Pacing Strategies in the 200 Yard Freestyle by Collegiate Men

PETER E. ROBINSON and SCOTT P. MCLEAN PH.D

Human Performance Lab; Kinesiology; Southwestern University; Georgetown, TX

Category: Undergraduate

Advisor / Mentor: McLean, Scott, mcleans@southwestern.edu

ABSTRACT

Examination of components of a 200 yd freestyle race may provide useful information for understanding how pacing strategy contributes to successful performance. **PURPOSE:** To compare 50-yd splits of a 200-yd freestyle race in higher performing and lower performing swimmers to assess if pacing strategy differs between groups. **METHODS:** An ex post facto design was used to create a dataset of 200 yd freestyle results. Splits were generated for each 50 yard segment of a 200 yd race for two performance groups of swimmers; the first and last four finalists in eight conference championships each for NCAA Division I and NCAA Division III (16 meets total). Standardized splits were calculated as a percentage of total race time. Pacing between groups was compared separately for each NCAA Division using a 2x4 (group x split) Mixed Model ANOVA. Significant group x split interactions were followed with independent samples t tests to compare each split time between groups. Stepwise Multiple Linear Regression was used to examine the contribution of splits to final place using both absolute and standardized split times. **RESULTS:** A significant interaction between Group and Split was found for Division 1 (p=0.002) and Division 3 (p=0.00) absolute data, as well as standardized data (p=0.024 and p=0.001, respectively). Subsequent independent t-tests revealed the third 50 of top performers (23.42 ± 0.59 s) to be significantly faster (t=8.263, p=0.000) than lower placing swimmers (25.29 ± 0.61 s) for Division 1. Similarly, for Division 3 swimmers the third 50 of top performers (26.08 ± 0.22 s) to be significantly faster (t=5.696, p=0.000) than lower placing swimmers (28.60 ± 2.46 s). Regression analysis suggested that the third 50 of the race significantly predicted place and explained 52.4% of the variance in place (β = 0.724, R² = 0.524, p = 0.000) in Division 1 athletes. Likewise, in Division 3, the third 50 also significantly predicted place and explained 34.4% of the variance in place (β = 0.586, R² = 0.344, p = 0.000). **CONCLUSION:** The third 50 is most indicative of success in the 200y freestyle for NCAA men in both Division 1 and 3, despite high variability in Division 3 data. Thus, top performers in both divisions place more emphasis on the latter half of the race, specifically in the third 50.