Will Trained Crossfit Athletes Continue To See Fitness Benefits Or Will They Plateau?

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Abstract

. INTRODUCTION: Crossfit training is defined as constantly varied functional movements performed at relatively high intensity. Research has shown drastic gains in fitness when using a constantly varied approach to training as well as training at high intensities for short durations.
PURPOSE: The purpose of this study was to determine if trained Crossfit athletes would continue to see fitness benefits or plateau with training.
METHODS: Ten members of Crossfit Fervor both men and women (age 36.5 ± 9.74 yrs) that had been training a minimum of three months volunteered to participate in this study. Each participant had body fat percentage measured using seven skinfold sites (tricep, subscapular, midaxillary, pectoral, abdomen, suprailiac and thigh). Waist and hip measurements were taken to determine waist to hip ratio (WHR). Each participant weighed on the scale at the gym and self reported height to determine body mass index (BMI). Each athlete performed an upper body max strength test (overhead press), a lower body max strength test (back squat) and a local endurance test (two minute push up test). Each participant was asked to continue training at his or her own frequency for thirty days which resulted in an average attendance of 13.3 sessions (±6.48). After thirty days all of the above measurements were retaken and recorded.
RESULTS: The percent body fat calculated from the seven skinfold sites using the appropriate formula based on age/ethnicity was 17.4 ± 5.6% before and 16.3 ± 5.6% after resulting in no significant difference (p=0.06). The WHR was 0.85 ± .08 before and 0.84 ± 0.08 after resulting in no significant difference (p=0.58). The BMI was 27.01 ± 4.62 before and 27.39 ± 4.5 after resulting in no significant difference (p=0.06). The upper body max strength test was 119 ± 43.96 pounds before and 126.5 ± 43.97 pounds after resulting in a statistical significance (p=0.005). The lower body max strength test was 214.5 ± 92.33 pounds before and 224.5 ± 95.73 pounds after resulting in a statistical significance (p=0.001). The local endurance test was 26.1 ±11.98 reps before and 29.4 ±13.79 reps after resulting in a statistical significance (p=0.0016).
CONCLUSIONS: The results of this study indicate that Crossfit training is effective in increasing upper and lower body strength as well as local endurance. However, no significant changes in body composition were found. Further research would be beneficial focusing on a larger group, specific gender, longer time frame or with a set training frequency.

Purpose

The purpose of this study was to determine if trained Crossfit participants would continue to experience fitness benefits or experience a plateau.

Methods

Ten participants from Crossfit Fervor that had trained a minimum of three months volunteered for this study (seven men and three women average age 36.5 ±9.7 years). All were assessed for body fat percentage using seven skinfold sites (tricep, subscapular, midaxillary, pectoral, abdomen, suprailiac and thigh), weight and self reported height were recorded to determine BMI and waist and hip measurements taken for Waist to Hip Ratio (WHR). Each participant performed an upper body max strength test (overhead press), a lower body max strength test (back squat) and a local endurance test (two minute push up test). Each participant was asked to continue training at his or her regular frequency.

Methods (cont'd)

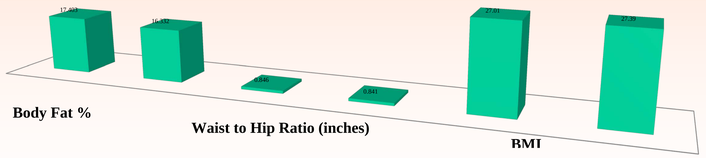
The participants were reassessed for all of the measurements after thirty days. The average attendance within the thirty day study was 13.3 ± 6.48 sessions.

Results

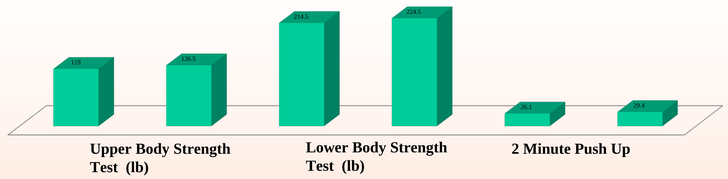
Results were calculated using a two tailed t-test. The average body fat percentage was 17.4 ±5.6% before and 16.3±5.6% approached significant difference (p=0.06). The WHR was 0.85 ± 0.08 before and 0.84 ± 0.08 after resulting in no significant difference (p=0.58). The BMI was 27.01 ± 4.62 before and 27.39 ± 4.5 also indicating an approach to a significant difference (p=0.06). The upper body max strength test was 119 ± 43.96 pounds before and 126.5±43.97 pounds after resulting in a statistical significance (p=0.005). The lower body max strength test was 214.5 ± 92.33 pounds before and 224.5 ± 95.73 pounds after resulting in a statistically significant difference (p=0.001). The local endurance test was 26.1 ± 11.98 reps before and 29.4 ± 13.79 reps after resulting in a statistically significant difference (p=0.0016).

Results (cont'd)

Pre and Post Measurements for Body Composition



Pre and Post Measurements for Strength and Endurance Tests



Conclusions

The results of this study indicate that Crossfit training is effective in increasing upper and lower body strength as well as local endurance. However, while no significant changes in body composition were found the results suggest that with a longer time frame, these results may have become significant. Further research would be beneficial focusing on a larger group, a longer time frame, a specific gender group or with a set training frequency.