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Enviromental Barriers and Pain Catastrophizing

Cathy Berendts

cathy.berendts@umontana.edu

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Background

- For people with mobility impairments participation in community is limited. Both the environment and experience of pain can limit participation. As a result, the perception of pain and impact of environmental barriers can be important factors in determining how much these individuals participate in the community.
- Pain catastrophizing is one's thoughts about their pain intensity.
- Barriers "make up the physical, social, and attitudinal environment in which people live and conduct their lives" (as cited in Whiteneck et al., 2004 p. 1325).
- Little research has examined the relationship between pain catastrophizing and perception of environmental barriers to participation.

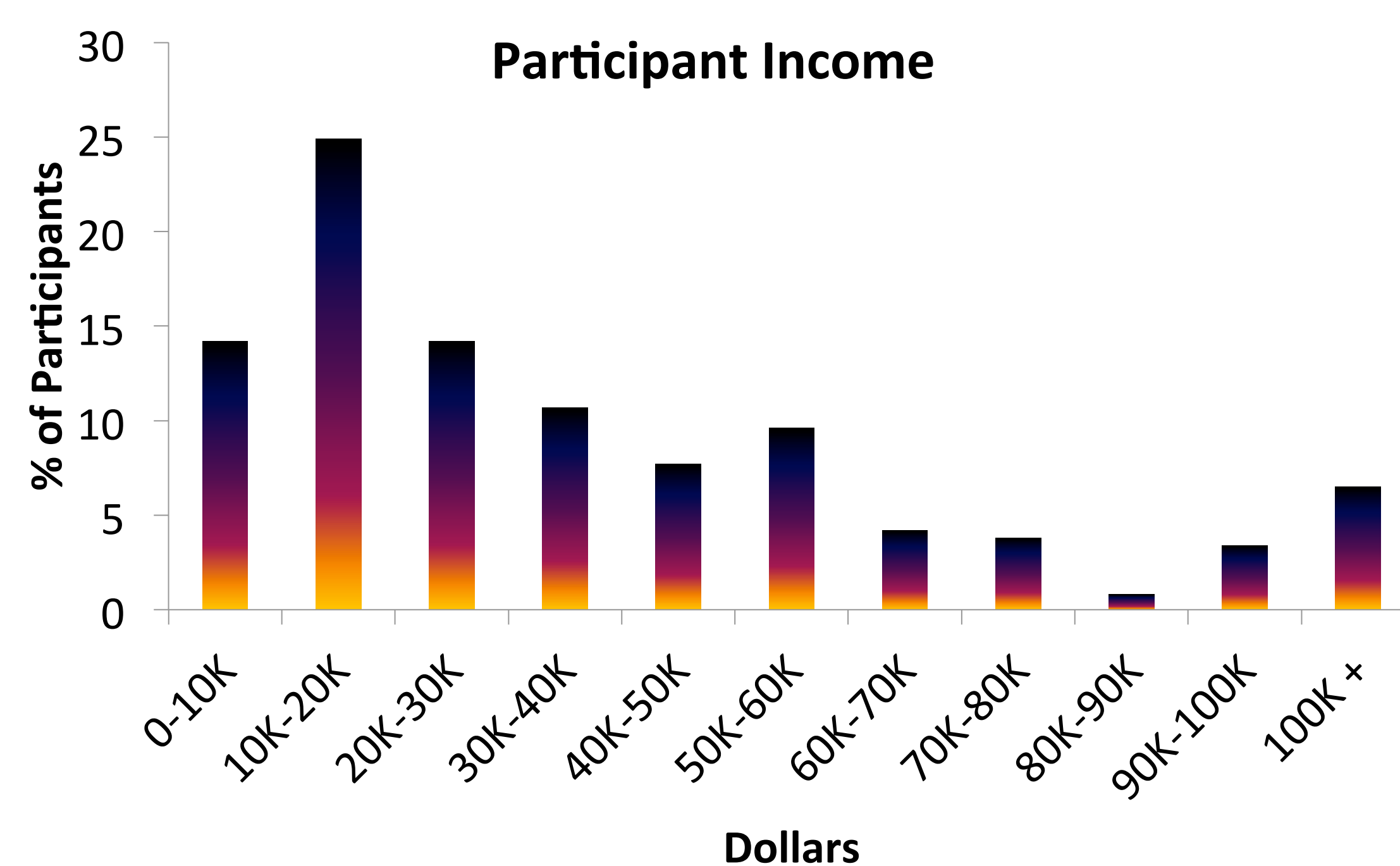
Study Purpose

- The purpose of this study was to explore if pain catastrophizing would predict the frequency of environmental barrier encounters because people who are sensitive to pain may be sensitive to their environment.

Methods

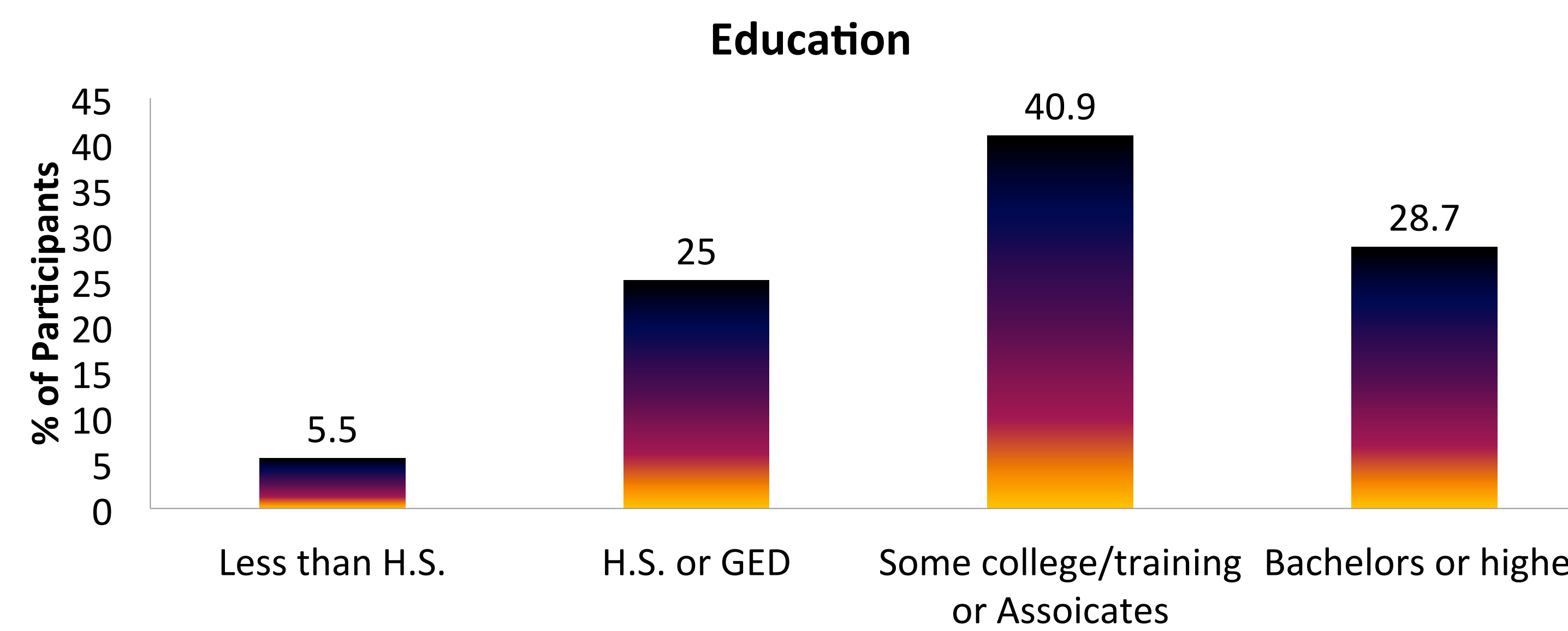
Sample

- Letters were mailed to 10,000 randomly selected households in a small Western US city to identify individuals with a functional impairment, which represents approximately 13% of the population, according to the US Census.
- There were 564 participants who completed the survey. I selected participants based on the presence of pain and age (18-64) resulting in a sample of 272 individuals.

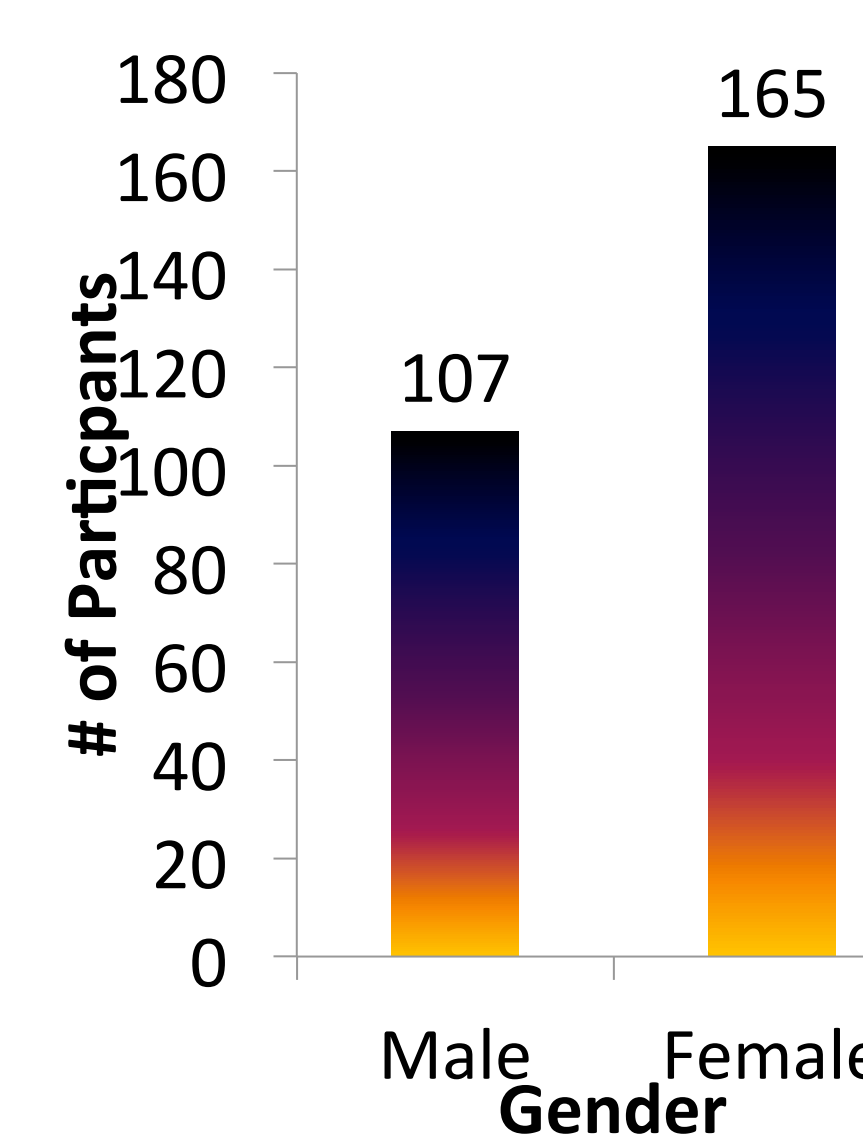


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Age: 50.7, SD: 10.7
Ethnicity: 95% White
5% American Indian
Employment: Employed 44.2%
Not Employed 55.1%
Marital Status: Married/Member of an unmarried couple: 53.7%



Measures

- Trips into community based on the Participation Survey (PARTS) (Gray, Hollingsworth, Stark, & Morgan, 2006).
- The Survey of Participation and Receptivity in Communities (SPARC) has been used to assess the frequency and magnitude of barriers experienced by people with various impairments on a scale from one to four (Gray et al, 2006). One indicated never encountering environmental barriers and four indicated routinely encountering environmental barriers. We used 13 items from the SPARC that demonstrated coefficient alpha = 0.74.
- The Pain Catastrophizing Scale (PCS) has been used to assess psychological suffering in response to pain. The PCS uses six items (e.g., "I worry all the time about whether the pain will end") with a one to five response scale anchored from "Not at All" to "Very Much."
- The Statistical Package for the Social Sciences (SPSS 20.0) was used to complete stepwise multiple regression analyses ($p_{\text{enter}}=.05$; $p_{\text{remove}}=.10$). We entered variables in four blocks that represented participation level including the number of community trips, employment, health conditions, impairments, and pain catastrophizing.

Results

- Overall, these results suggested that 42% of the reliable variance in respondents' report of barriers could be accounted for by the number of impairments, health conditions, and pain catastrophizing. The variables in four blocks represented participation level. When taken together in the final step of the analysis, only the number of impairments and pain catastrophizing remained statistically significant.

Discussion

- These findings are important to researchers, policy makers, and service providers, for advancement in the area of environmental barriers and pain catastrophizing. Increasing understanding of environmental barriers and pain catastrophizing could lead to a better understanding of factors that affect an individual's participation in their community.
- A comprehensive understanding of environmental barriers and pain catastrophizing could be used to improve quality of life for people who have impairments and chronic pain.
- Future research may examine the impact that pain catastrophizing may have on specific subsets of barriers, such as self-care barriers or weather conditions. In addition, this research could be expanded to examine the impact of pain catastrophizing and barriers on quality of life.

References

- Gray, D. B., Hollingsworth, H. H., Stark, S. L., & Morgan, K. A. (2006). Participation survey/mobility: psychometric properties of a measure of participation for people with mobility impairments and limitations. *Archives of physical medicine and rehabilitation, 87*(2), 189-197.
- Whiteneck, G. G., Harrison-Felix, C. L., Mellick, D. C., Brooks, C. A., Charlifue, S. B., & Gerhart, K. A. (2004). Quantifying environmental factors: a measure of physical, attitudinal, service, productivity, and policy barriers. *Archives of Physical Medicine and Rehabilitation, 85*(8), 1324-1335.

Stepwise multiple regression on the number of barriers score

Predictor	Beta _{Standardized}	p	Δ R ²
Step 1			
Community Trips	-.16	.01	.10*
Employed	-.24	< .00	
Step 2			
Community Trips	-.10	NS	.27*
Employed	-.06	NS	
Impairments	.46	< .00	
Step 3			
Community Trips	-.09	NS	.29*
Employed	-.06	NS	
Impairments	.39	< .00	
Health Conditions	.18	.01	
Step 4			
Community Trips	-.08	NS	.42*
Employed	-.04	NS	
Impairments	.33	< .00	
Health Conditions	.08	NS	
Catastrophizing	.39	< .00	

Note: (*) indicates significance