

Thesis Title	Pressure Pain Threshold and Tolerance, and Psychomotor Speed at Rest in Thai Boxers
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ABSTRACT

The present study was undertaken in twenty professional Thai boxers (TB) in comparison to age and a physical fitness matched group of fifteen badminton players (BM) and with a control group of twenty non-athletes (NA). Pressure pain threshold (PPT) and pressure pain tolerance (PPT_o) were evaluated at six different body regions, namely, the abdomen, upper trapezius, deltoid, wrist, ankle and the mid tibia of the left and right sides. Then, the pain sensitivity range (PSR) was calculated from the difference between the values of tolerance and threshold. Prior to the experimental induced pain, personal history, anthropometry, hand grip and leg strength, as well as reaction time (RT) were measured in each subject. It was found that both TB and BM were significantly faster in auditory and tactile RT when compared with NA. Moreover, TB was also significantly faster in visual RT than BM and NA. The TB (the athletes of combative sports) had significantly greater in all pain parameters (PPT, PPT_o, and PSR) than the BM over the mid tibia and than the NA over the abdomen and mid tibia. Although, TB possessed significantly greater PPT_o over the trapezius than that of NA, there was no significant difference in PPT at this site. The BM possessed significantly greater in all pain parameters than the NA only over abdomen. There were no significant differences in the PPT and PPT_o between the same points on either side of the body in each subject group. In addition, most sites on the body of TB did

not show significant relationship between the PPT and PPTo, while those sites of the NA and BM showed positive correlations. Moreover, there were no significant correlations between the PPT, PPTo over all sites and the percentage of body fat and between the PPT, PPTo at the abdomen and the skinfold thickness at suprailliac sites. However, there were significant correlations (in TB group) between the PPT over the abdomen, the PPT over the mid tibia, and the PPTo over the ankle and the number of fights ($r = 0.53, 0.52$ and 0.47 , respectively) and between the PPT over the abdomen and the length of boxing (yr) ($r = 0.52$). There was no clear sign of impairment of the central nor peripheral pathway involved as indicated by normal reaction time and neurological examination. It is suggested that the influences of both aerobic training along with the exposure of repeated pain stimuli as in case of TB may cause adaptation in the pain sensory system and result in greater PPT and PPTo than aerobic training alone (BM) and no exercise (NA).