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Objective and Subjective Measures of Community Participation

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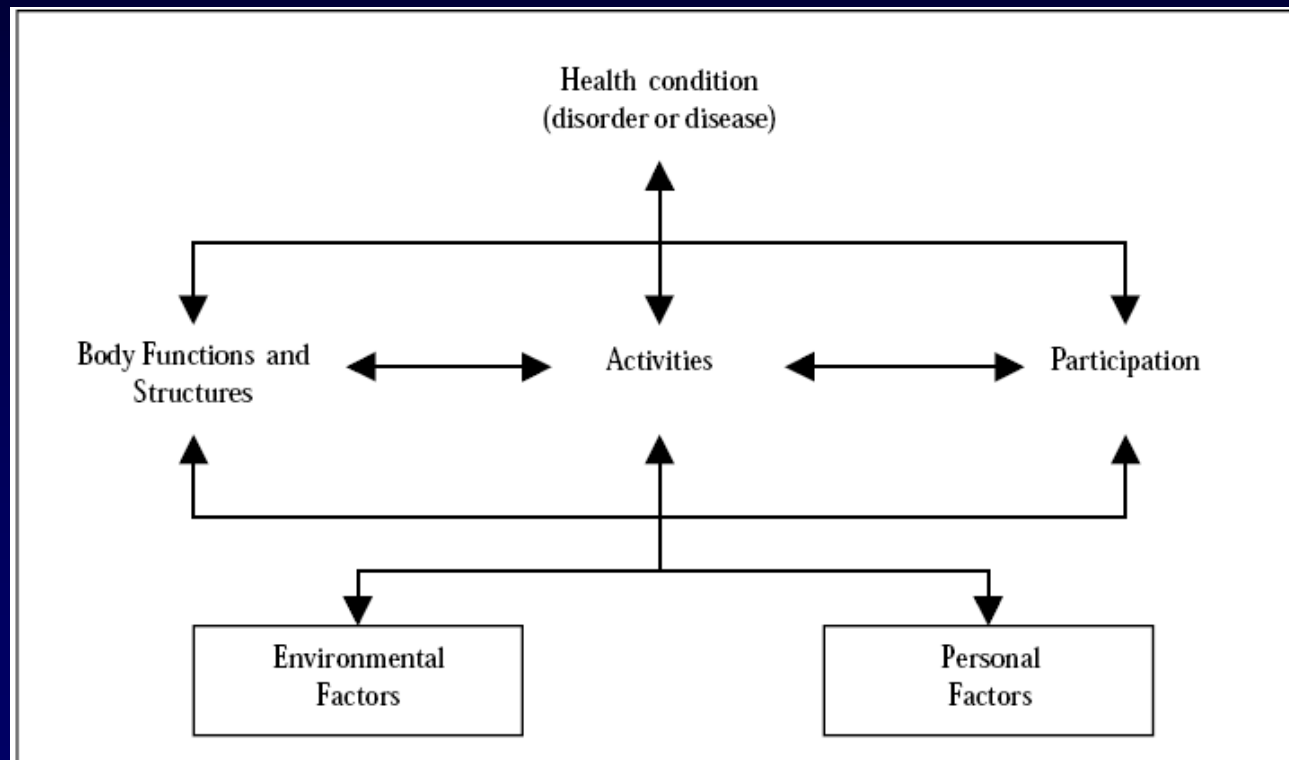
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Acknowledgements

- Enabling Mobility Center
- Paraquad
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Conceptual Basis

The International Classification of Functioning, Disability and Health (ICF)



(WHO, 2001; Hemingsson & Jonsson, 2005)

Influence of the Environment

- Perceived stress
- Productivity
- Life satisfaction
- Level of community integration
- Need for personal assistance
- Choice of community destinations

(Boschen, Tonak & Gargaro, 2003; Richards, Bombardier, Tate, Dijkers, Gordon, Shewchuk & DeVivo, 1999; Fange, Iwarsson, & Persson, 2002; Meyers, Anderson, Miller, Shipp & Hoening, 2002)

Limitations in the Literature

- Measure capacity, not performance or participation
- Assess barriers but not facilitators
- Measure only compliance with ADA standards

(Richards et al, 1999; Perenboom & Chorus, 2003; Meyers , Anderson, Miller, Shipp & Hoenig, 2002; Iwarsson & Shahl, 2003; McClain and Todd. 1989)

Assessment of the Environment

Objective

- ADA Guidelines
- Measurements

Subjective

- Personal experience
- Self-report

Limited consideration
of function within that
space

Objective & Subjective

- Trained Professionals
- PWMI
- Community Participant

Difficult to quantify or
translate results into
action

Features of the Study

- Meaningful activity in the participants' communities
- Objective and subjective perspective of the environment
- Influence of personal and environmental factors

Research Questions

- What is the relationship between a subjective survey and an objective assessment in measuring facilitators to participation?
- Based upon a subjective perspective, are environmental factors a stronger predictor than personal factors in determining participation in a specific community activity?

Methods

Design

- Exploratory research to determine the relationship between
 - Physical environment (objective measure) and participation in the environment (subjective measure)
 - Perceived environmental factors, personal factors, and quality of participation

Sample

- Adults that use an assistive device for mobility
- Reside in the St. Louis metropolitan area
- Read English at the 6th grade level

Subjective Measure

Community Participation and Perceived Receptivity Survey (CPPRS)

- Completed by person with mobility impairment
- Perceived experience of participation at community destinations
- Temporal, Personal, and Evaluative scales
- Example: How does accessibility influence your participation at the grocery store?

Objective Measure

Community Health Environmental Checklist (CHEC)

- Administered by trained rater
- Measures ecological receptivity of specific destinations
- Entering, Inside, Restrooms, Amenities, Rescue Assistance
- Example: Are the counters and merchandise within reach from a seated or standing position?

(Stark, Hollingsworth, Morgan & Gray, 2007)

Research Question 1

What is the relationship between a subjective survey and an objective assessment in measuring facilitators to participation?

Subjective: Community Activity

N = 119

Destination	Important (%)	Visited (%)
<i>Grocery Stores</i>	90.7	85.7
Homes of family & friends	83.9	73.9
Religious institutions	65.3	59.6
Large stores	63.6	81.5
Restaurants	57.6	81.5
Work/volunteer/education	50.8	52.1
Pharmacies	50.0	64.7
Gas stations	26.3	60.0

Subjective CPPRS

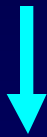
Completed by PWMI

N = 119



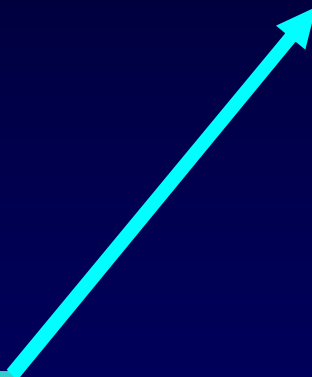
Identified grocery stores
as important

N = 107 (90.7 %)



Went to store in the last
month and provided
address

N = 76 (63.9 %)



Objective CHEC

Completed by trained rater

Name and address of
unique grocery store

N = 43

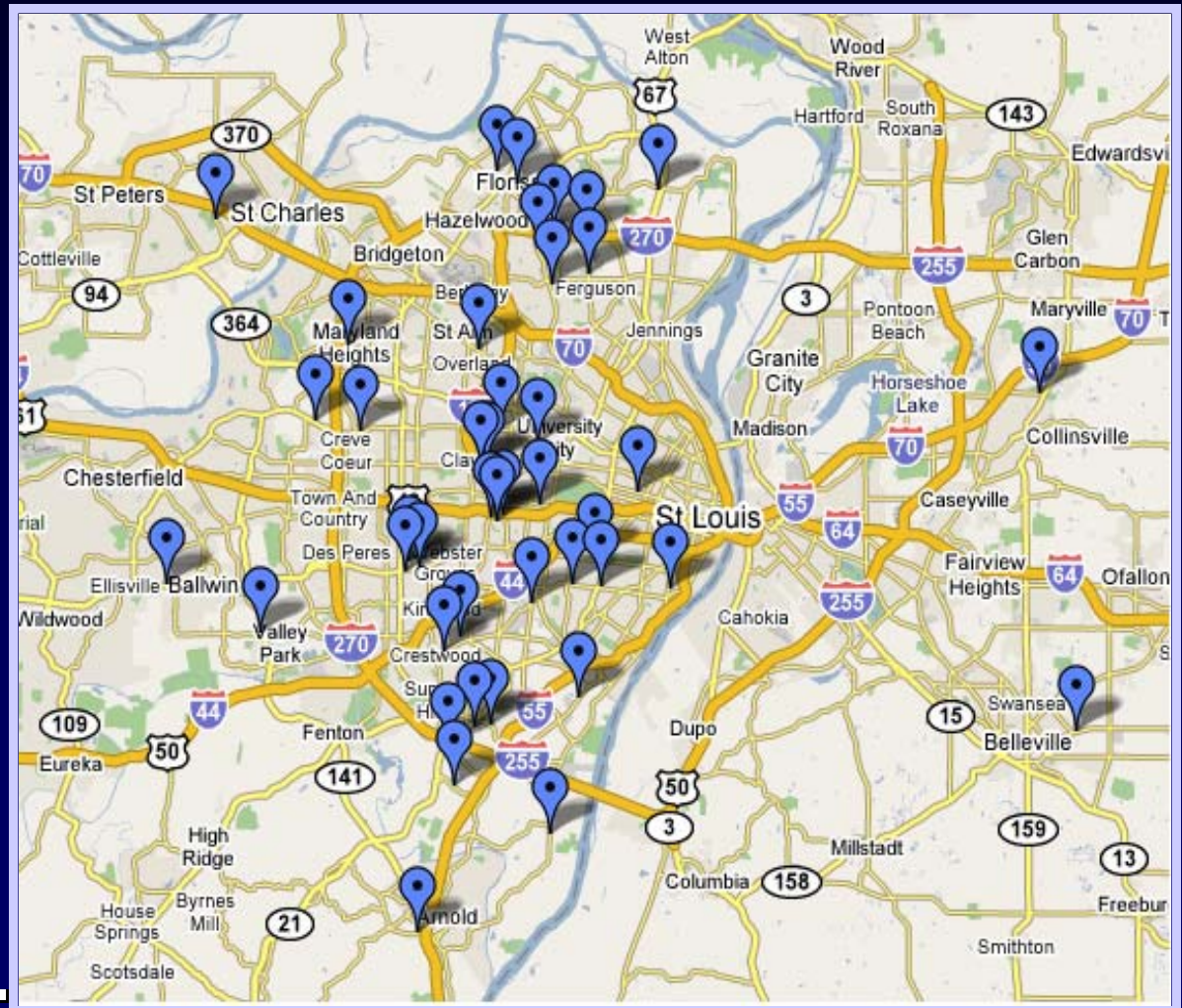
Subjective: Demographic Results

N = 76

- **Age**
 - 18 – 74 (Mean = 48.8)
- **Gender**
 - 68.4% Female
- **Race**
 - 51.3% White
 - 43.4% African American
 - 5.3% American Indian/Alaska Native
- **Education level**
 - 75% some college or trade school
- **Income**
 - 72.4% earned less than \$35,000
- **Primary Diagnosis (N)**
 - 3 Muscular Dystrophy
 - 4 Post Polio Syndrome
 - 6 Stroke
 - 7 Arthritis
 - 13 Multiple Sclerosis
 - 13 Other
 - 14 Cerebral Palsy
 - 16 Spinal Cord Injury
- **Primary Mobility Device (N)**
 - 14 Scooter
 - 20 Manual Wheelchair
 - 21 Power Wheelchair
 - 21 Cane/Crutches/Walker

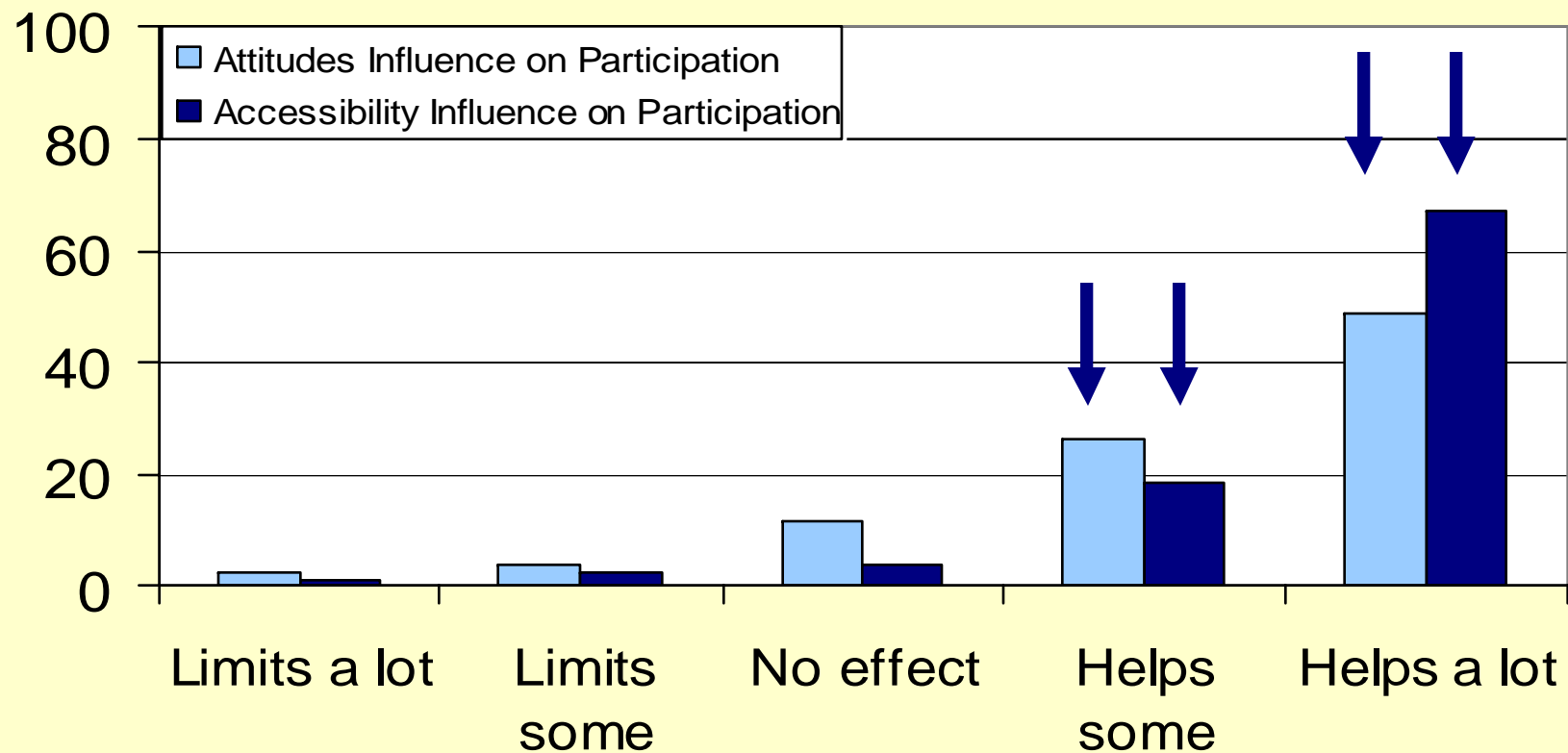
Subjective & Objective: Grocery Stores

- 43 grocery stores
- St. Louis metropolitan area
 - 4 St. Louis City
 - 37 St. Louis County
 - 2 Illinois



Subjective: CPPRS Results

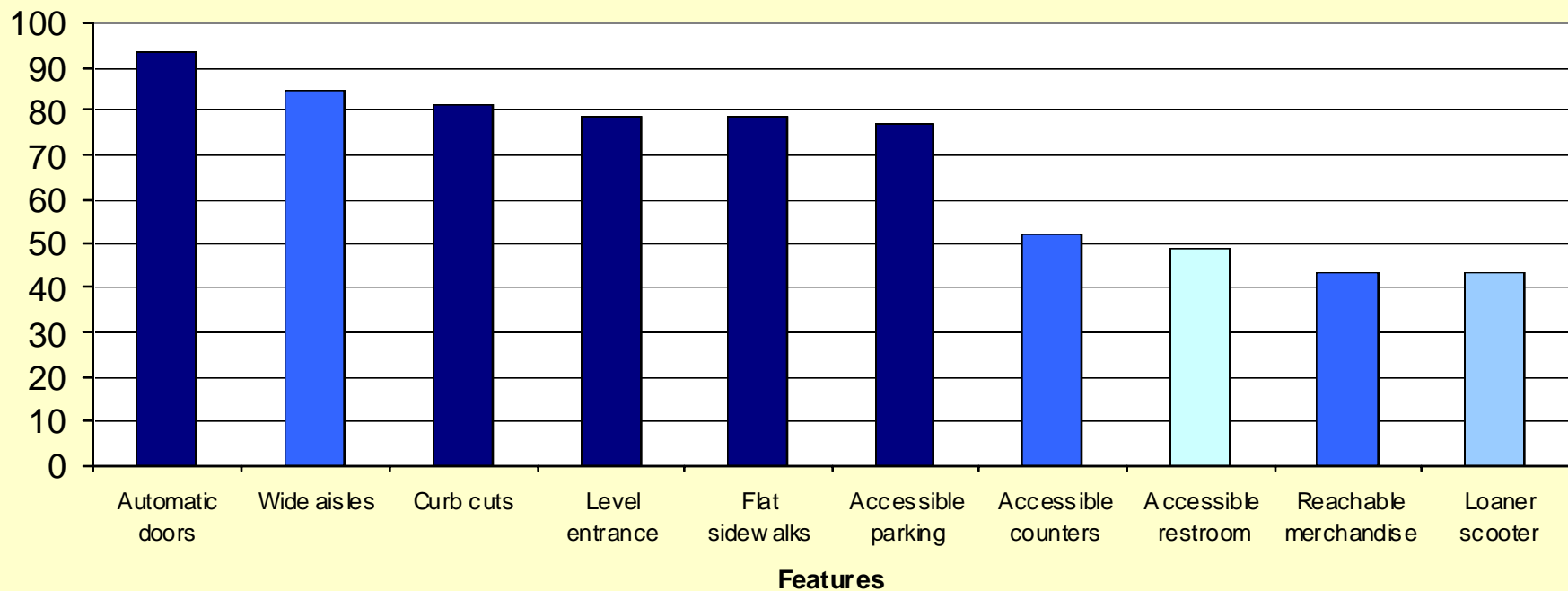
Influence of Accessibility vs. Attitudes



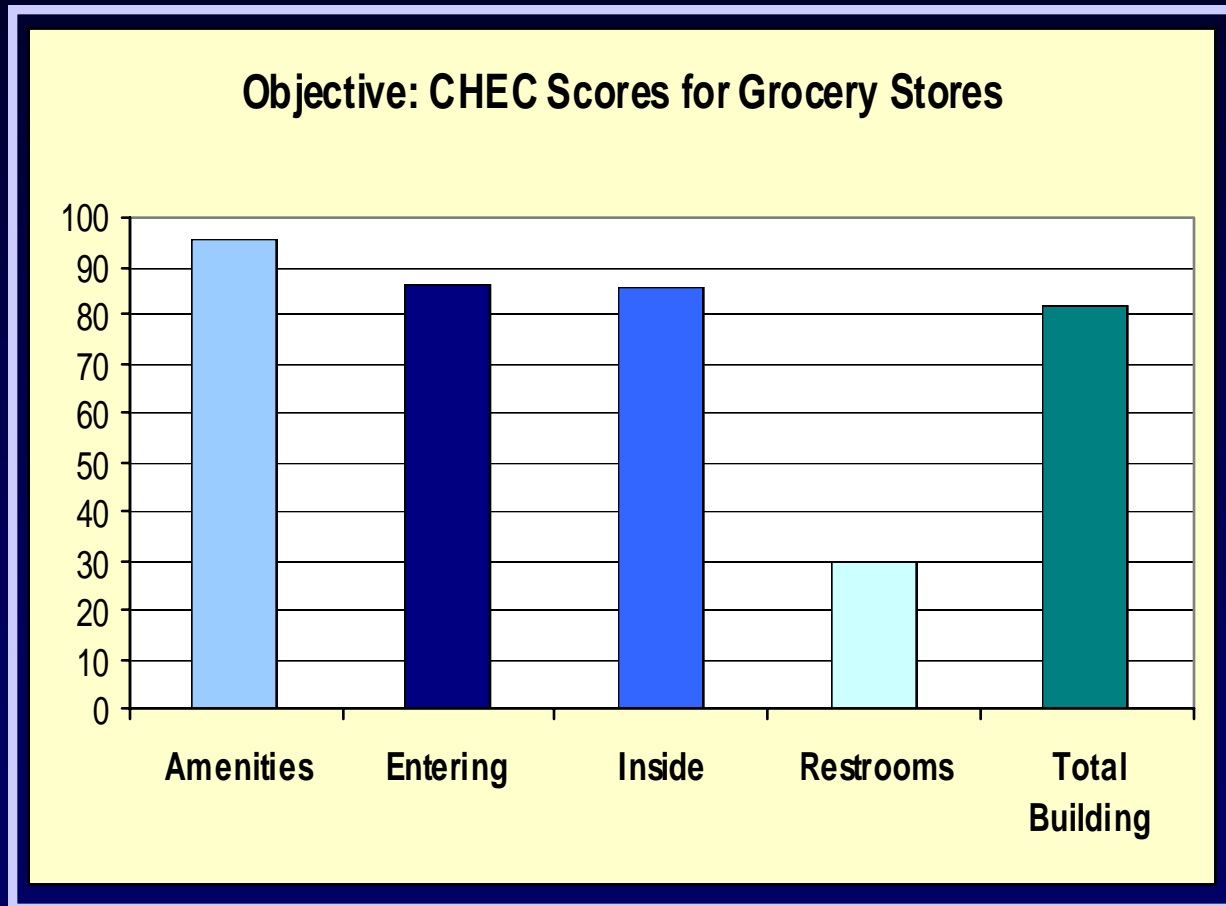
Subjective Environment Features

Subjective: CPPRS Results

Subjective: Facilitators to Participation



Objective: CHEC Results



Features (+)

- Flat entrances
- Automatic doors
- Single level
- Smooth floor
- Adequate lighting

Features (-)

- Reachable counters and merchandise
- Restrooms

Subjective and Objective

- Correlation between features from CPPRS and 10 related items from CHEC

	CHEC Items
CPPRS Features	.88*

* $p < .05$

- Correlation between non-feature items from CPPRS and CHEC

	CHEC
CPPRS Non-features	.77

Research Question 2

Based on a subjective survey, are environmental factors a stronger predictor than personal factors in determining the quality of participation at a specific community location?

Factors

CPPRS Survey

- Environmental Factors
 - Perceived attitudes of others
 - Perceived accessibility of the site
- Personal Factors
 - Pain
 - Fatigue
- Evaluative Quality of Participation (EQOP)
 - Function of choice, satisfaction, and importance

Relationship to EQOP

	EQOP	Pain	Fatigue	Accessibility	Attitudes
EQOP	-				
Pain	-.29**	-			
Fatigue	-.29**	.52**	-		
Accessibility	.02	-.01	-.17	-	
Attitudes	.26*	.19	.04	.34**	-

** $p < .01$

* $p < .05$

Predictors of EQOP

		Standardized β
Environment	{	Attitudes .231
	{	Accessibility -.021
Person	{	Pain .135
	{	Fatigue .209

$R^2 = .158, F(4,66) = 3.1, p < 0.05$

Conclusions

- Measure participation in line with the ICF
- Participation associated with perceived importance
- Accessibility a function architectural demand
- Objective and subjective assessments necessary to facilitate participation

Limitations

- Single rater for objective assessment
- Time between subjective and objective assessment
- Familiar community location
- Sensitivity of the instruments

Future Research

- Intervention based on study findings
- Expansion of survey population to other interest groups
- Development of activity based surveys for specific environments