

## Heart rate variability

Heart rate variability can be defined as the change in the time interval between successive heartbeats. Heart rate variability can serve as an index of the parasympathetic nervous system, and more specifically as a marker of cardiac vagal activity (also termed cardiac vagal control). Cardiac vagal activity represents the activity of the vagus nerve (the main nerve of the parasympathetic system) regulating cardiac functioning and reflects how well an individual adjusts to environmental changes. Three levels of investigation are important to consider to understand cardiac vagal activity function, coined the three Rs: resting, reactivity, and recovery (Laborde et al 2017). By assessing the 3rs researchers can understand how resting and adaptive levels of cardiac vagal activity may effect individuals. According to the neurovisceral integration model, a higher cardiac vagal activity is associated positively to the functioning of the prefrontal cortex, and more specifically to executive functions, to emotion regulation, and to overall health. Moreover, cardiac vagal activity is related to many sport and exercise psychology phenomena, such as aggressiveness, coping, injury recovery, motivation, relaxation, sleep, stress, training recovery, etc. Many factors can influence cardiac vagal activity including: the person, the environment, and the interaction between the person and the environment. Noteworthy for athletes, they can easily influence positively cardiac vagal activity through several methods, such as slow paced breathing.