INTERRATER RELIABILITY OF THE WHEELCHAIR INTERFACE QUESTIONNAIRE

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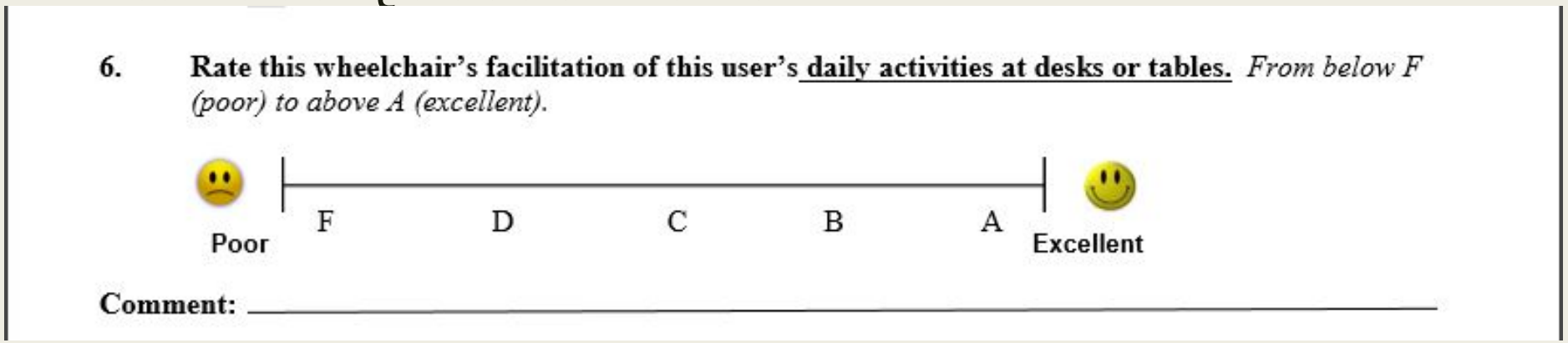
Introduction

Learning Objectives

- 1: Understand common challenges to wheelchair effectiveness in low resource settings and be able to describe the aspects of wheelchair effectiveness measured by the WIQ.
- 2: Understand the reliability of the WIQ.
- 3: Describe the circumstances in which the WIQ would be an effective and reliable tool for wheelchair professionals to utilize.

Background

- The need for a questionnaire focused on the wheelchair interface.
- Development and validity of the Wheelchair Interface Questionnaire.



- Investigating Reliability

Study

- Study Design
- Participants: wheelchair professionals evaluating wheelchair users and their wheelchairs
- Study Site: Kenya
- Analysis
  - *SPSS*
  - *Intraclass Correlation Coefficient*
- Ethics

Results

Table 1. Rater Characteristics

Qualifications	Gender	Years of WC experience	Country of Training
PT	Male	9	Canada
PTA/OTA	Male	8	Canada
OTR/ATP	Male	9	United States
OT	Male	7	Kenya
PT	Female	8	Kenya
PT	Female	3	Kenya
OT	Male	3	Kenya
WC Technician	Male	2	Kenya

Table 2. Wheelchair User Characteristics

Diagnosis	Gender	Age	Years in a WC	Wheelchair Type	Time in this WC
Spinal Injury/Amputation	Female	17	7	Whirlwind Rough Rider	2 months
Muscular Dystrophy	Male	19	5	Transport chair	3 years
Cerebral Palsy	Female	16	13	LDS Basic	1 year 2 months
Spina Injury	Male	16	6	Standard	5 months
Spina Bifida	Male	22	7	Motivation Active Folding	1 year
Muscular Dystrophy	Male	16	2	Transport chair	2 years
Spinal Injury	Male	19	5	Transport chair	5 years
Polio	Female	18	6	Motivation Active Folding	6 years

Table 3. Qualitative Data

Subject	Question/Reference	Raters agreed/Topic	
1	1a trunk	7	No problems
2	1a trunk	6	Sagging back
3	1a trunk	4	No pain
4	1a trunk	5	Poor backrest
5	1a trunk	6	Lower back pain
6	1a trunk	8	Poor backrest
7	1a trunk	8	Poor backrest
8	1a trunk	6	Sagging back

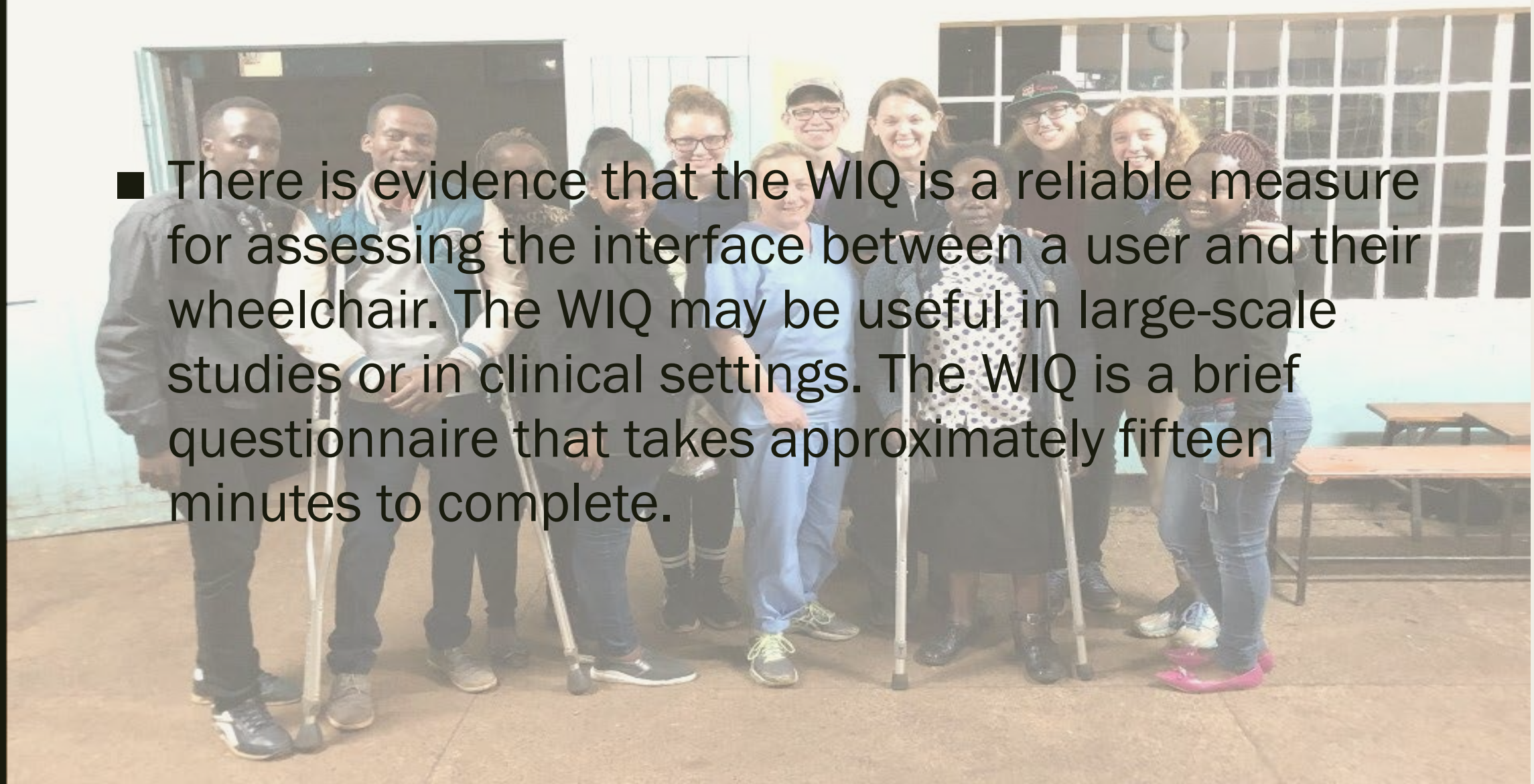
Results cont.

- A two-way random model was used to compute the ICC of the mean of the raters. (Landers 2015)
- The ICC was .91 with a 95% confidence interval of .808 to .97
- The time to complete each WIQ was under fifteen minutes

Discussion

- The ICC indicated significant correlation, and thus reliability.
- Despite different backgrounds and qualifications, raters rated interfaces similarly compared to other interfaces.
- The WIQ is a brief tool.
- Comments indicated consistent, meaningful qualitative data.
- Future Research
  - *Studies involving wheelchair professionals with different demographics*
  - *Studies with participants of different demographics*
  - *Translation into other languages*

Conclusion



- There is evidence that the WIQ is a reliable measure for assessing the interface between a user and their wheelchair. The WIQ may be useful in large-scale studies or in clinical settings. The WIQ is a brief questionnaire that takes approximately fifteen minutes to complete.

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Thank You! Questions?