Motor Behavior Article Review

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Sports physiology is defined as an interdisciplinary science that draws knowledge from many related fields such as psychology, kinesiology, physiology, and biomechanics. This sub-discipline involves the study of different psychological factors that affect performance. It also focusses on how exercise and sport affect physical and psychological factors. In athletic training, accurate and fast execution of movement is required. It is shown that implicitly learned movement are less vulnerable as compared to the explicitly learned movement. For well-performing athletes, studies have focused on the psychological, neurocognitive and physiological characteristics. The physiological characteristics in athletic training include endurance capacity and sprint performance. Psychological factors such as concentration, self-confidence, and motivation are also important in creating expertise among athletes. One of the most important neurocognitive function in athletes is the ability to possess complex movement. My professional avatar is athlete training. The purpose of this professional avatar is to focus on the study of human movement from six different aspects: historical, motor control, physiological, pathological, psychosocial and psychological. There are many factors that kinesiology highlights such as sport psychology, exercise physiology, sports nutrition, biomechanics, motor behavior, and sports medicine. The most common career under the sports science and exercise are athlete trainer, an occupational therapist, exercise physiologist, and physical therapist.

**Article 1**

The key to success in elite athletes? Explicit and implicit motor learning in youth elite and non-elite soccer players

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4621303/>

The main purpose of this study was to find the implicit and explicit motor learning in young soccer players.

**Main points of the study**

Much evidenced is present which shows that both training and genetic factors play an important role in determining the athlete's performance. Other than this psychological, physiological and neurocognitive factors are also very important in determining the performance of an athlete. Physiological factors such as concentration and self-confidence play an important role in determining the athlete's level of expertise. One of the important point in this study is that the brain of athletes is different in terms of function and structure. It is found in different studies that white matter in the brain of an athlete is alternated and is important for the voluntary control of movement. Increased cortical thickness and anatomical volume are also seen in a few areas of an athlete's brain. Another major point in this study is that neurocognitive function is important for athletes to perform a complex movement. It is found that motor learning capacity is the main determinant in the development of athletes. Another point of this study is that implicit learning is effective in improving expertise in athletes. This article provides very useful information regarding the basic motor behavioral principles in improving the expertise level of athletes. According to this study individual with implicit learning abilities learn motor skills in a very short time (Verburgh, Scherder, Van Lange, & Oosterlaan, 2016).

**Article 2**

Motor and cognitive growth following a Football Training Program

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4621303/>

The main purpose of this study was to find how physical activity affects the motor and cognitive functioning in athletes. Motor behavior is a study of different processes that are involved in refining and acquiring skills. It offers strategies and techniques that are essential for athlete training. Knowing different concepts helps in finding the progression and sequence to learn the athlete skills and required knowledge of athlete training provides a key connection between different principles of sports and coaching in the real world**.**

**Main Point of study**

One of the findings of this study is that motor development increases movement precision and in turn enhance the sport performance. Coaching is very important for improving the athlete performance that needs a cognitive activity to make different decisions. Another important point of this study is that a high level of physical activity is associated with both long and short term health benefits in the emotional, physical and cognitive domain. Motor skills influence cognitive development which involves monitoring, sequencing, and planning. Motor development includes the coordination of sensory, motor and cognitive abilities. For motor development, a multidisciplinary approach including sub-disciplines of kinesiology such as neuroscience and developmental psychology are used. In this article, motor skill is defined very clearly. A motor skill is defined as a learned sequence of movement that combines to produce efficient and smooth action**.** Motor coordination is defined as the normal functioning of body parts which involves gross motor movements, motor planning, and fine motor movement. Physical and sports activities have a great influence on cognitive development in children. Coordinative abilities are recognized traditionally to stimulate the cerebellum which has a direct effect on the working memory, accuracy and speed of the attention task.

 In this study, the results have shown that Football Exercise Program resulted in improved coordination and running skills as well as explosive legs strength in children who regularly attended the football courses (Alesi et al., 2015). The things which I learned from this article about motor behavior is that implicit learning is important in developing expertise in athletes. Secondly, implicit motor learning reflects neuronal general circuit. Physical activity not only improves coordination skills but are also important in developing explosive leg strength. Another thing which I learned from this article is that physical activity is not only associated with cognitive and motor growth but also improve attention abilities. It is very important to stay up to date on the peer review articles about motor behavior in athlete training as it will update us on the latest research and development in this field. Secondly, peer-reviewed sources are authentic and have been evaluated by the scholars in the field of kinesiology and athlete training

**References**

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