



International Journal of Research in Academic World

Received: 14/March/2026

IJRAW: 2026; 5(5):37-39

Accepted: 25/April/2026

A Comparative Study of Motor Abilities and Mental Health Variables among Rural and Urban Athletes

*¹Saurabh Singh Kushwaha and ²Kuwar Praveen Singh

*¹M.P.Ed. Final Year Student, Department of Physical Education, Yoga and Sports Science, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India.

²Research Scholar, Department of Physical Education, Yoga and Sports Science, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India.

Abstract

The present study aimed to compare selected motor abilities and mental health variables—mental toughness and self-esteem—among rural and urban athletes of Bilaspur Chhattisgarh. Eighty athletes (40 rural, 40 urban), aged 16–25 years, were selected using purposive sampling from various training centers. The Barrow Motor Ability Test (BMAT) assessed motor abilities including speed, agility, power. Mental toughness was measured using the Sandip Tiwari (2007) Mental Toughness Questionnaire (SMTQ), and self-esteem was assessed with Rosenberg's Self-Esteem Scale. Results revealed that rural athletes outperformed urban athletes in motor fitness components, particularly agility, explosive power, and speed. In contrast, urban athletes exhibited slightly higher self-esteem (Mean = 28.05) than rural athletes (Mean = 26.50), indicating that training environment, social support, and exposure to competitive sports may enhance psychological confidence. Mental toughness scores were nearly identical between rural (Mean = 179.65) and urban athletes (Mean = 179.10), suggesting that this attribute is influenced more by individual resilience and experience than by area of residence. These findings highlight the differential effects of environmental, training, and socio-cultural factors on physical and psychological characteristics of athletes. The study emphasizes the need for comprehensive training programs that develop both motor skills and psychological well-being, recommending enhanced psychological training in rural settings and advanced motor development in urban centers.

Keywords: Motor Abilities, Barrow Motor Ability Test, Mental Health, Mental Toughness, Self-Esteem, Rural Athletes, Urban Athletes.

1. Introduction

For the overall development of human sports and physical education have a great significance. Indulgence in sports on the one hand improves the strength as well as motor performance while on the other hand it is also helpful in overall advancement of mental health emotional, stability personality growth and social integrations in this contemporary world athletic competition have upgraded to become more technical and specific which demand the player to have effective physical capacity along with stable psychological health traits. Various correlate elements like motor abilities mental readiness, environmental factor society backdrop training coaching method and living habit influence the overall performance of the players. From all these elements motor empty and mental health variable are set to be the most effective elements for a sport performance.

A person capacity perform productivity largely depend upon the motor abilities of the person. Such ability compare of speed, quickness, stamina or coordination stability, flexibility and power. Motor abilities are considered as the basic for athletic power in their sports science as they straightly affect the implementation of skill and technique is sports and game.

In Competition sports, player having better motor abilities usually so better performance. Motor ability development largely gets affected by many elements like genetics, environment, physical training level coaching and method of training. For the evaluation of motor fitness and physical performance, the barrow motor ability test is used which is a commonly acknowledged tool. Its measure the various aspect of motor abilities like quickness, coordination, speed, stability and powers. Due to its reliability, validity and practical applicability this test has been widely popular in research work in this field of physical education and sports science. This test gives out technical measure of motor performance and assists the research in making comparison of player of a various sports background and surroundings.

• Concept of Motor Abilities

Motor abilities are fundamental components of physical performance that enable individuals to perform various physical activities efficiently. These abilities are considered the building blocks of sports skills and athletic performance. Motor abilities include speed, agility, balance, coordination, flexibility, strength, endurance, reaction time, and power. The

level of motor ability determines how effectively an athlete can execute movements, techniques, and skills during sports participation. Motor abilities are influenced by both genetic and environmental factors. Hereditary characteristics determine the basic potential of an individual, whereas environmental conditions such as nutrition, training, physical activity, coaching, and socio-economic status contribute to the development of these abilities. Athletes who engage regularly in physical activities and systematic training programs generally demonstrate higher levels of motor performance.

The development of motor abilities is particularly important during childhood and adolescence because these stages represent critical periods for physical growth and neuromuscular development. Participation in sports and physical activities during these periods enhances coordination, muscular strength, balance, flexibility, and agility. Motor abilities not only improve sports performance but also contribute to overall health, posture, movement efficiency, and injury prevention. In competitive sports, motor abilities form the basis of skill execution. For example, agility is essential in sports such as basketball, hockey, and football; balance is important in gymnastics and yoga; speed is crucial in athletics and badminton; and coordination is required in almost every sport. Therefore, the assessment of motor abilities is an important aspect of sports science research.

• **Barrow Motor Ability Test**

The Barrow Motor Ability Test is one of the most popular test batteries used to assess motor fitness. Developed by Harold M. Barrow, the test evaluates various components of motor abilities through a series of physical tasks. The test is simple, practical, economical, and suitable for athletes of different age groups. The Barrow Motor Ability Test generally includes activities designed to measure agility, speed, balance, coordination, and muscular power. Researchers and physical educators widely use this test because it provides objective and reliable measurements of physical performance. The test is particularly useful in comparative studies involving athletes from different regions, sports disciplines, or socio-economic backgrounds. The Barrow Motor Ability Test helps identify strengths and weaknesses in athletes' physical capacities. Coaches and trainers can use the results to design specific training programs aimed at improving performance. In research studies, the test serves as a valuable tool for comparing the motor abilities of different groups.

• **Concept of Mental Health**

Mental health is a state of psychological and emotional well-being that enables individuals to function effectively in daily life. It involves the ability to manage emotions, cope with stress, maintain positive relationships, and make rational decisions. Mental health is not merely the absence of mental illness but also the presence of positive psychological qualities such as confidence, optimism, resilience, and emotional balance.

In sports, mental health is closely associated with performance and success. Athletes face numerous psychological challenges such as competitive pressure, fear of failure, injury stress, performance anxiety, and expectations from coaches, parents, and society. Athletes with good mental health are better able to manage these challenges and maintain consistent performance.

Mental health variables commonly studied in sports include self-esteem, self-confidence, mental toughness, emotional stability, stress tolerance, motivation, anxiety, and resilience.

These variables influence how athletes think, feel, and behave during training and competition.

• **Self-Esteem in Sports**

Self-esteem refers to an individual's overall evaluation of self-worth and personal value. In sports, self-esteem influences confidence, motivation, persistence, and emotional stability. Athletes with high self-esteem generally believe in their abilities and approach competitions with confidence. Positive sports experiences, successful performances, supportive coaching, and social recognition contribute to the development of self-esteem.

Self-esteem is an important psychological factor because it affects both performance and personality development. Athletes with low self-esteem may experience fear of failure, anxiety, lack of confidence, and reduced motivation. Therefore, enhancing self-esteem is considered an essential objective in sports training and counseling.

• **Mental Toughness in Sports**

Mental toughness is the psychological capacity to remain confident, focused, determined, and resilient under pressure. It enables athletes to cope with adversity, maintain concentration, and perform consistently in challenging situations. Mental toughness is considered one of the most important psychological characteristics associated with elite performance.

Athletes with high mental toughness demonstrate qualities such as perseverance, emotional control, commitment, confidence, and positive attitude. They are capable of handling pressure, overcoming setbacks, and maintaining motivation during difficult circumstances. Mental toughness develops through competitive experiences, systematic training, coaching support, and personal determination.

2. Methodology

Research Design

A descriptive and comparative research design was used. The study involved quantitative measurement of motor ability and mental health variables across two groups—rural and urban athletes.

Sample Selection

- **Total Sample:** 80 athletes
- **Rural Athletes:** 40
- **Urban Athletes:** 40
- **Age Range:** 16–25 years
- **Sampling Technique:** Purposive sampling
- **Sports Represented:** Athletics, hockey, volleyball, football.

Tools and Instruments

i). **Barrow Motor Ability Test (BMAT)**

This test includes:

- a) Standing Broad Jump (explosive power)
- b) Zig-Zag Run (agility)
- c) Medicine Ball Throw (upper body power)

ii). **Sports Mental Toughness Questionnaire (SMTQ)**

S. Tiwari (2007) used a mental toughness questionnaire.

iii). **Rosenberg Self-Esteem Scale (1965)**

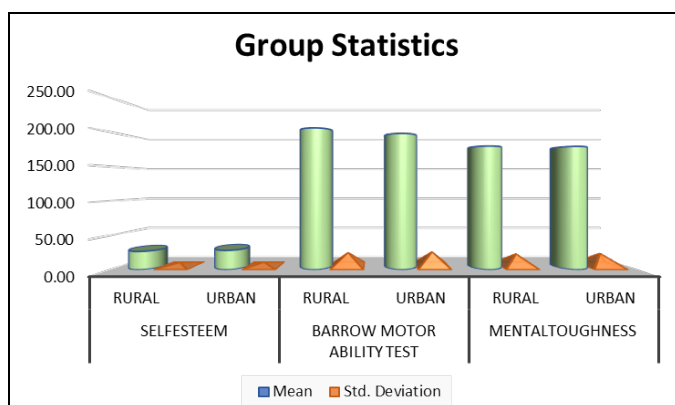
A globally validated 10-item scale measuring overall self-worth.

Statistical Tools

- Descriptive statistics (Mean, SD)
- Independent samples t-test
- Level of significance: 0.05

3. Results and Discussion

Group Statistics					
Area of Athlete		N	Mean	Std. Deviation	Std. Error Mean
Self-Esteem	Rural	40	26.50	4.80	0.76
	Urban	40	28.05	5.37	0.85
Barrow Motor Ability Test	Rural	40	205.98	19.91	3.15
	Urban	40	197.98	20.97	3.32
Mental-Toughness	Rural	40	179.65	18.02	2.85
	Urban	40	179.10	18.68	2.95



The analysis of self-esteem revealed that urban athletes obtained a slightly higher mean score (28.05) compared to rural athletes (26.50), indicating comparatively better self-confidence and self-worth among urban participants. The standard deviation values for rural (4.80) and urban (5.37) athletes showed moderate variability, suggesting individual differences in self-perception within both groups. The higher self-esteem among urban athletes may be attributed to factors such as better sports facilities, professional coaching, improved social support, and greater exposure to competitive environments. These findings are consistent with earlier studies which suggest that structured urban training environments positively influence athletes' confidence and personality development. In the Barrow Motor Ability Test, rural athletes demonstrated slightly superior performance with a mean score of 205.98, whereas urban athletes scored 197.98. The standard deviation values for rural (19.91) and urban (20.97) groups were nearly similar, indicating comparable variability in motor ability performance among both groups. The better performance of rural athletes may be associated with their naturally active lifestyle, including outdoor activities and physical labor, which contribute to enhanced motor fitness and physical efficiency. Interestingly, despite having comparatively lower self-esteem scores, rural athletes performed better in motor ability, suggesting that physical competence may not always be directly related to psychological factors such as self-esteem. The findings related to mental toughness showed almost no difference between rural and urban athletes. Rural athletes obtained a mean score of 179.65, while urban athletes scored 179.10. The standard deviation values of 18.02 and 18.68 respectively indicated similar consistency and variability within both

groups. This similarity suggests that mental toughness, including resilience, determination, and coping ability, may depend more on personal motivation, competitive exposure, and training experiences rather than geographical background. Therefore, both rural and urban athletes appear to possess comparable levels of psychological strength necessary for sports performance.

4. Conclusion

The study shows a complex relationship between area of residence and athlete characteristics: Urban athletes may have higher psychological self-evaluation (self-esteem). Rural athletes may excel more in raw motor skills. Mental toughness appears largely independent of area, indicating it may be developed through training and competition rather than environment alone. Overall, the findings suggest that environmental factors differentially impact physical and psychological characteristics, highlighting the importance of tailored training programs to optimize both motor and mental development among athletes. It is therefore recommended that coaches design comprehensive training strategies that equally focus on enhancing both physical abilities and psychological well-being, regardless of athletes' area of residence.

References

1. Barrow HM, McGee R. *A Practical Approach to Measurement in Physical Education*. Lea & Febiger; 1971.
2. Clough P., Earle K, Sewell D. Mental toughness: The concept and its measurement. *Solutions in Sport Psychology*. 2002;32-43.
3. Fox KR. The effects of exercise on self-esteem. *Psychological Medicine*. 2000;32(3):53-67.
4. Jones G, Hanton S, Connaughton D. A framework of mental toughness in the world's best performers. *The Sport Psychologist*. 2007;21:243-264.
5. Kumar S, Singh R. Comparison of motor fitness between rural and urban boys. *International Journal of Physical Education*. 2018;5(2):45-52.
6. Patel D. A comparative study of agility and speed among rural and urban athletes. *Journal of Sports Science*. 2019;7(1):56-62.
7. Rosenberg M. *Society and the adolescent self-image*. Princeton University Press; 1965.
8. Sheard M, Golby J, van Wersch A. Progress toward construct validation of the Sports Mental Toughness Questionnaire. *European Journal of Psychological Assessment*. 2009;3(25):186-193.
9. Sharma P, Kumar A. Self-esteem differences among rural and urban players. *Indian Journal of Applied Psychology*. 2017;54(4):112-120.
10. Verma A, Gupta R. Mental toughness among athletes: A comparative study. *International Journal of Sports Psychology*. 2020;15(1):67-75.