Motor Behavior Article Review

Author Name

[Institutional Affiliation(s)]

Author Note

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Exercise physiology is defined as a study of how the body adapts and responds to stress. Sport physiology is an application of principles of exercise physiology, to guide training and to improve sports performance. During the last two decades, extensive research has been done on the coordination and growth of cognitive, sensory and motor abilities, concerning neural enhancement in different brain regions. Recently, studies have shown a close relationship between cognitive function and motor development. The causal relationship is also seen between brain growth in the prefrontal cortical area and regular physical exercise. High-demand sports need amazing physiological capacities combined with outstanding abilities in areas such as perception, motor control, and cognitive functioning, for the best performing athletes. Research has focused on the physiological, neurocognitive and psychological characteristics. My professional avatar is athlete training. Kinesiology highlights many factors such as motor behavior, sport psychology, biomechanics and exercise physiology.

**Article 1**

**Motor and cognitive growth following a Football Training Program**

In this study, it is demonstrated that exercise training sessions significantly influence rise in the volume of gray matter and prolonged increase in connectivity and myelination in the frontal and prefrontal cortex. Cortical network refinement in this area enhances individual executive abilities of accuracy and speed of processing, working memory, strategy employ, and response inhibition. The movement of humans is an expression of their personality because it links physical structure and psychological components.

**Main point of this study**

In this article, it is stated that motor skill is usually a leaned sequence of different actions that combine to generate efficient and smooth actions necessary to attain specific goal-directed tasks. It is demonstrated in this study that in order to create successful motor skills it is necessary to improve motor coordination. Motor coordination is harmonious working of different body parts which involve movements such as fine motor movement, gross motor movement, and motor planning. Gross motor movement needs the use of a group of large muscles to perform tasks such as crawling, walking and balancing whereas fine motor skills usually require the use of smaller muscle groups to accomplish tasks such as writing, playing the piano, etc. Motor planning is a brain ability to execute and plan a sequence of non-habitual tasks and unfamiliar actions. Physical activities are important in cognitive development in athletes. An important finding of this study is that physical activity increases coordination abilities. This, in turn, stimulates the cerebellum activation, accuracy and speed of attention tasks. Another important point in this study is that physical activity such as football improves both cognitive and motor growth. There is a study conducted on the cognitive abilities of young soccer players. This study demonstrated that it is important for young football players to group or classify information they perceive to enhance their skill to understand the connection between application and information formal thinking. Football players, at an early age, are not capable to react effectively to the activities during the game and to use certain technical rules. Physical activity improves their cognitive abilities which help to perform well (Alesi et al., 2015).

**Article 2**

**Characteristics of motor abilities of young athletes of selected sports during sport training**

Most of the sports require an early start of long term development of athletes because peak performances can be achieved relatively at a young age. Different studies have shown that high-level training is related to physical fitness and better cognitive function. The main purpose of this article was to determine the motor skills development of young athletes.

**Main point of this study**

This study was carried out among members of junior sports team (athletic, cycling, volleyball, rowing and basketball). In this study, three hundred boys have participated. One of the important findings of this study is that technical skills in individuals are linked with the level of motor abilities. Technical preparation is usually process-oriented and is used to enhance learning of sport skills. This permit athlete to demonstrate motor potential in multifaceted situations of sport competition, and primarily depends on the skills and level of different motor abilities. Another important finding of this study is that a large extent of training time is usually spent on the enhancement of tactics and techniques. To improve motor skills, separate training is required. The results of this study show that motor abilities’ structure and level demonstrate premature specialization effects of sport and at a cost of balanced and comprehensive preparation. The results of this study show that applied athlete training programs are not progressive, but they oriented merely towards the current sport-related goal utilization (Karpowicz & Strzelczyk, 2010).

Overall, these articles have shown that athlete training plays an important role in developing cognitive and motor skills in athletes. One of the most important findings of this study is that exercise programs result in improved coordination and running skills. It also helps to develop leg strengths in individuals who regularly attended the training sessions. The things which I learned from these articles is that athlete training helps individuals to perform better in motor tests as compared to sedentary peers. Those individuals who got athlete training, possess significantly high skills. Another thing that I learned from this study is that athlete training improves athlete attention times, running skills and visual discrimination times. It is very important to stay up-to-date on peer review articles about the motor and cognitive behavior in athlete training, as it will update us on the latest development and research in this area. Peer review articles are authentic and are reviewed by scholars in the field of athletic training and kinesiology.

**References**

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