

## The Comparison of Dismount Skill between National and International Men's Artistic Gymnastics in Parallel Bars Apparatus

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**Abstract :** Aim —To compare the dismount skill between Taiwanese and elite international gymnastics in parallel bars following the 2017-2020 code of points. Methods—The gymnasts who advanced to the parallel bars event finals of these four competitions including World Championships, Universiade, the National Games of Taiwan, and the National Intercollegiate Athletic Games of Taiwan both 2017 and 2019 were selected in this study. The dismount skill of parallel bars was analyzed, and the average difficulty score was compared by one-way ANOVA. Descriptive statistics were applied to present the type of dismount skill and the difficulty of each gymnast in these four competitions. The data from World Championships and Universiade were combined as the international group (INT), and data of Taiwanese National Games and National Intercollegiate Athletic Games were also combined as the national group (NAT). The differences between INT and NAT were analyzed by the Chi-square test. The statistical significance of this study was set at  $\alpha = 0.05$ . Results— i) There was a significant difference in the mean parallel bars dismount skill in these four competitions analyzed by one-way ANOVA. Both dismount scores of World Championships and Universiade were significantly higher than in Taiwanese National Games and National Intercollegiate Athletic Games ( $0.58 \pm 0.08$  &  $0.56 \pm 0.08 > 0.42 \pm 0.06$  &  $40 \pm 0.06$ ,  $p < 0.05$ ). ii) Most of the gymnasts in World Championships and Universiade selected the 0.6-point skill as the parallel bars dismount element, and for the Taiwanese National Games and the National Intercollegiate Athletic Games, most of the gymnasts performed the 0.4-point dismount skill. iii) The result of the Chi-square test has shown that there was a significant difference in the selection of parallel bars dismount skill. The INT group used the E or E+ difficulty element as the dismount skill, and the NAT group selected the D or D- difficulty element. Conclusion— The level of parallel bars dismount in Taiwanese gymnastics is inferior to elite international gymnastics. It is suggested that Taiwanese gymnastics must try to practice the F difficulty dismount (double salto forward tucked with half twist) in the future.

**Keywords :** Artistic Gymnastics World Championships, dismount, difficulty score, element

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