

# ACADEMY OF SPINAL CORD INJURY PROFESSIONALS

## Influence of Psychological Factors on Participation and Life Satisfaction in the Context of Travel after SCI

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### Introduction

While many studies have investigated the predictors of outcomes following spinal cord injury (SCI),<sup>1,2</sup> there is still lack of research on the psychological factors influencing participation and life satisfaction.<sup>3</sup> Scholars have called for more theory-based research to understand the psychological processes of participation and life satisfaction following SCI.<sup>4</sup>

Self-determination theory (SDT) is a macro-theory of human motivation that examines the types of motivation that lead to different behavioral outcomes in specific social and environmental contexts. SDT postulates that it is through interaction with nurturing and supportive factors in our social environment that the three psychological needs of relatedness, competence, and autonomy are fostered and enhanced, which in turn facilitate or hinder behavioral outcomes. Therefor, satisfaction of psychological needs for autonomy, competence and relatedness will result in positive outcomes, such as increased participation and enhanced life satisfaction.<sup>5</sup>

### Purpose of the Study

Based on SDT, the study aims to examine the effects of psychological needs satisfaction on participation in the travel setting, and their subsequent contribution to life satisfaction of people with SCI.

### Method

#### Mixed-Method Approach:

- Qualitative:** 39 in-depth interviews with individuals with SCI were conducted in 2020 to develop measures of needs satisfaction for people with SCI in the travel setting;
- Quantitative:** Online survey with 258 respondents was conducted in 2021 to examine the relations among needs satisfaction and outcome variables.

#### Statistical Analysis:

- Thematic analysis was utilized to develop items measuring needs satisfaction.
- Hierarchical multiple regressions were conducted to examine the impacts of psychological needs satisfaction on the outcome variables.

#### Measures:

- Travel frequency:** average overnight trips taken per year during 2015-2019
- Life satisfaction:** SWLS, 5-item, 5-point scales
- Needs satisfaction:** 5-point Likert scales for autonomy (7 items,  $\alpha=.80$ , competence (7 items,  $\alpha=.82$ ) and relatedness (10 items,  $\alpha=.78$ ).

### Results

#### Profiles of Survey Respondents

- 67.4% were male.
- Average age at time of injury was 30.4 ( $\pm 13.7$ ) years.
- 48.4% were married.
- 83.3% were Caucasian.
- 48% had at least a Bachelor's degree.
- While 14.7% had family income less than \$25,000, 13.2% had family income of at least \$125,000.

#### Needs Satisfaction & Travel

- As Table 2 shows, psychological needs satisfaction significantly positively influenced travel participation ( $p<.001$ ), with needs for competence and relatedness uniquely contributing to the frequency of long-distance trips per year.
- The psychological needs satisfaction, along with controlled demographic characteristics (age, race, marital status) explained 16.4% of the variance in travel frequency.

**Table 1**  
Demographic Information

Factor	N	%
<b>Gender</b>		
Female	84	32.6
Male	174	67.4
<b>Race</b>		
Caucasian	215	83.3
African American	17	6.6
American Indian/Alaska Native	1	.4
Asian or Pacific Islander	10	3.9
Some Other Race, Multiracial	14	5.4
<b>Family Income</b>		
Less than \$25,000	38	14.7
\$25,000 – \$49,999	49	19
\$50,000 – \$74,999	47	18.2
\$75,000 – \$99,999	45	17.4
\$100,000 – \$124,999	21	8.1
\$125,000 and above	34	13.2
<b>Education</b>		
High School Diploma/GED	34	13.2
Associate Degree	44	17.1
Bachelor's Degree	69	26.7
Master's Degree	39	15.1
Doctorate	16	6.2
<b>Marital Status</b>		
Never married (Single)	73	28.3
Married	125	48.4
Divorced	26	10.1
Separated	4	1.6
Widow	5	1.9
Living with Significant Other/Partr	23	8.9

**Table 2**  
Hierarchical Regression of Predictors of Travel Frequency

Predictor Variables	Model 1	Model 2	Model 3	Model 4
Marital Status	-2.29(.87)*	-2.13(.87)*	-1.85 (.83) *	-1.75(.83)*
Race	-.61(1.12)	-.43(1.12)	-.11 (1.07)	.27(1.08)
Age in 2021	-.00(.03)	-.00(.03)	.01 (.03)	.02(.03)
Autonomy		.70(.40)	-.56 (.47)	-.68(.47)
Competence			2.08 (.47) **	1.71(.49)**
Relatedness				.98(.44)*
R <sup>2</sup>	.041	.056	.142	.164
R <sup>2</sup> change	.041	.015	.086	.021

\* $p<.05$ ; \*\* $p<.01$

#### Needs Satisfaction, Travel and Life Satisfaction

- According to Table 3, needs satisfaction, along with travel frequency (controlling for age, race and marital status) significantly contributed to life satisfaction ( $p<.001$ ), explaining 37.2% of its variance.
- Participants had more trips during the five-year period of 2015 to 2019 had higher life satisfaction.
- Needs for competence and relatedness uniquely contributed to life satisfaction.

### Conclusion

- Traveling is often necessary for work, leisure and personal business. Travel participation is important to the life satisfaction of people with SCI.
- Although all needs satisfaction (autonomy, competence and relatedness) are important to travel participation and life satisfaction, one's need for feeling confident to interact effectively in their own environment, and their need for being connected to other individuals or groups play a larger role in contributing to participation and life satisfaction in the travel setting.
- Effort is needed to focus on meeting the needs of competence and relatedness, along with the need for autonomy of people with SCI.

**Table 3**  
Hierarchical Regression of Predictors of Life Satisfaction

Predictor Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Marital Status	-.50(.40)**	-.43(.17)*	-.37(.17)*	-.29(.16)*	-.29(.16)	-.31(.16)
Race	-.46(.19)**	-.39(.13)**	-.34(.13)**	-.32(.12)*	-.33(.12)**	-.29(.12)*
Age in 2021	-.01(.00)	-.01(.00)	-.01(.00)	-.01(.00)	-.01(.00)	-.01(.00)
Autonomy		.34(.06)***	.14(.07)	.11(.07)	.11(.07)	.14(.07)
Competence			.34(.07)***	.25(.07)***	.28(.08)***	.26(.08)***
Relatedness				.23(.07)***	.23(.07)***	.21(.07)**
Travel frequency						.03(.01)**
R <sup>2</sup>	.100	.226	.306	.346	.348	.372
R <sup>2</sup> change	.100	.125	.080	.040	.002	.024

\* $p<.05$ ; \*\* $p<.01$ ; \*\*\* $p<.001$

### Source of Funding

Craig H. Neilsen Foundation (#643969)

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