Mood Benefits of Exercise Among College Students

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Healthy Behaviors & Adherence

Why is this such an important issue?

[Diagram showing leading and actual causes of death in the United States, 2000.]

Light Green = high healthy range
Dark green = low healthy range
“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”
Exercise & mood: a reciprocal relationship

- Short bouts of exercise yield considerable psychological benefits; improving mood by reducing anxiety and increasing energetic arousal (Lutz et al., 2008).

- Found to be more effective than antidepressants in some clinical trials (Blumenthal et al. 2007).

- Exercise consistently helps to improve mood with each successive engagement (Steinberg et al., 1998).
The present study asks:

- After **freely** chosen physical activity, do people *report* experiencing mood enhancing effects when they reflect back on activity hours later?
Methods
Participants

- Total $N = 485$ UNH undergraduates
- Recruitment: SONA system
- Incentives: PSYCH 401, 402, 502 credit
<table>
<thead>
<tr>
<th>Descriptive Characteristics</th>
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</thead>
<tbody>
<tr>
<td><strong>Ethnicity</strong></td>
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<tr>
<td>• 92% Caucasian</td>
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<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>• 80% female</td>
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<tr>
<td><strong>Year at UNH</strong></td>
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<tr>
<td>• 60% freshman (18-19 years old)</td>
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<tr>
<td><strong>BMI</strong></td>
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<td>• 73.4% within healthy range (BMI = 18.5 – 24.9)</td>
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Did you engage in physical activity today? Yes/No

- Two Groups Created:
  - Physically Active Leisure Group \( N = 201 \)
  - Passive Leisure Group \( N = 284 \)
Procedures: central methodology

- Day Reconstruction Method
- Activation/Deactivation Adjective Checklist

- Type of Leisure
  - Active
  - Passive

- Time
  - 1 immediately before leisure
  - 2 immediately post leisure
  - 3 time of survey
Results
## 2 x 3 Repeated Measures ANOVA

### Ratings of Energetic Mood

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
<th>Total (per activity)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Leisure</strong></td>
<td>M = 2.72</td>
<td>M = 3.25</td>
<td>M = 1.86</td>
<td>M = 2.61</td>
</tr>
<tr>
<td><strong>Passive Leisure</strong></td>
<td>M = 2.13</td>
<td>M = 2.04</td>
<td>M = 1.75</td>
<td>M = 1.97</td>
</tr>
<tr>
<td><strong>Total (per time)</strong></td>
<td>M = 2.37</td>
<td>M = 2.54</td>
<td>M = 1.80</td>
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</tbody>
</table>
Interaction Effect
Independent samples $t$ test

- **Active Leisure**
  - Yes
  - No

- **Mean Energetic Mood**

- **Time**
  - 1
  - 2
  - 3
Paired samples $t$ test: Time 1 – 2
Paired samples $t$ test: Time 2 – 3

![Graph showing mean energetic mood over time for active leisure with 'Yes' and 'No' conditions.](image)
Regression Analyses

What else besides the type of activity is related to energetic mood change?

→ Dose Response Relationship
→ Expectancy Effects
→ Other Confounds
Discussion
Key Points

- Active leisure group experienced statistically significant increases in energetic mood post activity → passive leisure group did not.

- No evidence of any placebo or expectancy effect.

- Intensity predictive of energetic mood change → personality characteristics, having an exercise partner, BMI, time of day/ day of week were not
Study Limitations

- Non experimental study limits ability to make causal inference
  - But, our format allows us to achieve something not possible in experimental studies
  - Freely chosen activity...what do participants remember?

- Sample was homogenous
  - Remember the Healthy Behaviors Map.....

- Additional mood measures
Implications

- **Immediate mood benefits** from exercise may provide **stronger motivation** for exercise adherence than more general information about long term benefits of exercise.
References

Acknowledgements

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Questions??