

Poster presentation

## Examination of a pre-exercise high energy drink on exercise performance

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### Background

The purpose of this study was to examine the effect of a pre-exercise high energy drink on reaction time and anaerobic power in competitive strength/power athletes. In addition, the effect of the pre-exercise drink on subjective feelings of energy, fatigue, alertness and focus was also explored.

### Methods

Twelve male strength/power athletes ( $21.1 \pm 1.3$  y;  $179.8 \pm 7.1$  cm;  $88.6 \pm 12.1$  kg;  $17.6 \pm 3.3\%$  body fat) underwent two testing sessions administered in a randomized and double-blind fashion. During each session, subjects reported to the Human Performance Laboratory and were provided either 120 ml of a high energy drink (S), commercially marketed as Redline® or 120 ml of a placebo (P). The placebo was similar in taste and appearance but contained no active ingredients. Following consumption of the supplement or placebo subjects rested quietly for 10-minutes prior to completing a 4-question survey and commencing exercise. The survey consisted of 4 questions asking each subject to describe their feelings of energy, fatigue, alertness and focus at that moment. Following the completion of the questionnaire subjects performed a 2-minute quickness and reaction test on the Makoto testing device (Makoto USA, Centennial CO) and a 20-second Wingate Anaerobic Power test. Following a 10-minute rest subjects repeated the testing sequence and after a similar rest period a third and final testing sequence was performed. The Makoto testing device consisted of subjects

reacting to both a visual and auditory stimulus and striking one out of 30 potential targets on three towers.

### Results

Significant difference in reaction performance was seen between S and P in both average number of targets struck ( $55.8 \pm 7.4$  versus  $51.9 \pm 7.4$ , respectively) and percent of targets struck ( $71.9 \pm 10.5\%$  versus  $66.8 \pm 10.9\%$ , respectively). No significant differences between trials were seen in any anaerobic power measure. Subjective feelings of energy ( $3.5 \pm 0.5$  versus  $3.1 \pm 0.5$ ) and focus ( $3.8 \pm 0.5$  versus  $3.3 \pm 0.7$ ) were significantly higher during S compared to P, respectively. In addition, trends towards an increased alertness ( $p = 0.088$ ) and a decreased fatigue ( $p = 0.091$ ) were also seen in S compared to P.

### Conclusion

Results indicate a significant increase in reaction performance during exercise, with no effect on anaerobic power performance. In addition, ingestion of this supplement significantly improves subjective feelings of focus and energy.

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