports participation plays a role in academic success; however, it increases self-efficacy of students which contributes to academic achievement in turn. In comparison, the direct effect of students' sports participation on their academic success was not statistically significant as shown by the estimate of 0.172, Z value of 1.35, and probability value of >.05.

In conclusion, there are a number of theoretical, practical, and institutional implications concerning the positive effects of engaging in sports on academics based on the results outlined in Table 10. First, it should be noted that the crucial result of this research is the mediation effect that suggests that sports positively affects students' academic achievements since it allows them to increase their self-efficacy, thus, proving that the relationship between engaging in sports and academic achievement is more complex than the direct impact of one on another. Consequently, it becomes obvious that, rather than having only a straightforward effect on students' academic performance, engaging in sports enables developing psychological traits essential for academic success, including self-confidence, self-discipline, persistence, and self-regulation. In addition, student academic services must include ways to increase self-efficacy through mentoring, academic coaching, and motivation building. Third, in terms of

institutional policy, these results imply that sports programs must be valued not just for athletic achievements but for psychosocial development of athletes as well.

However, the overall effect, considering the two channels together, is statistically significant with an estimated value of 0.768 and a Z value of 10.79. It is apparent that self-efficacy plays the role of the key mediator in the relationship between sports involvement and academic achievement. The values of paths show the way by which this mechanism works. First of all, it should be mentioned that the path coefficient for the relationship between the interaction of sports participation and self-efficacy is very high – it equals 0.874 with a statistically significant Z value of 20.25. The high value shows that participation in sport contributes significantly to the formation of students' confidence in their strengths, self-regulation, goal orientation, and willingness to solve any problems that may appear during the learning process. Furthermore, the path coefficient between self-efficacy and academic performance is 0.682 with a statistically significant Z value of 5.43.

Interestingly, the insignificant effect of the direct path from sport involvement to academic achievement strengthens the hypothesis that self-efficacy is the only mediator of the relationship instead of a partial mediator. This implies that sport involvement is unlikely to affect academic achievement until it builds up psychological resources within individuals like confidence, self-control, and focused involvement. It seems that participation in sport acts as a setting that helps build internal beliefs that impact academic behavior in turn.

As it is seen from mediations, it should be recognized that academic success cannot be considered purely in terms of particular actions, and attention should be paid to psychological factors in the process. Self-efficacy serves as the mechanism that facilitates transformation of athletic skills into those required in an academic setting, namely perseverance, coping skills, and motivation. As students prove themselves successful in their participation in physical activities and develop necessary qualities such as self-discipline and productive criticism, they acquire self-confidence that allows them to succeed in learning.

Table 11

Mediation Analysis in the Relationship between Student-Athletes' Interplay of Sports Participation and Character Development

Mediation Estimates

				95% Confidence Interval			
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**
Indirect	a × b	0.412	0.0796	0.256	0.568	5.17	<.001
Direct	c	0.4	0.0894	0.225	0.575	4.47	<.001
Total	c + a × b	0.811	0.0498	0.714	0.909	16.29	<.001

Path Estimates

						95% Confidence Interval			
			Label	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**
Interplay of Sports Participation	→	Self-Efficacy	a	0.874	0.0432	0.789	0.958	20.25	<.001
Self-Efficacy	→	Character Development	b	0.471	0.0881	0.298	0.644	5.35	<.001
Interplay of Sports Participation	→	Character Development	c	0.4	0.0894	0.225	0.575	4.47	<.001

From Table 11, the analysis shows that the self-efficacy of the students is an important mediator of

the connection between the interaction between students' participation in sports and character development, and the findings clearly reveal robust evidence that self-efficacy is a relevant mediator in the relationship, although it is not the only mediator. The mediation analysis provides a statistically significant value for the indirect effect of sports participation on character development mediated by self-efficacy (estimate = 0.412, standard error = 0.0796, confidence interval = 0.256 to 0.568, z = 5.17, p < .001). Since the confidence interval does not contain the number zero, then the above result indicates that the self-efficacy of the student is an important mediator in the impact of sport participation on their character development. The direct effect is also statistically significant (estimate = 0.400, p < .001), as well as the total effect (estimate = 0.811, p < .001).

This information gives more understanding of how this model works. First, the strength of the link between interaction in the sports to self-efficacy is remarkable, being very significant (estimate = 0.874, Z = 20.25, p < .001). This means that regular involvement in physical activities has great impact on students' sense of self-regulation, self-efficacy and belief in one's capabilities. It seems that participation in athletics ensures enough opportunities to practice mastery, get feedback and face personal challenges, which are the main ingredients of building self-efficacy. The relationship between self-efficacy and character development is significant as well (Estimate = 0.471, Z = 5.35, p < .001), since the presence of self-efficacy will enable learners to portray such desirable traits as discipline, team work, time management, and leadership skills. As a result, learners who believe in having self-efficacy will be able not only to display desirable character qualities but will be ready for responsibility, teamwork, time management, and leadership skills. Finally, it should be noted that a strong correlation exists between involvement in sports activities and character development.

It is important to note that the occurrence of partial mediation implies the multi-dimensional nature of character formation through a combination of personal and situational factors. On the one hand, self-efficacy becomes an indispensable condition for translating sport experience into personal benefits; on the other hand, certain elements related to the social context of sport activities, like teamwork spirit, values held by coaches and competitors, competitive atmosphere, training needs, etc., have a direct impact on character development. As a result, sport becomes not just a way of self-confidence development but a value system as well.

The analysis discussed above indicates that, apart from the direct effect of sports training in developing the individual's personality by engaging in the training of sportsmanship behavior, there is also an indirect effect in terms of increasing the self-efficacy level. In order to enhance the self-efficacy level of the students who are in the process of learning, schools can engage in sports activities that will develop confidence as well as build personality among the learners.

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