

**Abstract:**

The second (index finger) to fourth (ring finger) digit length ratio (2D:4D) is known to be a putative marker of prenatal exposure to the testosterone. It has been reported that fetal testosterone may be critical for development of morphological and psychological traits such as quality of the cardiovascular system, visuo-spatial ability, risk-taking behavior and behavioral masculinity. Testosterone-driven attributes are associated with success in male-to-male physical competition, which may be proxied by ability in sports. Many studies have found that 2D:4D is sexually dimorphic and low (male-typical) 2D:4D ratio is associated with athletic performance. This study aims to investigate possible associations of performance in sport with 2D:4D ratio, personality characteristics (Big Five model), willing to take risks and training habits, in a sample of 57 top and 57 recreational snowboard racers. We did not find any associations between 2D:4D ratio and sport performance, no significant differences were found in 2D:4D ratio between samples. We found negative associations between agreeableness and sport performance; individuals with low agreeableness achieved higher results in the real competition of freestyle snowboarding. Low agreeableness used to be associated with aggressiveness, emulation and egocentrism, which could be important attributes for achievement of the success in the field of individual sports.