Association Between Received Rehabilitation Services, Self-advocacy, Psychosocial Adaptation, and Employment in Persons with SCI

Veronica I. Umeasiegbe, Ph.D., CRC.
University of Texas Rio Grande Valley

Special thank you to the following for funding this study; Arvle and Ellen Turner Thacker Research Fund and Blackhurst Student Research Fund, University of Kentucky
Today’s Agenda

• Discuss the findings of SCI exploratory research
• Stimulate interest in the application of ICF in research
• Emphases the value of self-advocacy & psychosocial adaptation in community participation (e.g. employment)
• Encourage interest in self-advocacy and psychosocial adaptation in patient-centered outcomes research
Background on SCI

- Traumatic spinal cord injury (SCI)
  - A catastrophic injury leading to significant functional loss
    - Functional limitation depends on level of injury and severity.

- Approx. 273,000 persons living with SCI in the United States
  (National Spinal Cord Injury Statistical Center; NSCISC, 2015).
Background on SCI

- Despite improved healthcare services and rehabilitation:
  - Social and architectural barriers
  - Disparities exist in access to health care
  - Low participation in employment and education
  - Unsatisfactory engagement in the community.
  - Low quality of life

(Crewe & Krause, 2002; NSCISC, 2015; Yuen, & Wolf, 2010)
Background on SCI

• Employment
  – More than half (57.1%) of those persons with SCI admitted to a model system reported being employed at the time of their injury.

  – At one year after injury, 11.8% of persons with SCI are employed.

  – By 20 years post-injury, 34% are employed

(NSCISC, 2015)
Rationale for Study

• Unsatisfactory participation in employment calls for re-evaluation of the rehabilitation services that individuals receive after their injury.

• Historically, healthcare services are based on medical model
  – A holistic/multiple approach is warranted in understanding the barriers and facilitators of employment in SCI.
Objectives of Study

- To evaluate the relationships between multiple variables and employment for individuals with SCI.
- To identify types of rehabilitation services provided to individuals with SCI.
Important Definition

• Psychosocial Adaptation
  – “An evolving, dynamic, general process through which the individual gradually approaches a state of person-environment congruence”

(Livneh & Antonak, 1997, p. 8)
Important Definition

• Psychosocial Adaptation
  – Achieving a state of person-environment congruence is evident when the individual accepts the new identity presented by the disability, participates actively in employment and other social engagements, and gets involved in his or her chosen activities as a member of the community

(Livneh & Antonak, 1997)
Important Definition

• Self-advocacy
  – Assertiveness and involvement in decision making on one’s health based on self-education and knowledge (Brashers, 1999).
  – Linked to reduced psychiatric symptoms, increased hopefulness, and increased motivation to receive services (O’Neal et al., 2008).
  – Limited research on impacts of self-advocacy on community participation after SCI
Important Definitions

• Biopsychosocial Model
  – A shift from medical model to integrative model of health and disability

  – View of various dimensions of health at the biological, individual and social levels.

(WHO, 2001)
Important Definitions

• Environmental Factors:
  – products and technology, natural environment, social support, attitudes of others, and service systems and policies

• Personal Factors:
  – person level characteristics, such as age, gender, race/ethnicity, marital status, socioeconomic status, coping style; self-advocacy, psychosocial adaptation, habits.

(WHO, 2001)
Important Definitions

• Activity
  – General task demands, self-care, mobility; using equipment to move around.

• Participation
  – Involvement in life situations
    • Interpersonal interactions and relationships, recreational activities, education, employment, other social involvements.

(WHO, 2001)
Theoretical Framework

International Classification of Functioning, Disability and Health (ICF; WHO, 2001)

Health condition
(disorder or disease)

Body Functions & Structure

Activity

Participation

Environmental Factors

Personal Factors

Contextual factors

WHO, 2001
Conceptualization of the Study Using the ICF Framework

- Body structure/function
  - Injury level
  - SCI-related complications

- Environmental factors
  - Received rehabilitation services

- Personal factors
  - Adaptation
  - Self advocacy

- Activity
  - Wheelchair use

- Participation
  - Employment
Research Question 1 (RQ #1)

• What relationships exist between select multiple variables and employment among individuals with SCI?
  – which of these variables predict employment?
RQ #1

- Selected variables (observed variables)
  - level of injury (LI)
  - wheelchair use (WC)
  - medical complications (COMP)
  - received rehabilitation services (RRS)
  - self-advocacy (SA)
  - psychosocial adaptation (AD)

- Employment (EMP)
  - latent variable
Hypothesized Relationships Among Variables
RQ # 2

- What rehabilitation services were provided to individuals with SCI and which professionals provided such services?
Method

• Research Design
  – Cross-sectional study

• Descriptive Analysis

• PATH Analysis
Participants and Recruitment

• Recruited through hospitals and organization from Kentucky, Pennsylvania, and South Carolina

  – Individuals receiving care from SCI rehabilitation hospitals

  – Members of SCI association
Sampling and Participants

- Convenient sampling
- Sample size determined using online software “Statistics Calculators Version 3.0” (Soper, 2012)
  - Sample size of 156 for a medium effect size
- Selection criteria
  - Include: 18-65 years old, diagnosed with SCI (≥1 year), reading level ≥ 6th grade, live in community
  - Exclude: diagnosed with severe traumatic brain injuries or severe profound intellectual disabilities
Procedure

- Research protocol received IRB approval.
- Study package (e.g., flyer, and survey) sent to SCI-registries affiliates & hosted online
  - 550 flyers/surveys sent; anticipated response rate was 40%
- Data collection through mail and internet survey
Study Instrument

• Community Integration Questionnaire (CIQ; Willer et al, 1993)

• Disability Centrality Scale (DCS; Bishop, 2005)

• Self-advocacy Questionnaire (SAQ; Adams, 2007)

• Received Rehabilitation Services Scale (RRSS; Umeasiegbu, 2013)
Data Analysis

- Statistical Package for Social Sciences (SPSS) 21.0 for Windows used for management of data and descriptive statistics

- AMOS 21.0 used for PATH analysis
Gender

- Male: 63.7%
- Female: 36.3%
Ethnicity

- Caucasians: 81%
- African Americans: 13%
- Native American/American Indian: 6%
Cause of Injury

- Auto/vehicle accident: 71%
- Fall: 6.9%
- Sport-related injury: 1.9%
- Illness: 1.2%
- Military-related injury: 2%
- Gun/violet act: 17%
Level of Injury

- Cervical 4 - 7: 46.1%
- Thoracic 6 - 12: 34.2%
- Thoracic 1 - 5: 12.5%
- Cervical 1 - 3: 5.4%
- Lumber: 1.8%
Level of Education

- Some college: 25.6%
- College graduate: 20.5%
- High school/GED: 22.3%
- Graduate school: 22.3%
- Grade 10-12: 17.7%
- Vocational/technical training: 8.1%
Residential Setting

- Urban: 70.80%
- Suburban: 12.50%
- Rural: 16.70%
## Employment

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Before Injury</th>
<th>After Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time employment</td>
<td>70.3%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Part-time employment</td>
<td>11.7%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Volunteer employment</td>
<td>1.4%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Unemployed; not seeking</td>
<td>0.0%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Unemployed; seeking</td>
<td>1.4%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Student</td>
<td>22.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Home-maker</td>
<td>0.0%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Retired</td>
<td>2.3%</td>
<td>16.9%</td>
</tr>
</tbody>
</table>
RQ #1. What relationships exist between select multiple variables and which variables predict employment among individuals with SCI?

PATH diagram of proposed model
Respecified model: Research Question

LI -> EMP: .13
LI -> WC: .38***
LI -> RRS: -.05

RRS -> WC: .21
RRS -> SA: .26***

WC -> EMP: .14

SA -> AD: .41***
SA -> EMP: .27***
RQ #1: Discussion

• Received rehabilitation services (.15); wheelchair use (.02), and psychosocial adaptation (.27) had positive correlation with employment

• Received rehabilitation services had positive correlation to both psychosocial adaptation (.14) and self-advocacy (.26)

• Self-advocacy had the greatest correlation (.41) to psychosocial adaptation
RQ #2: Types of Services Received

<table>
<thead>
<tr>
<th>Type of Rehabilitation Services Received</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding my injury</td>
<td>73.3</td>
</tr>
<tr>
<td>Self-care</td>
<td>70.3</td>
</tr>
<tr>
<td>Using assistive technology</td>
<td>59.4</td>
</tr>
<tr>
<td>Managing medications and SCI complications</td>
<td>55.4</td>
</tr>
<tr>
<td>Psychological counseling</td>
<td>43.6</td>
</tr>
<tr>
<td>Sexuality issues</td>
<td>32.7</td>
</tr>
<tr>
<td>Living in the community with SCI</td>
<td>32.7</td>
</tr>
<tr>
<td>Employment and/or going back to school</td>
<td>31.7</td>
</tr>
<tr>
<td>Information on community resources</td>
<td>31.5</td>
</tr>
</tbody>
</table>
## RQ #2: Type of Rehabilitation Services Provider

<table>
<thead>
<tr>
<th>Type of Professional Service Provider</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Therapist</td>
<td>75.8</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>68.9</td>
</tr>
<tr>
<td>Physician/Physiatrist</td>
<td>49.3</td>
</tr>
<tr>
<td>Rehabilitation Counselor</td>
<td>48.9</td>
</tr>
<tr>
<td>Nurse</td>
<td>44.8</td>
</tr>
<tr>
<td>Social Worker</td>
<td>33.0</td>
</tr>
<tr>
<td>Psychologist</td>
<td>32.6</td>
</tr>
<tr>
<td>Neurologist</td>
<td>28.9</td>
</tr>
<tr>
<td>Religious Minister</td>
<td>8.7</td>
</tr>
<tr>
<td>Received Vocational Rehabilitation</td>
<td>Yes</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Did any professional discuss employment-related issues during rehabilitation?</td>
<td>38.0</td>
</tr>
<tr>
<td>Are you familiar with the services of Office of Vocational Rehabilitation (OVR)?</td>
<td>64.6</td>
</tr>
<tr>
<td>Have you received services from OVR?</td>
<td>73.0</td>
</tr>
<tr>
<td>Did you receive training in using transportation</td>
<td>35.0</td>
</tr>
</tbody>
</table>
RQ #2: Discussion

• The four most received services: information for understanding the injury, self-care, assistive technology and managing medications and SCI-related complications
  – Acute phase-related care; possibly provided by physicians, nurses and therapists

• Study suggests limited psychological and vocational intervention
Limitations

- Small sample size
- The descriptive and correlational nature of the design through the use of self-report (questionnaires) may lead to self-report errors and bias
Conclusion

• The results of this study suggest that psychosocial adaptation and rehabilitation services received are predictors of employment outcome.

• Received rehabilitation services are positively correlate to both self-advocacy and psychosocial adaptation.

• Individuals received limited psychological- & vocational-related services and more medical-related services
Implications for Research and Practice

• More research on biopsychosocial approach to disability-related issues

• Early vocational counseling as part of a comprehensive community reentry strategies

• Need for research and skill training on self-advocacy
  – Can increase psychosocial adaptation to disability.
Implications for Patient-Centered Outcomes Research & Practice

• Biopsychosocial (ICF framework) approach to patient-centered outcomes research

• Need to increase self-advocacy skills of patients
  – Increase participation in health care and service decision making

• Increase awareness of the value of patient self-advocacy among health care service providers
Thank you!