Abstract:
This paper addresses practical and ethical considerations regarding genetic tests to predict performance and/or risk of exercise-related injury or illness. Various people might wish to conduct sport-related genetic tests for a variety of reasons. For example, an individual might seek personal genetic information to help guide their own sport participation. A sports coach might wish to test young athletes to aid team selection or individualize training. A physician might want to predict the risk of injury or illness in athletes and advise regarding selection or preventative measures. An insurance company might seek to estimate the risk of career-threatening injury for athletes based partly on genetic information. Whilst this information is, in part, encoded in our DNA sequence, the available tests allow generally only a poor prediction of the aforementioned variables. In other words, the current genetic tests and analysis methods are not powerful enough to inform important decisions in sport to a substantial degree. It is particularly disappointing that more than half of the commercially available genetic
Tests related to exercise and sport do not appear to identify publicly the genetic variants they assess, making scrutiny by academic scholars and consumers (or their representatives) impossible. There are also challenging ethical issues to consider. For example, the imposition of genetic tests on individuals (especially young people) by third parties is potentially susceptible to abuse. Scientists and practitioners should understand the limitations of the tests currently available, the ethical concerns and the importance of counselling before and after testing so that they are only used in a responsible manner.