Findings and Lessons Learned

Feasibility and Preliminary Effectiveness of a Web-Based Physical Activity Intervention for Working Mothers

Jennifer Huberty, PhD¹, Emily Mailey, PhD², Brandon Irwin PhD²

¹ Exercise and Wellness, Arizona State University
² Department of Kinesiology, Kansas State University
Background

• Working mothers identified as a segment of the population that exhibit high levels of inactivity\textsuperscript{1}
• Barriers to physical activity (PA) in working mothers include\textsuperscript{1}:  
  • Lack of time  
  • Guilt  
  • Lack of social support  
• Interventions needed to help working moms overcome barriers by fostering self-worth, promoting self-care, teaching self-regulatory strategies for PA
Background

• Fit Minded
  • Evidence & theory-based book club intervention
    • Meaningful benefits of PA related to well-being
    • Set realistic, attainable goals
    • Improve self-worth and physical activity
Background

- Originally developed for face-to-face
  - Evolved based on evidence and satisfaction surveys
- Online component: self-monitoring, workbook, discussion and support
  - Feasible delivered through a tablet
    - felt less support and attended fewer meetings than face to face
Although web-based interventions have shown improvements in PA - lack of engagement is significant challenge.
To examine the feasibility and effectiveness of using podcasts and discussion delivered via a self-directed, web-based intervention, *Fit Minded Working Mothers*, to promote physical activity, self-worth and increase engagement among working mothers.
Methods

- Eligibility assessed online
- Inclusion
  - Working at least 30 hours/wk
  - Child under 12 years living at home
  - Engage in less than 150 min/wk PA
- Recruitment through schools, childcare centers, bloggers, mom groups using social media or website
Methods

- **Fit Minded Working Mothers (n=69)**
  - Randomized, 8-week intervention

<table>
<thead>
<tr>
<th>Standard Group</th>
<th>Enhanced Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 weeks</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Online</td>
<td>Online</td>
</tr>
<tr>
<td>Guided by self-determination theory and social cognitive theory</td>
<td>Guided by self-determination theory and social cognitive theory</td>
</tr>
<tr>
<td>Participants instructed to complete 3 tasks each week:</td>
<td>Participants instructed to complete 3 tasks each week:</td>
</tr>
<tr>
<td>1. listen to podcast (autonomy)</td>
<td>1. listen to podcast (autonomy)</td>
</tr>
<tr>
<td>2. complete assignment in workbook (competence)</td>
<td>2. complete assignment in workbook (competence)</td>
</tr>
<tr>
<td>3. communicate on discussion board (relatedness)</td>
<td>3. communicate on discussion board (relatedness)</td>
</tr>
<tr>
<td>Smaller groups of 4-5 and asked to complete additional weekly tasks:</td>
<td>Smaller groups of 4-5 and asked to complete additional weekly tasks:</td>
</tr>
<tr>
<td>1. Group cohesion (e.g., create team names, group goals)</td>
<td>1. Group cohesion (e.g., create team names, group goals)</td>
</tr>
<tr>
<td>2. Discussion questions about specific aspects of the podcasts</td>
<td>2. Discussion questions about specific aspects of the podcasts</td>
</tr>
</tbody>
</table>
Methods

- **Podcasts**
  - 20-30 minutes
  - Self-renewal
  - Stress reduction
  - Work-life balance
  - Mindfulness

- **Workbook**
  - 10-15 minutes
  - Self-regulatory skills
  - Setting short and long-term goals
  - Plans to overcome barriers
  - Asking for support
  - Pedometer log
Methods

• Outcome measures (baseline, week 8, week 16):
  • physical activity
  • self-worth
  • exercise motivation
  • self-efficacy
  • program evaluation
## Demographics (N=69)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)/Freq(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>35.88 (5.14)</td>
</tr>
<tr>
<td>Age of youngest child</td>
<td>3.16 (3.09)</td>
</tr>
<tr>
<td># of children</td>
<td></td>
</tr>
<tr>
<td>one child</td>
<td>31 (45%)</td>
</tr>
<tr>
<td>two or more children</td>
<td>38 (55%)</td>
</tr>
<tr>
<td>Married/partnered</td>
<td>63 (91%)</td>
</tr>
<tr>
<td>Employment hours/week</td>
<td>41.44 (6.11)</td>
</tr>
<tr>
<td>College graduate</td>
<td>65 (94%)</td>
</tr>
<tr>
<td>Annual Household Income</td>
<td></td>
</tr>
<tr>
<td>&gt;$60,000</td>
<td>58 (84%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>60 (87%)</td>
</tr>
<tr>
<td>Asian American</td>
<td>7 (10%)</td>
</tr>
<tr>
<td>African American</td>
<td>2 (3%)</td>
</tr>
</tbody>
</table>
Results

• PA (p<0.001) and self-worth (p<0.001) increased significantly in both groups
• Introjected (p<0.001) and external motivation (p<0.04) decreased significantly in both groups
Results

- Website usage declined significantly in both groups (p<0.001)
- Discussion board use significantly higher in enhanced group (p=0.04)
What did you like most about the intervention?

**Program Content – 60.0% (21/35)**
- “I liked the variety of content-- the workbook readings and podcasts were all different in both style and content from week to week.”

**Podcasts – 54.3% (19/35)**
- “I loved the podcasts and their content, and especially because I could listen to them while I did other things…”

**Pedometer – 17.1% (6/35)**
- “I liked the pedometer, being able to track and enter data from the pedometer…”
Satisfaction

What did you least like about the intervention?

• Lack of discussion group participation – 37.8% (14/37)
  • “I didn't feel as connected to the other women in my group because we didn't all participate in the forums…”

• Time Commitment – 16.2% (6/37)
  • “Although it really did not take too much effort, I found the amount of work to end up being a little too much for my busy schedule.”
What changes/improvements could be made?

• Greater discussion board participation – 36.1% (13/36)
  - “I think some kind of incentive to encourage more discussion throughout the week would be helpful.”
  - “Some more interaction from a moderator to help stimulate conversation on the discussion boards.”
  - “More interaction between fit minded staff on the discussion board.”
  - “Bigger discussion groups might help keep more of a conversation going, since not all really participate.”
Discussion

- First study to incorporate podcasts and group dynamic based strategies to promote engagement in a web-based PA intervention

- Web-based interventions may
  - Improve PA and self-worth
  - Decrease motivation (external, introjected) that have been linked with low physical activity maintenance\(^4\)
What can we do to strengthen the intervention?

• Interaction and support from staff
• Orientation meeting to outline study (weekly tasks) and help women get to know each other
• Content tailored to participants initial self-efficacy/readiness
  • those who completed had lower self-efficacy at baseline than those who dropped out
What can we do to strengthen the intervention?

• Group dynamics strategies (additional weekly group activities) did not increase website usage as hypothesized
  • Modifications to website/discussion board
    • Notifications when others post
    • Time sensitive – mobile app friendly (i.e., similar to Facebook)
    • Formative work for suggestions from working moms specifically
What are the next steps?

- Appropriate control group
- Determining how to optimize the usability of web-based interventions in working mothers
  - Podcasts and content favorable
    - Formative research for podcasts
  - Incorporate fitness tracker
  - Incorporate group video chat
Acknowledgements

Emily Mailey, PhD
Brandon Irwin, PhD
Students that helped implement the study from both ASU & KSU
References