The Relationship Between Cognitive, Motor, and Affective Symptoms and Computer Use in Individuals with Multiple Sclerosis

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Multiple sclerosis (MS) can result in impairments in motor, cognitive, and affective symptoms which can affect engagement in instrumental activities of daily living (IADLs). Computers can provide a means for IADLs, such as financial management, online shopping, communication management, and health maintenance. Based on past research indicating that individuals with disabilities use computers less than healthy controls, we predicted this same trend among individuals with MS.

**Introduction**

- Results indicate that anxiety symptoms are the most salient obstacle to computer utilization in individuals with MS.
- Although anxiety was the largest predictor, motor and cognitive symptoms still play a role in computer use and competency. Treatment should therefore address all of these symptoms.

**Study limitations**

- The use of a convenience sample as HC led to between-group demographic differences.
- Only self-report measures were used and results were therefore highly reflective of subject self-perception.

**Future Directions**

- Future directions for research include examining the relationship between perceived and actual computer performance and exploring the role of self-efficacy in computer engagement.
- Treatment for MS patients should contain physical, cognitive, and affective elements to promote increased IADL functioning.

**Objectives**

- The aim of this study was (1) to compare computer use and computer competency in individuals with MS with healthy controls (HC) and (2) to examine the relationship between computer use and competency and cognitive, motor, and affective symptoms in persons with MS.
- Examining the implications of these findings will help guide treatment and promote greater computer use and competency in individuals with MS.

**Methods**

- Cognitive functioning was evaluated through The MSCOG, a battery of cognitive measures validated on the MS population.
- Anxiety and Depression were assessed by the State Trait Anxiety Inventory (STAI) and the Chicago Multiscale Depression Inventory.
- Computer use and competency were assessed by the Computer Use Questionnaire.
- Fine and gross motor functioning were assessed through The 9 Hole Peg Test (9-HPT) and the 25 Foot Walk.

**Results**

- * indicates significance at the \( P < .05 \) level
- ** indicates significance at the \( P < .01 \) level

**Conclusions**

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**Demographic Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>MS (n=42)</th>
<th>HC (n=40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean</td>
<td>48.8</td>
<td>44.45</td>
</tr>
<tr>
<td>Employed</td>
<td>20 (30.8%)</td>
<td>27 (67.5%)</td>
</tr>
<tr>
<td>Years of Education</td>
<td>15.33</td>
<td>17.08</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6 (9.2%)</td>
<td>14 (35%)</td>
</tr>
<tr>
<td>Female</td>
<td>36 (86.2%)</td>
<td>26 (65%)</td>
</tr>
</tbody>
</table>

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