Examination of Preference and Tolerance For Exercise Intensity and College Student Fitness

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Examination of Preference and Tolerance For Exercise Intensity and College Student Fitness

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Abstract

Individuals who prefer and tolerate higher intensity exercise demonstrate higher fitness levels over time. PURPOSE: To examine relationships between Preference (P) and Tolerance (T) for exercise intensity and fitness before and after 8-week college activity courses. METHODS: Participants were students in 8-week high-intensity functional training (HIFT; n=54, 54% male, age = 22 ±3 years) or traditional weight training (TWT; n=41, 71% male, age = 23 ±4 years). During the first and last class sessions, participants completed the 16-item Preference for and Tolerance of the Intensity of Exercise Questionnaire [3] (score range = 8 (low) - 40 (high)]. After a standardized warm-up, they completed vertical jump, hand grip, 2 min push-ups and 1 min squat tests. Using SPSS 25, bivariate correlations between P, T, and fitness tests were analyzed. RESULTS: Baseline P (HIFT = 28.1 ±5.3, TWT = 26.1 ±5.7) and T (HIFT = 26.3 ±4.7, TWT = 27.3 ±4.9) were similar between groups. HIFT P and T were significantly correlated at baseline with push-ups (r=0.39, p<0.004; r=0.32, p<0.019) and squats (r=0.36, p<0.032; r=0.39, p=0.004), respectively. TWT P was significantly correlated with baseline hand grip (r=0.59, p<0.001), and T with baseline vertical jump (r=0.52, p=0.001) and squats (r=0.49, p<0.003). HIFT T remained significantly correlated at posttest with push-ups (r=0.30, p=0.04) and squats (r=0.36, p=0.015). TWT T remained significantly correlated with posttest hand grip (r=0.48, p=0.003) and T with squats (r=0.40, p<0.019), but also with push-ups (r=0.45, p<0.009). CONCLUSIONS: P and T were positively correlated with fitness variables, although relationships differed by group and assessment period. P and T may be useful for predicting fitness levels in college students.

Background

• College activity classes provide structured exercise opportunities for students and can improve their fitness.1
• Exercise intensities that fall within a preferred range may increase exercise adherence; tolerance allows an individual to continue working at a high exercise intensity, even if it becomes unpleasant. 2
• Greater preference and tolerance for high intensity exercise has positively predicted higher fitness levels, but not fitness improvements.2

Hypothesis

Individuals who prefer and tolerate higher intensity exercise will demonstrate higher fitness levels over time.

Methods

Design

• Pre-test, post-test two group design

Participants

• Participants were college students in 8-week high-intensity functional training (HIFT) or traditional weight training (TWT) courses.
• HIFT: n = 54 (54% male, age = 22 ± 3 years)
• TWT: n = 41 (71% male, age = 23 ± 4 years)

Results

• As shown in Table 1, Preference and Tolerance were similar between groups at baseline.

Table 1. Preference and Tolerance scores by group at baseline

<table>
<thead>
<tr>
<th></th>
<th>HIFT</th>
<th>TWT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td></td>
<td>28.1 (5.3)</td>
<td>15-39</td>
</tr>
<tr>
<td>Tolerance</td>
<td>26.3 (4.7)</td>
<td>14-36</td>
</tr>
</tbody>
</table>

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Conclusions

Preference and Tolerance were positively correlated with fitness variables for each group, although those relationships differed by group and assessment period. Preference and Tolerance may be useful for predicting fitness levels in college students. Future research might examine whether Preference and Tolerance help predict differential drop-out from higher-intensity activity courses.

References