Thesis Title Correlation of Psychomotor Speed and Physical Performance of Skilled and Non Skilled Athletes Training in Different Sports

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ABSTRACT

It was found that the hand grip strength and the leg strength of weightlifter national team (W1) was higher than gynmastic national team (G1), weightlifter university team (W2) and the control group. Meanwhile relative hand grip strength of the weightlifter national team was lowest. The maximal oxygen consumption of gymnastic national team (G1), basketball national team (B1) and table tennis national team (T1) were significantly higher than weightlifter national team (W1) and the control group (C). The balance time of all of athlete groups of national team (W1, G1 and T1) were longer than the control group and significantly longest in G1. The flexibility of G1 was highest and higher than W1, B1, T1, C and G2. Physical fitness tests show that the weightlifter had higher strength but lower maximal oxygen uptake (aerobic power)

when compare with other sports. The tactile reaction time when stimulated at heel and 4th finger of weightlifter national team (W1) was significantly shorter than gymnastic national team (G1), basketball national team (B1), table tennis national team (T1) and weightlifter university team (W2). However, the tactile reaction time of W1 was only shorter than G1 and the control group when stimulated at the acromium level of the neck.

The auditory reaction time of weightlifter national team (W1) was shorter than G1, B1, T1 but not significantly shorter than the control group. The visual reaction time of weightlifter national team (W1) was shorter than G1, T1 and the control but not significantly shorter than B1. The patellar reflex time of the left leg of W1, G1, B1 was longer than the control but in the right leg, only T1 was longer than the control. The patellar reflex time of the right and left leg of various sports type was not different. The movement time of the leg of W1 was longer than B1, T1, W2 and the control. When compare between the university team, the movement time of W2 was shorter than T2, G2 and the control. The movement time of the hand of W1 was shorter than G1 and the control. The flicker fusion frequency of W1 was higher than G1, B1 and T1 but not different from the control and W2. The verbal and non verbal counting of W1 was fastest when compare with G1, B1, T1 and C.

The data of psychomotor speed show that the weightlifter are faster in psychomotor speeds such as reaction time, movement time, flicker fusion frequency, verbal and non verbal counting when compare with other type of sports. This indicates that there were many physiological and neurological changes after prolong athletic training. In addition, the psychomotor speed also showed relation with different psychomotor tasks such as the verbal counting shows highly positive relation with non-verbal counting, the verbal counting rate was negatively correlated with the flicker fusion frequency (FFF), FFF was negatively related with movement time (MT) of the right hand, the patellar reflex time was highly positive related with the reaction time RT (tactile at Rt heel). The visual, auditory, tactile RT were related together. The above data indicate that psychomotor speeds can be altered by different programs of athletic training.