INTRODUCTION
- Physical fitness is important to overall health and each fitness component has certain health implications. Fitness assessments are used to predict health implications.
- College students with lower physical activity levels have higher rates of obesity and negative health outcomes.
- Most colleges students do not meet recommendations for physical activity despite knowing the benefits.

OBJECTIVES
- Assess the degree that perceptions of fitness are associated with measured fitness.
- To find out if and how intentions and behaviors change over time after receiving the results of a standardized fitness assessment.

METHODS
- 14 male and 14 female undergraduate students, median age 21.75.
- Question 1: Cross-sectional study
- Administered Perceptions survey prior to intervention to determine how participants expected to perform on fitness assessment compared to their actual performance on test.
- Analyzed using weighted kappa tests.
- Question 2: Quasi-experimental research question
- Accelerometers worn for one week following intervention and approximately 4 weeks later.
- Administered Intentions Survey questions prior to intervention and following each accelerometer wear time.
- Analyzed intentions level and physical activity from accelerometers using Wilcoxon matched pairs signed rank tests.
- Intervention: Fitness assessment using Fitness Assessment Measures (see below) and receiving results from fitness assessment

RESULTS

Table 1. Fitness Perceptions vs. Actual Performance on Fitness Assessment
Example: “Compared to others of the same age and gender, how would you classify your muscular strength?”

<table>
<thead>
<tr>
<th>Measure</th>
<th>Percent Agreement</th>
<th>Agreement (weighted kappa (SE), p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Composition</td>
<td>78.6%</td>
<td>0.37 (0.11), &lt;.001</td>
</tr>
<tr>
<td>Muscular Strength</td>
<td>75.9%</td>
<td>0.19 (0.11), 0.04</td>
</tr>
<tr>
<td>Muscular Endurance</td>
<td>71.4%</td>
<td>0.33 (0.10), &lt;.001</td>
</tr>
<tr>
<td>Flexibility</td>
<td>72.3%</td>
<td>0.25 (0.11), 0.01</td>
</tr>
<tr>
<td>VO2 Max</td>
<td>84.8%</td>
<td>0.39 (0.12), &lt;.001</td>
</tr>
</tbody>
</table>

Table 2. Intentions to Change Physical Activity Question Results
Example: “Please indicate how ready you are to make changes or improvements in your health in the following areas: Be physically active”

<table>
<thead>
<tr>
<th>Time 1 (n=27)</th>
<th>Time 2 (n=27)</th>
<th>Time 3 (n=17)</th>
<th>1 vs 2</th>
<th>2 vs 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not interested in making changes or improvements</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (5.9%)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>I have considered making healthier choices</td>
<td>2 (7.4%)</td>
<td>2 (7.4%)</td>
<td>1 (5.9%)</td>
<td></td>
</tr>
<tr>
<td>I am ready to make a change</td>
<td>3 (11.1%)</td>
<td>3 (11.1%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>I have started making healthier choices</td>
<td>13 (48.2%)</td>
<td>14 (52.9%)</td>
<td>8 (47.1%)</td>
<td></td>
</tr>
<tr>
<td>I make healthy choices on a regular basis</td>
<td>9 (33.3%)</td>
<td>8 (29.6%)</td>
<td>7 (41.2%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Physical Activity from Accelerometer Wear Times, mean (SD)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Time 2</th>
<th>Time 3</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPM</td>
<td>2,240 (1235.5)</td>
<td>1,998.0 (1235.5)</td>
<td>0.94</td>
</tr>
<tr>
<td>Steps</td>
<td>10,796.2 (1048.8)</td>
<td>10,989.0 (900.5)</td>
<td>0.46</td>
</tr>
</tbody>
</table>

Summary of Results:
- There was Fair or lower agreement between perceived and measured fitness components when analyzed using weighted kappa tests (Table 1).
- Changes in intentions were observed between time 1 and 2 but no significant changes in intentions occurred between time 2 and 3 (Table 2).
- There was no significant change in responses when asked about intentions to make behavior changes between time 2 and 3, and no significant change in perceived physical activity levels between time 2 and 3.
- There was no significant change in counts per minute or average steps per day between time 2 and time 3 (Table 3).

DISCUSSION/CONCLUSION
- Fitness testing is needed to educate a person on their physical fitness.
- Fitness testing interventions are effective at changing intentions but do not necessarily lead to behavior changes (2).
- Analysis of perceptions vs reality was similar to findings in other studies with like comparisons.
- Literature suggested that intentions are the main determinant of behavior change, but this study did not support this view.
- Advantages included an equal female to male ratio, a small age range and accuracy of fitness results due to quality of fitness tests.
- Limitations included lack of control over accelerometer wear time, participant bias on surveys and inability to complete follow ups due to COVID-19 school closure.
- Future studies might assess ways to influence behavior changes and might use a larger sample to get a more accurate analysis.

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REFERENCES

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