Article Review

[Institutional Affiliation(s)]

Author Note

**Introduction of Sub-discipline**

Exercise physiology is the science of the body’s reactions to physical activity. The changes in the metabolism and other physiological areas of the body like heart, lungs, muscles, and structures are included in these responses. My profession the athletic training is a field that works with the applications of principles of the exercise physiology that develop changes and variations in the physiological systems of the body.

**Statement of Purpose**

Inside the realm of exercise physiology how well documented training principles direct the expansion of strength, power, and endurance abilities of muscles utilizing the principles of exercise physiology in the athletic training would be demonstrated in this article review paper.

**1st Article Review Summary**

This study was presented at the conference “Impact of training modalities on physiological function and adaptation” investigated the question: concurrent exercise training, do opposites distract? (Coffey et al., 2017). Exercise to upsurge endurance capability can be attained through continued (>60 min), constant or recurrent intermittent sessions of submaximal contractions that, when executed for numerous months or years, produce a range of metabolic and morphological variation. This study was performed to analyze the principles of exercise physiology on athletic training such as improvement in the mitochondrial biogenesis, and other metabolic changes (Coffey et al., 2017). Significantly, the specificity of the molecular exercise responses with different exercise methods and the time progression over which these actions occur delivers the vital context in which synchronized training modification and performance outcomes should be assessed (Coffey et al., 2017). The concurrent and regular exercises in athletic training produces changes at the molecular level to induce interference effect (Coffey et al., 2017). This outcome in the positive association of existing evidence that states the effect of endurance training on resilient exercise tempted muscle hypertrophy and power. This study has effectively shown the effects of principles of exercise physiology in terms of performance improvement and strength building in athletes. This also evaluated the significance of concurrent athletic training on fitness (Coffey et al., 2017). The endurance capacities can be increased effectively through concurrent and continued athletic training. This study has sufficiently and successfully evaluated the functions of exercise physiology in upsurging the endurance capacity of athletes. The presentation of exercise physiology moralities as designated above may benefit the athletic individuals to meet the performance and endurance demands more professionally (Coffey et al., 2017). The principles of exercise physiology are significantly improved the physiological systems, metabolic functioning, endurance capacity, fitness and performance of athletes (Coffey et al., 2017). In demand to attain the overload and progression principles of exercise physiology, the incidence and strength of the workout must be adequate to toil the muscle tissue at a strength beyond which it is castoff to work to increase endurance capacity.

**2nd Article Review Summary**

The study examines the effects and applications of exercise physiology in athletic training from the perspective of improved health outcomes conducted by Malm and colleagues in the year 2019. This study was a review that explores physical activity and sports, real health benefits. Progressive effects from athletic training are accomplished chiefly through physical activity, however secondary effects convey health benefits in the form of psychosocial and individual development and less alcohol intake (Malm, Jakobsson & Isaksson, 2019). Effects of exercise physiology in athletic training are tremendously observed particularly in the form of better health, efficient physiological systems and improved public health of the communities (Malm, Jakobsson & Isaksson, 2019). In communities and societies negative effects, for example, the risk of catastrophe, injuries, eating disorders, and poor health, are also obvious. The study was conducted to review the health of the population of Sweden, moreover is analyses the principles of exercise physiology. Since physical activity is progressively steered in a systematized way, athletic training's role in communities has become gradually imperative over the centuries, not merely for the individual but similarly for public health. This study intended to outline the physiological and psychosocial health benefits of athletic training (Malm, Jakobsson & Isaksson, 2019). The purpose of the study was to demonstrate the association of exercise physiology in the enhancement and improvement of the health of people (Malm, Jakobsson & Isaksson, 2019). When life becomes more physically inactive, the metabolism of the body slows down which resulted in the accumulation of health illnesses (Malm, Jakobsson & Isaksson, 2019). According to the principles of exercise physiology, the surplus amount of nutrients remained accumulated in the body and outcome in health issues. These health issues usually are depressive symptoms, anxiety, malfunctioning of the body's hormones, overweight and cardiovascular disorders. The athletic training improve and enhance the body functions, biological and psychosocial factors also improved (Malm, Jakobsson & Isaksson, 2019). Evidence proposes a dose-response association such that being energetic, even to an uncertain level, is healthier to being sedentary or inactive (Malm, Jakobsson & Isaksson, 2019). This study has demonstrated various principles of exercise physiology in the study. Since the principle that states a physiological system will acclimatize to anxiety by building itself additionally resistant to future anxieties and stresses, effectively assimilated in this study (Malm, Jakobsson & Isaksson, 2019). It has assessed that the cardiovascular system efficiently improved its functioning after adapting to the changes that were occurred due to physical activity and sports. It improves healthy behaviors and quality of life in communities.

**Conclusion**

My profession athletic training validates that the muscles acclimatize to whatever strains are retained on them like all structures in the body. Studies have suggested that the muscles adapt to the changes through the process and development of neuroplasticity. I have observed that muscles have to preserve a state of homeostasis or physiological steady-state to improve their functioning. These reviews have validated a positive association of adaptation of exercise principles while preserving physiological changes (Coffey et al., 2017). The body needs to work appropriately under any condition and this demands the maintenance of physiological functions. Every system and function of the body is adapted to a new level when there is an application of athletic training. The principles of exercise physiology effectively improve the functions and metabolic activities of the body (Malm, Jakobsson & Isaksson, 2019). The exercise physiology and athletic training is a sub-discipline of kinesiology that work on the movement of the body. The muscle and bones of the body adapt to the mechanisms of athletic training by maintaining the physiological systems through a process of neuroplasticity. The body utilizes the principles of exercise physiology such as reversibility, progression, adaptation, use reuse and specificity when encounter athletic training (Coffey et al., 2017). The mechanisms of tissue plasticity consequently govern the principles of exercise physiology effectively and efficiently.

# References

Coffey, V. G., & Hawley, J. A. (2017). Concurrent exercise training: do opposites distract?. *The Journal of physiology*, *595*(9), 2883-2896.

Malm, C., Jakobsson, J., & Isaksson, A. (2019). Physical Activity and Sports—Real Health Benefits: A Review with Insight into the Public Health of Sweden. *Sports*, *7*(5), 127.