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Last updated: August 28th, 2024

Research Summary – Community Integration Questionnaire (CIQ) – Community Reintegration

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Callaway et al. 2017 Matched analysis Victoria, Australia	N=40, 61% male Mean age (SD): 52.8 (14.5) 77% traumatic SCI			**Interpretability:** Mean (SD) CIQ scores for different subscales: Home integration: 4.5 (3.3) Social integration: 8.5 (2.3) Productive activity: 3.4 (1.9) Total: 16.4 (6.1)
Kratz et al. 2015 Longitudinal 12-month survey study US Nation-wide, community dwelling	N=627 (228F, 399M), at time 1 Mean age 48.28, SD=13.50 Time Since Injury (years): 16.52 ± 12.67 234 complete SCI Etiology: 272 MVA, 91 falls, 68 sports, 57 medical/surgical, 45 violence		**Internal consistency:** Cronbach's alpha: Total score: 0.75 at time 1, 0.71 at time 2* Home subscale: 0.79~0.81 Social subscale: 0.62~0.63 Productive subscale: 0.50~0.51	**Floor/ceiling Effect:** Patients at ceiling (time 1, time 2): Total Score: 0%, 5% Home subscale: 6.4%, 7.7% Social subscale: 1.6%, 2.0% Productive subscale: 25%, 27.1% Patients at floor: Total Score: 0.2%

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	N=494 (193F, 301M), at time 2 (part of time 1 group) Time Since Injury (years): 16.15 ± 11.98		* Time 1 is initial survey, time 2 is 12 months after time 1	Home subscale: 1.2%, 1.3% Social subscale: 0.6% Productive subscale: 8.1%, 8.6%
Gontkovsky et al. 2009 Correlational analysis, single session study Tertiary care rehab centers (Inpatient rehabilitation at Methodist Rehabilitation Center)	N= 28, 75 % male Mean age = 42 ±17 57% at their 1-year follow up 29% at their 2-year follow up 14% at their 3-year follow up 90% traumatic SCI 68% incomplete SCI 32% complete SCI AIS Classification 32.1% A 32.1% B 14.4% C 21.4% D	See below.		**Interpretability:** <table><tr><td>**Subscale:**</td><td>**Mean (SD) CIQ score:**</td></tr><tr><td>Home integration</td><td>3.5 (2.6)</td></tr><tr><td>Social integration</td><td>6.7 (2.5)</td></tr><tr><td>Productive activity</td><td>1.0 (1.6)</td></tr><tr><td>Total</td><td>11.2 (5.0)</td></tr></table>

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
	Level of Injury 60.7% Cervical 35.7% Thoracic 3.6% Lumbar			
	Inter-correlation coefficients between CIQ scores: CIQ Subscales: Home integration subscale (HIS) Social integration subscale (SIS) Productive Activity subscale (PAS)			

CIQ Subscales:	SIS	PAS	Total
HIS	0.42*	0.26	0.80**
SIS		0.34	0.82**
PAS			0.61**

*P<.05
**P<.01

The Craig Handicap Assessment Reporting Technique-Short Form (CHART-SF) and CIQ total scores were positively and significantly correlated (r = 0.79). The greatest degree of association was found between the social integration subscales of each measure (r = 0.77).
Correlation coefficients (r's)

	CIQ subscales:

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Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity				Reliability	Responsiveness Interpretability
		HIS	SIS	PAS	Total		
	CHART-SF subscales:						
	Physical Independence	**0.55**	0.01	0.14	0.33		
	Cognitive Independence	**0.57**	*0.43*	0.07	**0.53**		
	Mobility	**0.52**	**0.68**	*0.39*	**0.73**		
	Occupation	**0.56**	*0.46*	*0.41*	**0.64**		
	Social Integration	0.47	**0.77**	0.34	**0.73**		
	Economic Self-Sufficiency	0.25	0.01	0.37	0.24		
	total	**0.74**	0.57	*0.42*	**0.79**		
	Bold P<.001 *Italic P<.05*						

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Research Summary – Community Integration Questionnaire (CIQ) – Community Reintegration - Cross-cultural Validation Studies

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Saffari et al. 2015 Cross-sectional validation study for Iranian version of SCL CSQ (in Persian)	N=220, 164 male Mean age 58.18; s.d.=10.32 140 paraplegia, 80 tetraplegia 153 traumatic SCI, 67 non-traumatic Time since injury (SD) = 50.96 (35.05) months	Pearson correlation coefficients: Between CIQ (Persian) and SCL CSQ subscale of: - Acceptance: r=0.289,P<0.01 - Fighting spirit: r=0.326,P<0.01 - Social reliance: r=-0.272,P<0.01 (higher social participation was correlated with lower social reliance) Predictive validity - Regression analysis: SCL CSQ Acceptance, fighting spirit and social reliance subscale, and SCI		

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		etiology predicts CIQ; $R^2 = 0.38$		
Rintala et al. 2002 Descriptive data, comparison of Spanish and English versions, and test–retest comparisons of the Spanish version Southeastern Texas, USA	N=99, 81 male Mean duration (SD): 7.0 (6.5) 29 traumatic Bilingual subsample: n=45, 33 male Mean duration (SD): 7.8 (7.4) 15 traumatic Test-retest subsample: n=46, 44 male Mean duration (SD): 6.9 (5.9) 9 traumatic	Pearson correlation coefficients: Between CIQ (Spanish) and CHART (Spanish) scales: r = 0.53 Between CIQ (Spanish) and CIQ (English): r = 0.83	**Internal consistency:** Cronbach's alpha: Total score: 0.70 Home subscale: 0.82 Social subscale: 0.33 Productive subscale: 0.42 **Test-retest, Inter-rater, Intra-rater:** Test-retest correlations: 0.85	

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Research Summary – Community Integration Questionnaire – Revised (CIQ-R) – Community Reintegration - Cross-cultural Validation Studies

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Xie et al. 2023 Cross-sectional study to validate the Chinese version of the CIQ-R for individuals with SCI Shanghai Sunshine Rehabilitation Center	N = 317 Mean (SD) age 49.8 (13.3) years 212M, 105F Median time span since injury was 7.1 years, ranging from 6 months to 61.5 years Level of injury: Cervical (n = 109), thoracic (n = 138), lumbosacral (n = 70) Etiology: Traumatic (n = 245), non-traumatic (n = 72) Severity: Complete (n = 169), incomplete (n = 148) *Exploratory Factor Analysis supported a construct of the CIQ-R-C (excluding item 10) as made of four domains	**Construct validity:** The 4 domains of the CIQ-R-C were significantly negatively correlated with the Zung Self-Rating Anxiety/Depression Scale (SAS and SDS) (Table 1). Meanwhile, the 4 domains of the Scale were significantly positively correlated with VAS and social support, as expected, except for the home domain, which showed no significant correlation with Multidimensional Scale of Perceived Social Support (MSPSS).	An acceptable **internal consistency** (Cronbach's α) was seen for the CIQ-R-C as a whole (0.84) and the home domain (0.81). Social engagement (0.68), digital social networking (DSN) (0.68) and traditional social networking (TSN) (0.40) domains showed lower values since they had limited items. **Test-retest reliability:** Correlation coefficient of the CIQ-R-C whole scale (0.87) and its three domains (home [0.78], social engagement [0.87], and DSN [0.77])	**Floor/ceiling Effect:** The CIQ-R-C total, home, and social engagement domains demonstrated no floor or ceiling effects (Table 2). However, the DSN domain did display a floor effect (> 15%). A significant ceiling effect was also observed in the TSN domain.

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
	(Confirmatory Factor Analysis [CFI] = 0.94; Root Mean Square Error of Approximation [RMSEA] = 0.06): home, social engagement, digital social networking, and traditional social networking.		demonstrated good reliability. However, the correlation coefficient of the TSN domain was below the acceptable level (0.55).	

Table 1. Correlation analysis of the CIQ-R-C and SAS, SDS, VAS, and MSPSS.

Domains	SAS	SDS	VAS	MSPSS
Home	−0.20	−0.29	0.26	0.05**
Social engagement[a]	−0.39	−0.44	0.40	0.20
DSN[b]	−0.30	−0.28	0.19	0.21
TSN	−0.16*	−0.17*	0.20	0.25
Total score[a,b]	−0.39	−0.42	0.37	0.22

CIQ-R-C, Chinese version of Community Integration Questionnaire-Revised; SAS/SDS, Zung Self-Rating Anxiety/Depression Scale; VAS, Visual Analogue Scale; MSPSS, Multidimensional Scale of Perceived Social Support; DSN, digital social networking; TSN, traditional social networking; a, excluding item 10; b, including an additional item (e-shopping); *: P < 0.05; **: P > 0.05; other correlations: P < 0.01.

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
	Table 2. Descriptives and floor and ceiling effects of the CIQ-R-C. CIQ-R-C, Chinese version of Community Integration Questionnaire-Revised; DSN, digital social networking; TSN, traditional social networking; SD, standard deviation; a, excluding item 10; b, including an additional item (e-shopping).			
[Panuccio et al.](#) 2022 Psychometric study to evaluate the internal consistency and validity of the Community Integration Questionnaire – Revised (CIQ-R) in Italian	N = 80 47M, 33F Mean (SD) age 46 (11.74) years Injury level: Cervical (n = 28), thoracic (n = 33), lumbar (n = 19) Completeness of injury: Complete (n = 39), incomplete (n = 41) ASIA A (n = 29), ASIA B (n = 39), ASIA C (n = 12)	**Construct validity:** Pearson's correlation coefficient showed weak correlation between the total score of CIQ-R and Physical Component Summary (PCS12) (0.25) and the Mental Component Summary (MCS12) (0.29) of the SF-12 health survey. Other domains are shown in table 1.	**Internal consistency:** The Home Integration subscale only showed and Cronbach's alpha value ≥0.70 (0.825). Other domains: • Total score: 0.627 • Social Integration: 0.393 • Productivity: 0.133 • Electronic Social Net-	

Table 2. Descriptives and floor and ceiling effects of the CIQ-R-C.

Domains	N° of items	Range	Means	SD	Floor (%)	Ceiling (%)
Home	6	0-12	4.83	2.81	6.62	2.21
Social engagement[a]	5	0-13	4.24	3.03	14.83	0.31
DSN[b]	3	0-6	2.83	1.96	17.67	13.56
TSN	2	0-4	2.69	1.23	9.78	30.91
Total score[a,b]	16	0-35	14.59	6.80	0.63	0.00

Author Year Research Design Setting (country)	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
individuals with SCI Patients' associations, foundations, sport clubs, and federations in Italy.			working Integration: 0.428 **Test-retest reliability** procedures were performed for 30 out of the 80 included individuals: See table 2.	

Table 1. Pearson's correlation coefficient for construct validity of the Italian version of the CIQ-R in people with spinal cord injury.

	Pearson's correlation coefficient PCS12	R^2 PCS12	Pearson's correlation coefficient MCS12	R^2 MCS12
Home integration	0.04	0.00	0.07	0.00
Social integration	0.24	0.06	0.33	0.11
Productivity	0.31	0.10	0.17	0.03
Electronic Social Networking Integration	0.03	0.00	0.19	0.03
Total	0.25	0.06	0.29	0.08

PCS-12 Physical Component Summary (PCS) of the Short Form-12 (SF-12) health survey; MCS-12 Mental Component Summary (MCS) of the SF-12 health survey.

Table 2. Intraclass Correlation Coefficient (ICC) for reliability of the Italian version of the CIQ-R in people with spinal cord injury.

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			ICC	IC 95%		
		Home integration	0.995	(0.989-0.998)		
		Social integration	0.944	(0.883-0.974)		
		Productivity	1.000	(1.000-1.000)		
		Electronic Social Networking Integration	1.000	(1.000-1.000)		
		Total	0.992	(0.983-0.996)		