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## **Talent Identification And Development Among University Students Athletes; Current Coaching Strategies With Future Direction**

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## **ABSTRACT**

This study examines current coaching strategies employed in identifying and developing athletic talent among university athletes. The population of this study comprised all registered players of the University of the Punjab, Lahore, Pakistan. Thus, eighty (80) players were selected as the sample by using an available sampling technique. For data collection, the researcher developed a closed-ended questionnaire under the supervision of her research supervisor, and thus the questionnaire was subjected to validity and reliability testing. The collected data were processed using the Statistical Package for the Social Sciences (SPSS, Version 26), and thus, suitable statistical tools were applied. In conclusion, effective talent identification and development among university student-athletes requires a comprehensive, evidence-based approach that combines current best practices with innovative strategies.

## **INTRODUCTION**

### **Background of the Research:**

Talent identification and development play a key role in coaching, enhancing athletes' capacities and improving their performance. Identification of talent in individuals from early ages and developing their skills through a recurring process of determining training needs, designing appropriate training programs and resources, implementing the programs and evaluating their effectiveness is important for success in competition (Baker et al., 2003).



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To evaluate potential, develop skills and improve performance, coaches use different methods. These methods include the LTAD model (long-term athlete development), performance assessment, and psychological evaluation (Vaeyens et al., 2008).

Effective coaching strategies play a crucial role by providing athletes with the right path aligned with the several stages of their development. The process of identifying the best achievable individual is not only about identifying individuals who can perform at a specific point in time, but also about identifying those who can perform under all situations when given guidance and direction (Cote et al., 2014). That is why, to identify the best-achieving individuals worldwide, various sports organizations have developed structured models that focus on physical, psychological, emotional, technical, and tactical areas. The success of these models relies on the coach's experience and knowledge, as well as the facilities, resources, and encouragement provided to athletes (Abbott et al., 2005).

Sports play an important role in the development and improvement of talent identification methods. To make accurate decisions, coaches use methods such as movement analysis, physiological testing, and data-driven performance tracking, which help them make informed decisions (Rees et al., 2016). However, despite this progress, it is very important to assess different coaching strategies in real-world situations. This helped in understanding which method produces the best results, which can also inform the development and improvement of the best coaching techniques and promote better athlete development (William et al., 2000).

The plan for talent identification in sports has been in place for many years; various countries, such as the United States, Germany, and China, have organised programs to identify and develop talented athletes (Cobley et al., 2012). The importance of these programs is that they focus on early identification of athletes with potential, which is then developed and improved through tailored training programs and adequate development plans, helping nurture their skills and enable them to perform better in sports. In the past, talent identification was based on coaches' and scouts' ideas about individuals. Now, talent identification involves psychological assessment (such as endurance, strength, and speed), psychological evaluation (such as anxiety, a person's thoughts about themselves), and skill-based performance tests (such as time-trial speed, speed endurance, muscular endurance, and maximum repetitions, etc.).

Coaching plays a crucial role in an athlete's development through tailored training programs that meet the individual's specific needs, leading to improved performance. The coach serves as a technical instructor, provides mentoring, offers psychological support, enhances athletes' emotional well-being, and builds team cohesion (Lyle, 2018).

To develop and improve athletes, coaches use various strategies that vary by situation and athletes' needs, and they use instructional coaching to give instruction and practice skills. Collaborative coaching involves the coach partnering with athletes to solve a problem together. To shift the athlete's perspective toward inspiring and encouraging personal growth and self-efficacy, transformational coaching is used (Turnnidge & Côté, 2017).

Sports games are always changing, which makes things both challenging and exciting for the coach. They have to think quickly, adapt to new situations, and find the best ways to help their team succeed. Experienced coaches have game awareness gained through years of experience and practice, which enables them to make strategic adjustments when needed during a game (Barrett et al., 2025).

Coaches are not only responsible for developing athletes' athletic skills but also for promoting their holistic development, fostering ethical behavior, and providing mental



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resilience as motivators, mentors, guides, and teachers. They also play a key role in identifying talent and tapping into athletes' potential. Moreover, research has shown that motivation and long-term commitment to the sport rely on building positive coach-athlete relationships (Longakit et al., 2024).

### **METHODOLOGY OF THE STUDY**

The researcher used the procedures outlined below to reach the findings and conclusions presented.

#### **Research design**

This study uses a quantitative research design employing a descriptive survey to assess the effectiveness of coaching strategies in talent identification and development. It enables data collection systematically from our target population to evaluate the effectiveness of various coaching strategies. A cross-sectional approach was adopted to collect data at a single point in time to identify existing trends and patterns.

#### **Population of the study**

The population of this study includes the coaches, trainers and sports professionals working in talent identification and athlete development. The population of this particular research study comprised all registered players and coaches working at the University of the Punjab, Lahore, Pakistan.

#### **Sample and sample size**

The sample was collected using stratified random sampling and the LR Gay formula.

#### **Tool used for data collection**

For data collection, the researcher developed a closed-ended questionnaire under the supervision of her research supervisor, and thus the questionnaire was subjected to validity and reliability testing.

#### **Ethical Consideration**

Ethical approval was obtained from the Department of Sports Sciences & Physical Education, PU, Lahore, Pakistan, and thus written informed consent was obtained from all subjects.

#### **Mode of Data Collection**

The researcher personally distributed the developed questionnaire to the respondents and collected it upon return.

#### **Data Analysis**

The collected data were processed using the Statistical Package for Social Sciences (SPSS, Version 26), and thus, suitable statistical tools were applied.

Demographic Profile of Respondents

**Table no.1: Demographic characteristics of respondents (N = 80)**

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	63	78.75
	Female	17	21.25



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Coaching Experience	1–5 years	51	63.75
	5–10 years	15	18.75
	>10 years	14	17.50
Age (years)	20–25	52	65.00
	25–30	19	23.75
	>30	9	11.25

Table no.1 shows the participants' demographic information. Most of the people in the sample were men (78.75%), and only 21.25% were women. Most of the people who took part had been coaching for 1 to 5 years (63.75%), followed by 5 to 10 years (18.75%) and more than 10 years (17.50%). Most of the people who took part were between 20 and 25 years old (65.00%), while only 23.75% were between 25 and 30 years old, and 11.25% were over 30 years old. In general, the sample is mostly young men with little coaching experience.

**Table no.2: Descriptive statistics for Talent Identification Practices (Section A) (N = 80).**

Item	Statement (Section A)	SA	A	N	DA	SD	Agree % (SA+A)	Mean	SD
Q1	Clear and well-structured system for identifying student-athletes	61	11	8	0	0	90.00	4.66	0.65
Q2	Selection based on performance metrics + coaches' observations	47	27	6	0	0	92.50	4.51	0.64
Q3	Psychological attributes considered in selection	50	21	9	0	0	88.75	4.51	0.69
Q4	Academic performance is considered in the selection	49	25	6	0	0	92.50	4.54	0.64
Q5	Advanced technologies used (GPS/AI/video analytics, etc.)	49	25	6	0	0	92.50	4.54	0.64
Q6	Video analysis/digital fitness tools are frequently used	49	23	3	0	5	90.00	4.39	0.95
Q7	Selection is transparent and fair	44	24	7	0	5	85.00	4.28	1.01
Q8	Coaches receive regular training on contemporary methods	47	21	5	2	5	85.00	4.29	1.03
Q9	Practices emphasize immediate performance more than long-term potential.	35	32	6	3	4	83.75	4.14	1.00



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Q10	A structured athlete development pathway exists after selection	43	31	3	1	2	92.50	4.44	0.76
Q11	Coaches collaborate with academic staff for holistic development	33	32	6	1	8	81.25	4.01	1.19
Q12	Development programs include skills + psychological conditioning	21	46	3	3	7	83.75	3.89	1.03
Q13	Feedback and progress tracking are used regularly	29	45	3	1	2	92.50	4.23	0.77
Q14	Clear policy for transitioning athletes to elite-level training	32	38	4	1	5	87.50	4.14	1.00

Overall, coaches reported high agreement that universities use structured systems to identify athletic talent (Means largely above 4.00). The strongest agreement was observed for having a structured identification system (Q1, M=4.66) and integrating performance metrics with coaches’ observations (Q2, M=4.51). Compared with other areas, the lowest mean was observed for the inclusion of psychological conditioning within development programs (Q12, M=3.89) and coach–academic collaboration (Q11, M=4.01), suggesting these areas require strengthening.

**Table 4.3: Descriptive statistics for Talent Development (Section B) (N = 80)**

Item	Statement (Section B)	SA	A	N	DA	SD	Agree % (SA+A)	Mean	SD
Q1	Adequate resources (facilities/equipment/programs)	48	23	7	0	2	88.75	4.46	0.78
Q2	Opportunities are transparent and free from bias	38	27	10	3	2	81.25	4.20	0.99
Q3	Psychological and career counseling services are available	37	30	5	0	8	83.75	4.10	1.21
Q4	Coaches adapt training to individual strengths/weaknesses	37	32	5	2	4	86.25	4.20	1.00
Q5	Training emphasizes physical and mental skills	39	31	4	0	6	87.50	4.21	1.07
Q6	Trainers/physio/nutritionists available	40	24	9	2	5	80.00	4.15	1.10
Q7	Structured programs for continuous development	35	32	5	4	4	83.75	4.13	1.07
Q8	Coaches are central in identifying and nurturing talent	43	28	6	0	3	88.75	4.39	0.82



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Q9	Performance tracking and feedback are used consistently	33	38	5	3	1	88.75	4.24	0.81
Q10	University evaluates the effectiveness of development programs	37	32	5	1	5	86.25	4.19	1.01
Q11	Coordination among coaches/admin/academic staff	42	33	4	0	1	93.75	4.45	0.63
Q12	The university encourages a balance between athletic and academic growth	31	37	7	1	4	85.00	4.13	0.94

Respondents generally agreed that university systems support athlete development, particularly through inter-departmental coordination (Q11, M=4.45) and recognition of coaches' central role (Q8, M=4.39). However, comparatively lower agreement appeared for support services (Q3, M=4.10) and perceptions of bias-free opportunities (Q2, M=4.20, with a relatively higher neutral/disagree share), indicating the need for clearer fairness mechanisms and stronger athlete support services.

**Table 4.4: Descriptive statistics for Future Directions (Section C) (N = 80)**

Item	Statement (Section C)	SA	A	N	DA	SD	Agree % (SA+A)	Mean	SD
Q1	Universities should collaborate with sports organizations	47	25	7	0	1	90.00	4.47	0.69
Q2	Advanced tools (AI/biometric tracking) should be adopted	43	31	2	2	2	92.50	4.39	0.86
Q3	Psychological skills + leadership integral to development	51	24	2	0	3	93.75	4.50	0.81
Q4	Long-term monitoring and mentorship systems are required	43	26	5	3	3	86.25	4.29	0.97
Q5	Practices guided by research evidence and data analytics	41	16	23	0	0	71.25	4.23	0.91
Q6	Multidisciplinary collaboration should be strengthened	32	23	23	0	2	68.75	4.04	0.97
Q7	Alum athletes should be involved in mentoring	37	21	20	0	2	72.50	4.14	0.98
Q8	Mentorship pairing senior with junior athletes expanded	39	20	15	1	5	73.75	4.09	1.09
Q9	Coaching education should emphasize EI and leadership	35	27	15	1	2	77.50	4.15	0.93



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Q10	National-level policy support is essential	34	26	12	3	5	75.00	4.01	1.11
Q11	Digital platforms needed to track and share performance data	41	17	16	1	5	72.50	4.10	1.07

Coaches strongly supported future improvements, especially the integration of psychological skills and leadership (Q3, M=4.50) and greater collaboration with sports organizations (Q1, M=4.47). Lower agreement—though still positive—was found for multidisciplinary collaboration (Q6, M=4.04) and policy support (Q10, M=4.01), suggesting that these areas may be more difficult to implement or dependent on broader institutional and governmental decisions.

**Table 4.5: Section-wise mean summary of the questionnaire (N = 80)**

Section	Construct	Number of Items	Overall Mean (Average of Items)
A	Talent Identification Practices	14	4.32
B	Talent Development	12	4.23
C	Future Directions	11	4.22

Across all three sections, mean scores remained above 4.20, indicating strong overall agreement that universities are practicing talent identification and development measures and that additional improvements are supported. Section A achieved the highest overall mean (M=4.32), suggesting comparatively stronger agreement with current identification practices, while Sections B and C were also consistently positive.

**Results and discussions**

The results show that coaches perceive the university talent system as broadly effective and well-structured. Key strengths include structured identification approaches, coordination among stakeholders, and strong support for future directions such as leadership development and technology integration. Likewise, many scholars argue that the emerging concept supported by such scholars is that talent should not be viewed as a fixed trait; it can be identified early through basic physical measures alone. Research shows that talent indicators evolve and vary with growth, maturation, and multidimensional integration across physical, psychological, and social factors.

A systematic review concluded that talent identification in youth sports is inconclusive when viewed through traditional paradigms, highlighting that athletes' development rates differ widely and that talent is dynamic rather than static (Shahidi et al., 2023). This finding is in line with previous studies.

Empirical evidence shows that coaches often rely on instinct or tacit knowledge when identifying talent, relying on experiential judgement rather than standardised methods. This research suggests that coaching expertise plays a crucial role in selection decisions and that more effort is needed to understand how coach knowledge is developed, structured, and applied in systematic talent identification processes (Roberts, 2021).

Specific multidisciplinary research has examined talent identification in educational settings and identified four major influencing domains. Personal physical qualities, psychological traits, coach expertise, and school policy and environmental support. These findings reinforce that talent identification is affected not only by athletes' characteristics but also by coaches' knowledge and systematic factors such as policy and curriculum



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emphasis (Johnston et al., 2022). These findings are also consistent with those of the present study.

### Conclusion

Based on the data analysis and findings, the researcher concluded that coaching is the backbone of sports performance. In addition, the researcher concluded that, at the University level, coaches use a systematic approach to talent identification among student-athletes. In addition, the study concluded that coaches use various coaching strategies to develop talent among student-athletes.

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