

---

## **PAIN TOLERANCE: DIFFERENCES ACCORDING TO SEX AND SPORT**

S. Burke, Mathematics, University of Great Falls, Great Falls, MT. 59405

A. Shafer, Ph. D., University of Great Falls, Great Falls, MT. 59405

Numerous studies have independently examined gender differences in experimental pain, but few have examined the different surfaces of play that may influence an athlete's pain tolerance. The present experiment examined the effects of race, gender, and sport on experimental pain tolerance and threshold. Forty (10 female basketball, 10 male basketball, 10 female soccer, 10 male soccer) collegiate athletes were given two pain tolerance tests consisting of a cold water intolerance test (CWIT) and a tourniquet pain test (TPT). The CWIT measured the maximum length of time that each athlete could place his/her hand in an ice cold bucket of water (2°C). The TPT measured the maximum length of time that each athlete could repeatedly squeeze a hand grip dynamometer while blood was occluded from the arm. A series of ANOVA tests determined if there were significant differences in pain tolerances between race, gender, and sport. Based on the results, there are no differences in pain tolerance when comparing sport; however, there is a significant difference ( $p < 0.05$ )

in pain tolerance when comparing race and gender. The CWIT shows that white females have a significantly higher pain tolerance than non-white females; however, there is no significant data that shows that white males have a higher pain tolerance than non-white males. These data are beneficial for physicians, trainers, coaches, etc. because they now know to treat injuries of both males and females of indoor and outdoor sports equally because sport has no effect on pain tolerance.