Psychometric Characteristics of the SCI Exercise Self-Efficacy Scale (ESES): Preliminary Findings

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Objective
To develop a psychometrically sound exercise self-efficacy measure for people with spinal cord injury

Background
Self-Efficacy is one of the most widely researched concepts in health promotion. It has found application in research on weight exercise curricula for adults with spinal cord injury (Wise, Ellis & Trunnell, 2002). While multiple fairly generic or highly specific self-efficacy measures exist, many lack sound psychometric examination. Moreover, tools are needed that assess exercise self-efficacy with regard to physical activities that people with SCI can conduct in the community, and that are not limited to one specific area of physical activity.

Method
- We developed the 10-item 4-point Likert SCI Exercise Self-Efficacy Scale (ESES) based on a review of the literature. Specifically, we examined the foundations for exercise self-efficacy in the Social Cognition Theory (Bandura, 1997) and its operationalization in the form of existing instruments. We invited consumer input into the development of the scale using Internet-based Webcast technology.
- The ESES was administered as part of the first wave of a nationwide survey on exercise behavior.
- Reliability of the scale was determined by computing internal consistency (alpha) and split-half (Spearman Brown) coefficients.
- Content validity and cognitive appropriateness were determined in six cognitive interviews with individuals with SCI from diverse demographic and educational backgrounds.
- Convergent validity was obtained by correlating the ESES with the 10-item Generalized Self-Efficacy Scale (Bandura, 1997).

Reliability

<table>
<thead>
<tr>
<th>ESES: Items</th>
<th>GSE: Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident that:</td>
<td>I am confident that:</td>
</tr>
<tr>
<td>Not at All True</td>
<td>Always True</td>
</tr>
<tr>
<td>Rarely True</td>
<td>Moderately True</td>
</tr>
<tr>
<td>Occasionally True</td>
<td>Often True</td>
</tr>
<tr>
<td>Sometimes True</td>
<td>Usually True</td>
</tr>
<tr>
<td>I can overcome barriers and challenges with regard to physical activity and exercise if I try hard enough</td>
<td>I can always manage to solve difficult problems if I try hard enough</td>
</tr>
<tr>
<td>I can find means and ways to be physically active and exercise</td>
<td>If someone opposes me, I can find the means and ways to get what I want</td>
</tr>
<tr>
<td>I can accept physical activity and exercise goals I set</td>
<td>It is easy for me to stick to my aims and accomplish my goals</td>
</tr>
<tr>
<td>I can overcome any problems I encounter in exercising</td>
<td>That I could deal with exercise-related problems</td>
</tr>
<tr>
<td>I can usually find several solutions to overcome this barrier</td>
<td>There is no need to take a break if you get tired</td>
</tr>
<tr>
<td>I can be physically active or exercise even when I am tired</td>
<td>I can solve most problems if I invest the necessary effort</td>
</tr>
<tr>
<td>I can overcome barriers and challenges with regard to physical activity and exercise if I try hard enough</td>
<td>I can remain calm when facing difficulties because I can rely on my coping abilities</td>
</tr>
<tr>
<td>I can usually handle whatever comes my way</td>
<td>When I am confronted with a problem, I usually find several solutions</td>
</tr>
</tbody>
</table>

ESSES: Items

- Initials: __________________ ID: ____________________
- Sample characteristics of SCI respondents
  - Participants (Reliability analysis; n=368)
    - 60.1% male; M age=r 46.29 (SD=12.55)
    - 85.9% Non-Hispanic White
    - 7.3% Non-Hispanic Black
    - 1.1% Asian/Pacific Islander
    - 4.1% Hispanic or other
    - 53.3% incomplete injuries

ESSES Split-half
- Equal-Length Spearman Brown; n=53: .8750
- EL Spearman Brown (part 1): .843
- EL Spearman Brown (part 2): .8651

ESSES Split-half
- EL Spearman Brown (n=53): .8750
- EL Spearman Brown (part 1): .8017
- EL Spearman Brown (part 2): .7405

Conclusions
There was a statistically significant correlation between Exercise Self-Efficacy Scale (ESSES) and Generalized Self-Efficacy Scale (GSE) (Spearman RHO=.316; pr. 05; n=53, 2-sided)

References

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