

Overtraining in Sport described through Scientific Writing!

Briefly described, overtraining (OT) relates to a mal-adaptation that athletes may develop during their careers, which leads to a stagnation or significant decrement in performance. It has been a serious concern not only for athletes, but for coaches and parents to deal with.

Sports science has researched this phenomenon with great interest and has attempted to find a set of or a single diagnostic tool that can diagnose an athlete suffering from it. In 1998 Kreider and colleagues defined overtraining as “an accumulation of training and non-training stressors that has a detrimental long-term effect on performance and a recovery period that may take several weeks to months”.

As the reader may infer the definition is quite a broad one but importantly, it points to stressors that may not necessarily come from training per se, i.e. training and competitive stress. In other words what this definition implies is that the state of OT may develop from personal life stresses that may or not be directly related to training.

[A fragmented perspective on overtraining](#)

Sports science has devoted great part of its efforts studying how athletes respond to training from a physiological perspective and has brought a great deal of understanding to the phenomenon. However, as important this perspective may be it cannot provide a complete picture of the phenomenon. This is because it only deals with direct, measurable and objective aspects of reality, leaving interior phenomenon essentially left out of the equation.

For example, it may be important to understand how the cardiovascular, immune, hormonal and metabolic aspects of training in an athlete respond to training. From these studies we now understand that high training loads, and elevated resting heart rates can give signs of excessive fatigue in an athlete and a lack of ability to recover from training/competition.

We also know that a depressed immune system leaves an athlete more vulnerable to exterior “attacks” to the athlete’s immune system that lead to common infections like colds, sore throats, runny noses, tonsillitis and others. Further, chronic high levels of the cortisol hormone, also known as the stress hormone can lead to an enhanced catabolic activity (tissue destruction in the body), which is detrimental to the athlete since, once more, his/her ability to recover will be impaired.

There have been many more and valuable advances for our understanding of the physical response to training but they will not be mentioned here as this would be too extensive and is not for the scope of this article. As stated before, this perspective, albeit essential does not tell us anything about what is happening to the athletes’ interiors, i.e. emotions, psychological stress, relationships with coach, peers and parents, views of the world and of views of sport itself, etc.

Still, sports science has devoted some attention to the psychological and mood responses to training and how they can be effective to monitor training adaptations and potentially be used as diagnostic tools for OT. Sport psychologists have found that athletes who suffer from OT may present a lack of coping mechanisms to deal with the stress from sport. This leads them to accumulate more anxiety and be generally more stressed and moody.

Despite the understanding that this perspective brought, it still was/is based on objective markers that describe emotions, moods and psychological states. In other words, the interior “world” of the athlete has been reduced to objective measures in order to be able to become object of study. This research has been carried out essentially through the use of questionnaires that the athlete responds to and that are based on a numerical scale that can be quantified.

In recent years, sport sociologists so too saw an interest in the phenomenon of OT and studied it from an interior, subjective perspective through their qualitative lenses. This means that they investigated the social and cultural dynamics that also take part of an athlete’s life.

What they concluded was that athletes can accumulate a lot of stress stemming from relationships (with coach, parents and/or peers), training-



related pressures, school work, travels to training and competition, amount of competitions entered, etc. This perspective is invaluable, but just as with the previously mentioned objective perspective, by itself it does not give a complete description of the phenomenon as, in this case, it leaves exterior and observable aspects of reality unacknowledged.

Because sports science has been divided in these 3 main areas, i.e. sports physiology, sports psychology and sports sociology, it left researchers independently researching the area and consequently leaving communication between the different schools of thought at the least hard to engage in.

Huge mistake.

They need to come together and work together. All have valuable (yet partial) truths to contribute with.

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