

The impact of goal-directed motivational versus instructional self-talk on the lift performance of skilled CrossFit Athletes

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Introduction. Self-talk (ST) has been shown beneficial to improve performance in various sports disciplines. Instructional ST (I-ST) aids to focus on technique and skills, whereas motivational ST (M-ST) can be used to boost strength and endurance. The latter has also been proposed more beneficial in skilled athletes. Olympic Weightlifting (OW) requires both a high level of technical skills and strength, and the current study investigated whether goal-directed M-ST or I-ST was more beneficial to improve lift performance in CrossFit (CF) athletes. The difference between more and less skilled CF athletes was explored in a secondary analysis. **Methods.** Fifteen CF athletes were recruited (age 26.7 (\pm 5.2) years; 11 men; 6 more experienced). The lift performance was assessed during no ST, M-ST, and I-ST (3 test conditions allocated in a randomized order). Each lift was completed at 75%, 85% and 95% of the athlete's 1 repetition maximum for every condition (randomized order of weights). Athletes verbalized their self-determined ST phrases aloud prior to every lift (M-ST, I-ST), or completed the lifts as per their usual strategies (No ST). Lift performance was scored qualitatively (ordinal scoring: fail, pass with technical errors, pass), and quantitatively (temporal and kinetic parameters using bar path analysis). Lift performance was compared between the 3 test conditions, and the impact of ST was compared between more and less experienced CF athletes. **Results.** The *qualitative scoring* of the lift performance did not differ significantly between the 3 test conditions ($p > .05$). However, the number of failed lifts reduced with ST, especially for the I-ST condition. M-ST increased the number lifts performed with technical errors. Additionally, M-ST reduced the number of failed lifts in the more experienced group, whereas I-ST reduced the number of fails in the less experienced group. Comparison between the ST conditions also showed no significant differences for any of the *temporal or kinetic parameters* extracted for both lifts. Results for the comparison between the more and less experienced group were highly variable. **Discussion and Conclusion.** The current study could not demonstrate a statistically significant effects of ST on the lift performance of CF athletes. The underlying requirements of OW (technique and power) might require a combined M-ST and I-ST function to improve lift performance. Inspection of the data did show that I-ST reduced the number of failed lifts, whereas motivational ST had a negative impact on the quality of the lift performance, especially in less experienced CF athletes. Further studies are required to determine the optimal type of ST for OW and thus to define strategies that could assist coaches and athletes to optimize performance in this sport discipline.

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