

Physical Exertion and Fatigue: A Breakthrough in Choking Sphere

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Abstract : Choking in sport has been defined as 'an acute performance breakdown', and is generally explained through a range of contributory antecedents, factors, and explanatory theories. The influence of mental antecedents on an athlete's performance under pressure has been widely examined through numerous studies. Researchers have only recently begun to investigate the influence of physical effort and associated residual fatigue as a potential contributor to choking in sport. Consequently, the initial aim of the present study was to examine the extent to which both physical exertion and pressure affect free-throw shooting performance. It was hypothesized that the free-throw shooting scores would decline under manipulated conditions. Design and Methods: Using a within-subjects design, 50 student-athletes were assigned to four manipulated conditions: (a) higher pressure-running, (b) higher pressure-no running, (c) lower pressure-running, and (d) lower pressure-no running. The physical exertion was manipulated by including a 56 meter shuttle-run in two of the running conditions. The pressure was manipulated with the presence of an audience, video-recording, performance contingent rewards, and weighting successful shots in the higher pressure conditions. A repeated measure analysis of variance was used to analyse the data. Results: The free-throw performance significantly deteriorated under manipulated physical exertion $F(1, 49) = 10.13$, $p = .003$, $\eta^2 = .17$ and pressure conditions $F(1, 49) = 5.25$, $p = .02$, $\eta^2 = .09$. The lowest free-throw scores were observed in the higher pressure-running condition, whereas the highest free-throw scores were reported in the lower pressure-no running condition. Conclusions: Physical exertion and the associated residual fatigue were contributors to choking. The results of the present study herald a new concept in choking research and yield a practical platform for use by athletes, coaches, and sport psychologists to better manage the psychological and physiological aspects of performance under pressure.

Keywords : anxiety, basketball, choking, fatigue, free-throw shooting, physical exertion

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