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Last updated: April 22nd, 2024

Research Summary – Quebec User Evaluation with Assistive Technology – Version 2.0 (QUEST 2.0) – Assistive Technology

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
[Bergstrom & Samuelsson](#) 2006 Questionnaire (cross-sectional) 2 SCI units at university medical centers in central Sweden	N=124 (89 male, 35 female) Mean age: 49.7±15.6 Individuals with spinal cord injury using manual wheelchairs Community living, mixed injury types.			**Interpretability:** User satisfaction with the device: See table 1. User satisfaction with the manufacturer: See table 2.

Table 1.

Question	% responding "somewhat satisfied" or less	% responding "quite satisfied" or "very satisfied"	n	Mean ± SD
Dimensions	22	78	119	4.27±1.0
Weight	20	80	119	4.15±1.0
Adjustments	31	69	117	3.80±1.1
Safety	17	83	118	4.21±0.8
Durability	20	80	119	4.08±1.0

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	Ease in use	11	89	122	4.42±0.7
	Comfort	32	68	119	3.77±1.0
	Effective	18	82	122	4.16±0.8

Table 2.

Question	% responding "somewhat satisfied" or less	% responding "quite satisfied" or "very satisfied"	n	Mean ± SD
Service delivery	38	62	120	3.74±1.2
Repair service	28	72	118	3.97±1.2
Professional service	26	74	117	3.90±1.1
Follow-up	45	55	113	3.43±1.2

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Research Summary – Quebec User Evaluation with Assistive Technology – Version 2.0 (QUEST 2.0) – Assistive Technology - Cross-cultural Validation Studies

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
[Koumpouros et al.](#) 2016 Questionnaire, cross-cultural adaptation Greek Version (GR-QUEST) Greek private rehabilitation center	N=115, 5 Quadriplegic (diagnosis include: stroke, hip fracture, femoral fracture, traumatic brain injury, MS etc.) Mean age: 62.45 ± 19.29 years 51 Male	Item construct validity Pearson's r Subscale Safe Use: r=0.691-0.794 Subscale Fit to Use: r=0.615-0.829 Subscale Endurance: r=0.635-0.909	**Internal Consistency:** Cronbach's alpha: Overall: α= 0.754 **Test-retest, Inter-rater, Intra-rater:** Test-retest reliability at initial assessment ICC=0.949 Test-retest reliability at reassessment p-value=0.162	
[Chan & Chan](#) 2007 Retrospective cohort Chinese version	N=31 (25 male, 6 female) Mean Age: 41.68±11.17 Mean (SD) time since injury = 3.79 (3.72) years	For the overall sample, no significant correlations were found among the C-QUEST scores and the 'Participation Restriction' and	**Internal Consistency:** Device: α= 0.84 Services: α= 0.85 Total Scores: α= 0.82	**Interpretability:** Mean (SD) C-QUEST scores Device domain: 27.69 (4.57) – indicating the level of satisfaction with wheelchairs and

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Hong Kong	9 high tetraplegia (C1-C4) 8 low tetraplegia (C5-C8) 8 high paraplegia (T1-T9) 6 low paraplegia (T10-S) 23 use manual wheelchair (N=32) 9 use powered wheelchair (N=32)	'Environmental Factors' ICF Checklist scores (5-point scale).		seating systems fell between 'more or less satisfactory' and 'quite satisfactory'. Services domain: 11.61 (3.29) – indicating the satisfaction with services fell between 'not very satisfactory' and 'more or less satisfactory'
[Chan & Chan](#) 2006 Cross-sectional Chinese version Hong Kong	N=31 (25 male, 6 female) Mean Age: 41.68±11.17 9 high tetraplegia (C1-C4) 8 low tetraplegia (C5-C8) 8 high paraplegia (T1-T9) 6 low paraplegia (T10-S)	Six occupational therapists were invited to be the review panel members to evaluate the content of the measure and check the translation. They completed a set of questionnaires designed to evaluate the relevance and clarity of the 12 items. As a result, the		**Interpretability:** C-QUEST scores: See table 1.

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	23 use manual wheelchair (N=32) 9 use powered wheelchair (N=32)	wordings of various items were adjusted in the revised version. Item-to-total correlations ranged from 0.40 (weight) to 0.79 (follow-up service). **QUEST 2.0 Chinese ver. (C-QUEST) & World Health Organization Quality of Life-Bref Questionnaire (WHOQOL-BREF (HK))** <u>Device</u> General: r=0.412, P<.05 Physical: r=0.508, P<.05 Psychological: r=0.344, P=.056 Social Relationship: r=0.460, P<.05		

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		Environment: r=0.567, P<.05 <u>Services</u> General: r=0.120 Physical: r=0.307 Psychological: r=0.023 Social Relationship: r=0.242 Environment: r=0.333 * all not significant		

Table 1.

Instrument item:	Mean (SD) C-QUEST score:
Device domain	
Dimensions	3.40 (0.77)
Weight	3.00 (1.00)
Adjustments	3.23 (0.80)
Safety	3.81 (0.60)
Durability	3.58 (0.76)
Simplicity to use	3.81 (0.83)
Comfort	3.39 (0.80)
Effectiveness	3.58 (0.89)
Device total:	3.46 (0.56)
Services domain	

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	Service delivery	2.94 (0.85)			
	Repair service	2.83 (0.91)			
	Professional service	3.00 (1.11)			
	Follow-up	2.65 (1.02)			
	Services total:	2.85 (0.85)			
	QUEST total:	3.24 (0.54)			
Hwang et al. 2015 Cross-sectional validation of the QUEST 2.0 Korean Version (K-QUEST) Korea	N=70 (study also says forty?), 55 male Mean age 40.9±11.2 Mean post-SCI duration: 31.1±58.6 years AIS-A/B/C/D/E: 29/9/9/15/8 Complete/Incomplete: 29/41 Assistive devices per person: 1.3±0.6 63 used manual wheelchair 2 used electrical wheelchair 3 used crutches		Pearson's correlation of QUEST Korean ver. (QUEST-K) total with: SCIM-III: -0.075 (p>0.01) Modified BI: -0.138 (p>0.01)	**Internal Consistency:** Cronbach's alpha: Overall: 0.855 Devices subscale: 0.837 Services subscale: 0.847 **Test-retest, Inter-rater, Intra-rater:** 3 day interval ICC intra-rater: Overall: 0.855 Devices subscale: 0.837	

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
	5 used canes Individuals from the Korea Spinal Cord Injury Association		Services subscale: 0.847 p-value=0.162	
Mao et al. 2010 Cross-sectional, cross-cultural adaptation & validation of Taiwanese QUEST 2.0 (T-QUEST)	Participants (18+, device use 3mth+, cognitively sound) from two disability organizations and two major assistive technology centres in Taipei. Field test group: N=105, 79M 26F Mean age 38.9±14.3 73 SCI, 32 Other diagnoses Mean device use duration: 3.3±2.2 yrs Devices used: Manual wheelchair, Powered wheelchair, Aids for daily living, Seating system, Aids for communication and		**Internal Consistency:** Cronbach's alpha: Device domain: 0.87 Service domain: 0.84 Total: 0.90	

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	information, Aids for transportation, Lifter, Prostheses, Aids for walking, Scooter, and others			