

ABSTRACT

- Title:** The Impact of Body Weight Manipulation on Cognitive Performance and Present Psychological State in Combat Sports
- Objectives:** The main objective of this diploma thesis is to investigate how Rapid Weight Loss (RWL) and subsequent Rapid Weight Gain (RWG) affect the cognitive performance and psychological state of combat sports athletes. A secondary objective is to examine the effects of these practices on body composition and, in the case of RWL, the effects on Urine Specific Gravity (USG).
- Methods:** General information regarding pre-competition body weight manipulation experiences was obtained from 19 combat sports athletes who underwent weight reduction over a period of 7 days, followed by a 2-hour recovery period. Cognitive performance was assessed through various tests (simple reaction time test, choice reaction time test, and DSST) before and after RWL, and after RWG. Psychological state was assessed using standardized questionnaires (BRUMS and PANAS) before, during and after RWL, and after RWG. During RWL, USG and the methods used for RWL were also monitored.
- Results:** The athletes reduced their body weight by 4.9% and subsequently regained 2.6% of body weight. RWL significantly impaired simple reaction time by 5.6% (16 ms). RWL also resulted in a statistically significant deterioration of psychological state (decrease in positive affective states by 26.6%, increase in negative affective states by 41.4%, and increase in overall mood disturbance by 600.8%), but RWG improved the psychological state to a similar level as before RWL (increase in positive affective states by 24.1%, decrease in negative affective states by 29.3%, and decrease in overall mood disturbance by 108%). The RWL phase had a negative impact on USG.
- Keywords:** Combat sports, rapid weight loss, rapid weight gain, cognitive performance, psychological state