

Acceleration Sprint Running and Maximal Sprint Pedaling Technique in Football Players

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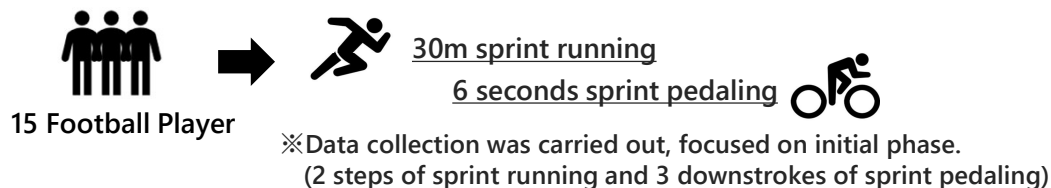
For football players, the pedaling exercises focusing on pedaling technique (timing of force application) could be utilized to improve sprint running performance in acceleration phase.

Introduction

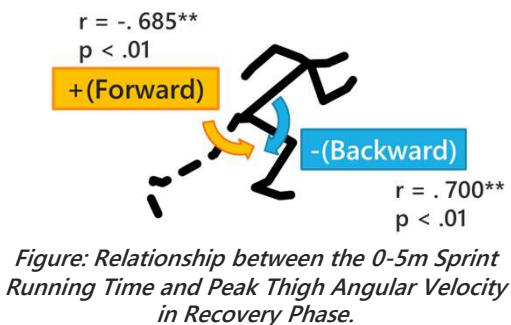
Pedaling exercises are often used to assess and improve a football player's force production ability. However, pedaling technique has not been paid much attention during pedaling exercises such as the timing and direction of force application.

This study aimed to clarify the relationship between acceleration performance in sprint running and pedaling technique during maximal sprint pedaling in football players.

Methods



Results & Discussion



◀ In faster sprinter, it is possible that quickly swing leg recovery made quick switching movement of the lower limbs more effective and increased the hip extension torque of the opposite leg. (Watanabe et al., 2003)

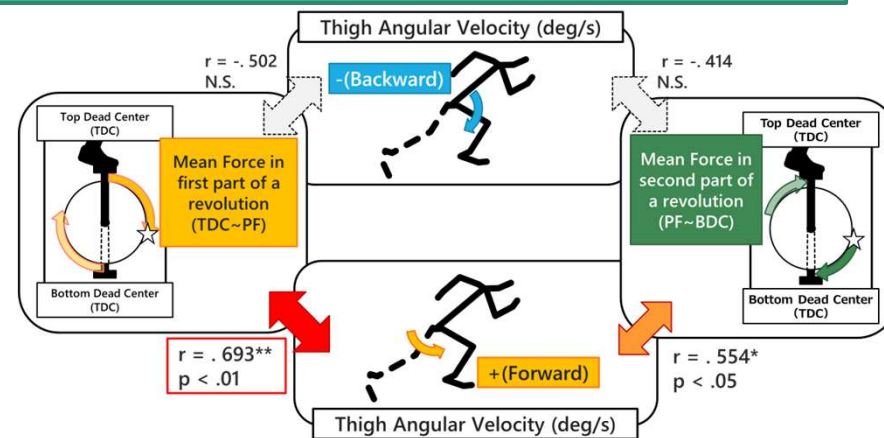


Figure: Relationship between the Mean Force during Maximal Sprint Pedaling and Peak Thigh Angular Velocity in Recovery Phase

Pedaling training to improve acceleration performance could require attention to flexing the hip joints early in the upstroke so that greater force could be applied early in the downstroke.

Air Brake Lv.7~8, 120rpm (10s~20s*4~5set)

Air Brake Lv.1, Easy spin (40s~1min)

Air Brake Lv.3~4 Sprint (6s*1~3set)

▲ Case Study: Wattbike warming-up session prior to football Tr session could change power production capacity and sprint running performance. (thigh angular velocity in the direction of hip flexion during recovery phase of sprint running improved)