Migration Letters

Volume: 21, No: S13 (2024), pp. 458-470

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Development And Content Validation Of An Indigenous Diagnostic Questionnaire Of Intellectual Disability

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Abstract

Even though in the last decade, there has been a considerable increase in the prevalence of intellectual disability in Pakistan, there is scarcity of indigenous standardized diagnostic questionnaire for intellectual disability. Thus, the present study aimed to evaluate the content validity of the Indigenous Diagnostic Questionnaire of Intellectual Disability (IDQID) [1]designed in accordance with the Pakistani society's norms. IDQID was designed to diagnose intellectual disability for 6-18 years old. Mixed method research design was used in the development and content validation phase. Purposive sampling strategy was used to recruit participants for expert panel review (n=10). Content validity index was used to assess the relevance and representativeness of the questionnaire. The scale level content validity index by averaging calculation method and by universal agreement method was 0.87 and 0.81 respectively. A total of 168 items with I-CVI greater than or equal to 0.78 were retained. Given the time efficient, cost effective and multidimensional nature of the questionnaire, mental health practitioners should use this questionnaire to evaluate intellectual disability in children.

Keywords: *Intellectual Disability, Indigenous Diagnostic Questionnaire of Intellectual Disability, Mixed Method Approach, Purposive Sampling, Content Validity*

Introduction

DSM-5 TR defines Intellectual disability in significant delays in Intellectual and Adaptive functioning. Intellectual and adaptive deficits begin early in the developmental period. People suffering from ID typically have an IQ below 70. Consequently, they learn slowly, have difficulty with meeting developmental and sociocultural standards for personal independence and social responsibility, and need ongoing support (American Psychological Association, 2022).

Pakistan has the world highest reported rates of childhood intellectual disabilities (Mirza et al., 2009; Imran et al., 2015). Most of which go undetected, undiagnosed or misdiagnosed and untreated due to limited education and health resources. There are also some pragmatic reasons for limitations in diagnosing intellectual disability. Reliable diagnosis of intellectual disability mandates the individual assessment of adaptive skills, cognitive functioning, and developmental history. Cognitive functioning is generally assessed using the Wechsler Scales of Intelligence (e.g. WISC-V, 2005), which can only be administered by a duly trained professional. Both intellectual and adaptive behavior evaluations take considerable time

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to administer, score and interpret (McKenzie et al., 2012). Moreover, it has been seen that most of the measures to assess intellectual disability are designed by the western population like Visual-Motor Integration (2014), Bayley Scales of Infant and Toddler Development-III (2017), Movement Assessment Battery for Children- Second Edition (2019), etc. Although efforts have been made to adapt such measures of intellectual disability both multidimensional and unidimensional in Pakistani context (Hamdani et al., 2020; Mirza et al., 2018), adapting a measure of another culture fails to yield linguistic and cultural accuracy (Byrne, 2016; McKenzie et al., 2012). There are considerable differences in cultural and experiential aspects which significantly impact the specific expressions of intellectual disability in children, their caregivers and healthcare facilities (Raghavan & Small, 2004). Hence, these issues prompted the need to develop an indigenous multidimensional diagnostic tool representing the needs of Pakistani population.

Validity is a focal factor in selecting a tool for assessment in psychiatric services and research studies. According to the American Psychological Association (APA) validity confirmation is divided into construct validity, content validity, and criterion validity. Content validity is critical for other validities so the items on the tool ought to be evaluated as to whether the content has been assessed in accordance with the constructs to be evaluated (Roebianto et al., 2023). Thus, the present study aimed to investigate whether Indigenous Diagnostic Questionnaire of Intellectual Disability relevantly measured the construct of intellectual disability.

Thus, the present study plays an essential role as there is unavailability of indigenous tools for diagnosing intellectual disability i.e., these are either a translated/ adapted version of western tools and/ or are unidimensional related to specific root causes of neurodevelopmental disorders in non-western countries such as Pakistan.

Method

This methodological research was carried out with the approval of the Departmental Doctoral Program Committee (DDPC). It is part of a larger study employing the exploratory mixed method research (qualitative and quantitative) to design and standardize the Indigenous Diagnostic Questionnaire of Intellectual Disability. Data was collected from professionals working for more than five years with intellectually disabled individuals by utilizing purposive sampling strategy in all phases of the study. Informed consent was acquired from all the participants. The participants comprised of professionals for analyzing domain specification, 10 participants comprising clinical psychologists (n= 8) and also special educationists (n = 2) with minimum 5 years of experience working with intellectually disabled 6-18 years old and a sound understanding of their typically developing counterparts for assessment of content validity.The content validation process of the questionnaire was done following Lynn's (1986) method. It was carried out in two phases i.e., development phase and the content validation phase.

Development Phase

This had two stages.

Construct Definition

Content validity analysis began with defining the measurement instrument's construct and subdomains. To understand the construct, researchers conducted a thorough literature review by studying theoretical frameworks, studies, and definitions. All construct dimensions and subdimensions were identified. The Intellectual Developmental Disorders' category of the Diagnostic and Statistical Manual (DSM-5TR) was selected as a theoretical basis for this study's objectives. Hence, Intellectual Disability was defined as deficits in general mental abilities, including reasoning, planning, problem solving, abstract thinking, judgment, and

experience-based learning. The deficiencies lead to impairments in adaptive functioning i.e., social interaction, academic or occupational functioning, and independent functioning at home or in public settings, and thus results in having difficulty meeting standards of social responsibility and independent living (American Psychological Association, 2022). Therefore, the questionnaire was divided into two theoretical subdomains namely intellectual skills and adaptive skills. The intellectual skills subdomain of the questionnaire comprised of questions related to problem solving, reasoning, planning, judgement, abstract thinking and experiential learning, while adaptive skills subdomain of the measure comprised of questions related to manifestations of symptoms on the practical and social levels to diagnose and determine the severity of intellectual disability. An unbiased group of three clinical psychologists extensively reviewed the draft of the construct definition and subdomain specification. The questionnaire was developed for children 6 to 11 and 12 to 18 years of age. Some questions covers age range from 6 to 18 years. This initial step validated the measurement tool by ensuring the instrument accurately represented the construct (Haynes et al., 1995; Clark & Watson, 1995).

Item Pool Generation

A primary item pool was generated for the indigenous questionnaire. The items were generated in English and Urdu. The item pool generation for the questionnaire mainly relied upon the themes that surfaced in focus groups discussion; however, items were also generated from previous literature. 278 items were generated initially. The initial draft of the questionnaire was then checked for redundancies, ambiguities, sentence structure and clarity of language. The items that were double-barreled, faulty or leading in any way were discarded and the final first draft of the scale consisted of one hundred and seventy-three items.

Judgement Quantification Phase

Lynn's (1986) guidelines specify a two-step method of judgement-quantification to determine the content validity of the newly developed questionnaires. Following that, in the first step, the questionnaire items were evaluated on five aspects i.e., content relevancy, sentence appropriation, clarity, subdomain relevancy, and overall suitability by a panel of experts. It was decided to select 10 experts for ICVI ratings as 7 to 12 experts are generally considered to be a good number for calculating content validity index (Devon et al., 2007; Haynes et al., 1995). Therefore 10 experts who had a minimum of five years of experience working with children and adolescents with intellectual disability and had sufficient knowledge of typical development in that age group were recruited. All the experts were contacted through cell phones and letters, after obtaining their verbal consent to evaluate the questionnaire. The experts were provided with items generated based on the themes derived from the preceding qualitative study, along with operational definitions of the dimensions. I-CVI was primarily based on content and cultural relevance ratings. All experts were requested to rate each item. Four indices including content and cultural relevance, clarity, simplicity and redundancy were used to assess content validity (Farrokhzad et al., 2014; Yaghmaie, 2003).

The experts were asked to evaluate the questions on each aspect on a four-point Likert scale, where 1=not relevant, 2=somewhat relevant, 3= quite relevant, 4=highly relevant on Clarity, Overall suitability, sentence appropriateness, and content relevancy. They were also instructed to comment or give reviews on the instructions related to the questionnaire. In the second step, the content validity index (CVI) was calculated-this is the proportion of experts who have approved the items in comparison to those who have not. Only items with a content validity index of 0.78 or above were retained. The item content validity index ranged from 0.59 to 1.00, while the scale content validity index by averaging method was 0.87 and by universal agreement method was 0.81. In conclusion of the content validity analysis, numerous items were restated and/or combined with other similar items.

Table 1 Showing Demographic Characteristics of the Expert Panel

Reviewers	Gender	Occupation	Experience (No. of Years)
R1	Female	Clinical Psychologist	10 years
R2	Female	Clinical Psychologist	12 years
R3	Female	Clinical Psychologist	25 years
R4	Female	Clinical Psychologist	14 years
R5	Female	Special Educationist	16years
R6	Female	Clinical Psychologist	15 years
R7	Male	Clinical Psychologist	15 years
R8	Female	Clinical Psychologist	13 years
R9	Female	Special Educationist	14 years
R10	Female	Clinical Psychologist	10 years

Results

Content validity index of each item (I-CVI) and the whole scale (S-CVI) was calculated to assess whether the items were relevant to and appropriate to measure the construct Intellectual Disability and its two major subdomains namely intellectual skills and adaptive skills. Ten experts were selected for calculation of content validity index as 7 to 12 experts are generally considered to be a good number for calculation of CVI. I-CVI was predominantly established on content and cultural relevance ratings. All experts rated each item on the basis of five aspects involving content relevancy, sentence appropriation, clarity, subdomain relevancy, and overall suitability. The ICV-I values are stated in table 3. A total of 168 items having content validity index (I-CVI) greater than or equal to 0.78 were finally selected for the questionnaire as this value was cited as good cut off value for item selection in I-CVI when more than 7 experts rate items (Haynes et al., 1995). The Content Validity Index of the whole questionnaire was calculated using both S-CVI/Ave (Average) and S-CVI/UA (Universal Agreement). S-CVI/Ave was 0.87 and the S-CVI/UA was 0.81 In conclusion of the content validity analysis, numerous items were restated and/or combined with other similar items. Certain items with frequent content were removed. Moreover Item 1 from problem solving, item 17 and 20 from abstract thinking, item 7 of conceptual domain, and item 5 of social skills part I were deleted as they have low CVI. Most of the experts of the view to rephrase item 2 from practical domain and item 3 of social skills part I. Therefore these items were rephrased and rechecked by the researchers.

The classification of items into subdomains before and after content validity analysis is mentioned in the following table.

Table 2 Number of Items in Subdomains Before and After Expert ICV-I Ratings

Domains	No. of items Before Rating	No. of Items After Rating
Intellectual Skills	72	69
Reasoning	9	9
Experiential Learning	3	3
Problem Solving	15	14
Abstract Thinking	27	25
Planning	8	8
Judgement	10	10
Adaptive Skills	101	99
Conceptual Domain	54	53
Practical Domain	21	21
Social Skills (Part-I)	11	10

Social Skills (Part-II)	15	15

Table is showing the number of items before and after taking expert review.

Figure 1 Comparison of No. of Items in Each Aspect Before and After Judgement Quantification

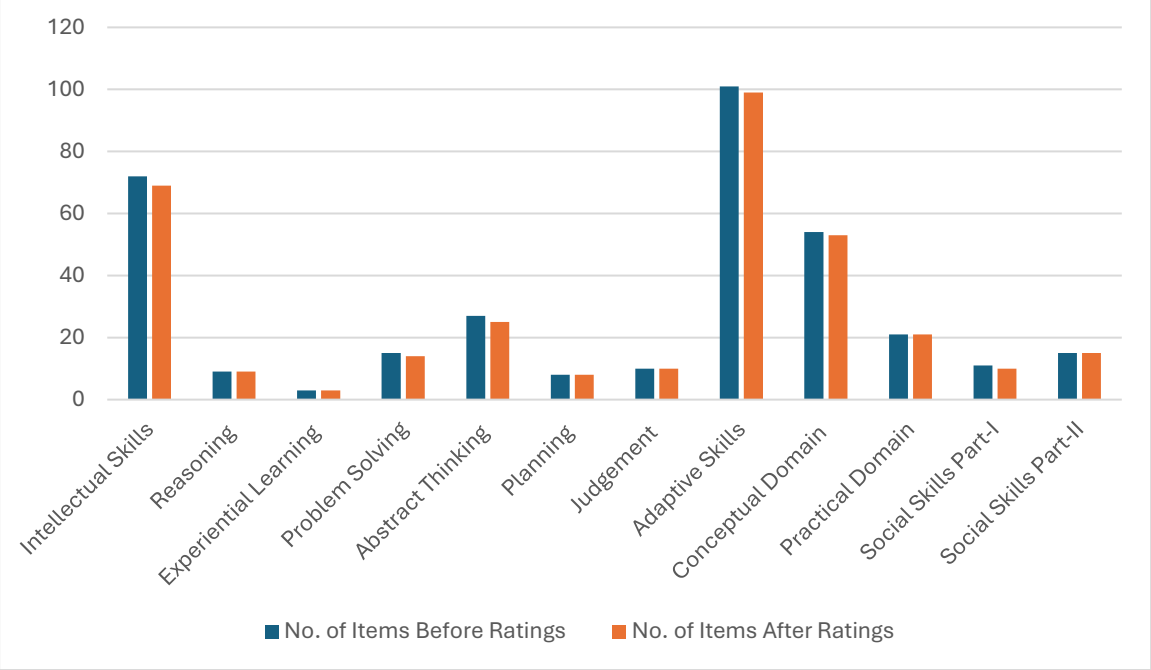

Table 3 Content Validity Index for Initial Items

Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
1	OSPS1	0.21	42	OSPlann1	0.70	83	SAPS12	0.80
2	OSPS2	0.88	43	OSplanning2	0.90	84	SAPS13	0.80
3	OSPS3	0.82	44	OSplann3	1.00	85	SAPS14	1.00
4	OSPS4	0.78	45	OSplann4	0.80	86	SAPS15	0.90
5	OSPS5	0.59	46	OSplann5	0.80	87	SAabstract1	1.00
6	OSPS6	0.83	47	OSplann6	0.90	88	SAABS2	0.92
7	OSPS7	0.85	48	OSplann7	0.90	89	SAabs3	0.92
8	OSPS8	0.82	49	OSplann8	0.90	90	SAabs4	0.92
9	OSPS9	0.72	50	OSjudg1	0.90	91	SAAbs5	0.92
10	OSPS10	0.78	51	OSjudg2	0.80	92	SAab6	1.00
11	OSPS11	0.70	52	OSjudge3	0.90	93	SAabs7	1.00
12	OSPS12	0.80	53	OSjudge4	0.70	94	SAabstract8	0.92
13	OSPS13	0.90	54	OSjudge5	0.90	95	SAabstr9	0.92
14	OSPS14	0.90	55	OSJudgment6	1.00	96	SAabs10	1.00
15	OSPS15	0.90	56	OSjudgemnt7	0.90	97	SAabs11	1.00
16	OSabstract1	1	57	OSjudgement8	1.00	98	SAabs12	1.00
17	OSABS2	1	58	OSjudg9	0.80	99	SAabs13	0.92
18	OSabs3	1	59	OSjudge10	0.80	100	SAans14	0.92

19	OSabs4	0.8	60	OSreasoninh1	1.00	101	SAabs15	0.92
20	OSAbs5	0.8	61	OSReasoning2	0.90	102	SAabs16	1.00
21	OSab6	0.9	62	OSReas3	1.00	103	SAabs17	0.92
22	OSabs7	1	63	OSreason4	0.80	104	SAabs18	0.92
23	OSabstract8	0.9	64	OSreason5	0.80	105	SAabs19	0.92
24	OSabstr9	0.9	65	OSreason6	0.90	106	SAabs20	0.92
25	OSabs10	0.9	66	OSreason7	1.00	107	SAabs21	0.92
26	OSabs11	0.7	67	OSreason8	1.00	108	SAabs22	0.92
27	OSabs12	0.8	68	OSreason9	1.00	109	SAabs23	0.92
28	OSabs13	0.9	69	OSexp1	1.00	110	SAabs24	0.92
29	OSabs14	0.9	70	OSexp2	0.90	111	SAabs25	0.92
30	OSabs15	0.9	71	OSexp3	0.90	112	SAabs26	0.92
31	OSabs16	0.9	72	SAPS1	1.00	113	SAPlann1	1.00
32	OSabs17	0.2	73	SAPS2	1.00	114	SAplanning2	0.90
33	OSabs18	1	74	SAPS3	0.90	115	SAplann3	0.90
34	OSabs19	1	75	SAPS4	0.80	116	SAplann4	0.80
35	OSabs20	0.2	76	SAPS5	0.80	117	SAplann5	0.60
36	OSabs21	1	77	SAPS6	1.00	118	SAplann6	0.80
37	OSabs22	0.8	78	SAPS7	1.00	119	SAplann7	0.90
38	OSabs23	0.9	79	SAPS8	1.00	120	SAplann8	0.80
39	OSabs24	0.8	80	SAPS9	1.00	121	SAjudg1	0.90
Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
40	OSabs25	0.8	81	SAPS10	1.00	122	SAjudg2	0.70
41	OSabs26	0.7	82	SAPS11	1.00	123	SAjudge3	0.80
124	SAjudge4	0.70	165	SRabstract8	0.80	206	SRreason5	1.00
125	SAjudge5	0.60	166	SRabstr9	0.70	207	SRreason6	1.00
126	SAJudgment6	0.90	167	SRabs10	0.90	208	SRreason7	1.00
127	SAjudgemnt7	0.90	168	SRabs11	0.90	209	SRreason8	1.00
128	SAjudgement8	0.80	169	SRabs12	0.90	210	SRreason9	0.90
129	SAjudg9	0.80	170	SRabs13	0.90	211	SRexp1	0.90
130	SAjudge10	0.70	171	SRans14	0.90	212	SRexp2	1.00
131	SAreasoninh1	0.80	172	SRabs15	0.90	213	SRexp3	0.90
132	SAReasoning2	0.80	173	SRabs16	0.90	214	CPS1	0.00
133	SAReas3	0.70	174	SRabs17	0.10	215	CPS2	1.00
134	SAreason4	0.80	175	SRabs18	0.90	216	CPS3	0.90
135	SAreason5	0.70	176	SRabs19	0.90	217	CPS4	0.90
136	SAreason6	0.80	177	SRabs20	0.10	218	CPS5	1.00
137	SAreason7	0.80	178	SRabs21	0.90	219	CPS6	0.90
138	SAreason8	0.70	179	SRabs22	0.90	220	CPS7	1.00
139	SAreason9	0.70	180	SRabs23	0.90	221	CPS8	0.90
140	SAexp1	1.00	181	SRabs24	0.90	222	CPS9	0.90
141	SAexp2	0.90	182	SRabs25	0.90	223	CPS10	0.90
142	SAexp3	0.90	183	SRabs26	0.90	224	CPS11	0.90
143	SRPS1	0.00	184	SRPlann1	0.90	225	CPS12	1.00

144	SRPS2	0.80	185	SRplanning2	0.80	226	CPS13	1.00
145	SRPS3	0.90	186	SRplann3	0.90	227	CPS14	0.90
146	SRPS4	0.90	187	SRplann4	0.70	228	CPS15	0.90
147	SRPS5	0.80	188	SRplann5	0.70	229	Cabstract1	0.90
148	SRPS6	1.00	189	SRplann6	0.80	230	CABS2	1.00
149	SRPS7	0.90	190	SRplann7	0.80	231	Cabs3	1.00
150	SRPS8	0.90	191	SRplann8	0.80	232	Cabs4	0.90
151	SRPS9	0.90	192	SRjudg1	0.80	233	CAbs5	0.90
152	SRPS10	1.00	193	SRjudg2	0.80	234	Cab6	1.00
153	SRPS11	0.90	194	SRjudge3	0.80	235	Cabs7	1.00
154	SRPS12	1.00	195	SRjudge4	0.80	236	Cabstract8	1.00
155	SRPS13	1.00	196	SRjudge5	0.70	237	Cabstr9	1.00
156	SRPS14	0.90	197	SRJudgment6	0.90	238	Cabs10	1.00
157	SRPS15	0.90	198	SRjudgemnt7	0.90	239	Cabs11	1.00
158	SRabstract1	0.90	199	SRjudgement8	0.80	240	Cabs12	0.90
159	SRABS2	0.70	200	SRjudg9	0.80	241	Cabs13	1.00
160	SRabs3	0.90	201	SRjudge10	0.80	242	Cabs14	1.00
161	SRabs4	0.80	202	SRreasoninh1	1.00	243	Cabs15	1.00
162	SRAbs5	0.70	203	SRReasoning2	1.00	244	Cabs16	1.00
163	SRab6	0.80	204	SRReas3	1.00	245	Cabs17	0.00
164	SRabs7	0.70	205	SRreason4	1.00	246	Cabs18	1.00

Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
247	Cabs19	1.00	288	OSSSII4	0.70	329	OSpract19	1.00
248	Cabs20	0.00	289	OSSSII5	0.80	330	OSpract20	0.90
249	Cabs21	1.00	290	OSSSII6	0.80	331	OSPract21	1.00
250	Cabs22	1.00	291	OSSSII7	0.90	332	OSConcep1	1.00
251	Cabs23	1.00	292	OSSSII8	0.90	333	OSconcep2	1.00
252	Cabs24	1.00	293	OSSSII9	0.90	334	OSConcep3	0.70
253	Cabs25	1.00	294	OSSSII10	0.80	335	OSConce4	1.00
254	Cabs26	1.00	295	OSSSII11	0.90	336	OSCocept5	0.80
255	CPlann1	1.00	296	OSSSII12	0.80	337	OSConcept6	1.00
256	Cplanning2	1.00	297	OSSSII13	0.80	338	OSConcept7	0.20
257	Cplann3	1.00	298	OSSSII14	0.90	339	OSConcept8	1.00
258	Cplann4	1.00	299	OSSSII15	0.80	340	OSConcept9	1.00
259	Cplann5	1.00	300	OSSSI1	1.00	341	OSconcet10	0.80
260	Cplann6	1.00	301	OSSSI2	0.80	342	OSconcept11	1.00
261	Cplann7	1.00	302	OSSSI3	0.90	343	OSconcept12	1.00
262	Cplann8	1.00	303	OSSSI4	0.90	344	OSconcept13	1.00
263	Cjudg1	1.00	304	OSSSI5	0.20	345	OSconc14	0.80
264	Cjudg2	0.80	305	OSSSI6	0.90	346	OSConce15	1.00
265	Cjudge3	1.00	306	OSSSI7	0.80	347	OSConcept16	0.80
266	Cjudge4	0.90	307	OSSSI8	0.80	348	OSConcept17	1.00
267	Cjudge5	1.00	308	OSSSI9	0.80	349	OSconcet18	1.00
268	CJudgment6	1.00	309	OSSSI10	0.80	350	OSconcept19	0.80

269	Cjudgemnt7	0.90	310	OSSSI11	0.80	351	OSConcept20	1.00
270	Cjudgement8	0.90	311	OSpract1	0.80	352	OSconcept21	1.00
271	Cjudg9	1.00	312	OSpract2	0.90	353	OSConcept22	1.00
272	Cjudge10	0.90	313	OSpract3	0.90	354	OSCocpt23	0.80
273	Creasoninh1	1.00	314	OSpract4	0.80	355	OSConce24	1.00
274	CReasoning2	0.90	315	OSpract5	0.80	356	OSConcept25	1.00
275	CReas3	0.80	316	OSpract6	0.80	357	OSConcep26	0.80
276	Creason4	0.80	317	OSpract7	0.90	358	OSconcept27	1.00
277	Creason5	0.90	318	OSpract8	0.80	359	OSconcet28	0.80
278	Creason6	0.90	319	OSpract9	0.90	360	OSconcept29	1.00
279	Creason7	0.90	320	OSpract10	0.80	361	OSconcept30	1.00
280	Creason8	0.90	321	OSpract11	0.80	362	OSconc31	0.80
281	Creason9	0.90	322	OSpractic12	0.90	363	OSconce32	1.00
282	Cexp1	0.90	323	OSpract13	0.80	364	OScon33	1.00
283	Cexp2	1.00	324	OSPracti14	0.90	365	OScon34	0.80
284	Cexp3	0.90	325	OSpract15	0.90	366	OSConc35	1.00
285	OSSSII1	1.00	326	OSPract16	0.90	367	OSconc36	0.80
286	OSSSII2	0.80	327	OSPract17	0.80	368	OSconcept37	1.00
287	OSSSII3	0.90	328	OSpract18	0.80	369	OSconcept38	1.00

Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
370	OSconce39	1.00	411	SASSI11	0.89	452	SAConcept20	1.00
371	OSconc40	0.80	412	SApract1	0.89	453	SAconcept21	1.00
372	OSconcept41	1.00	413	SApract2	0.89	454	SAConcept22	1.00
373	OSconcept42	1.00	414	SApract3	1.00	455	SACocpt23	0.89
374	OSconcept43	1.00	415	SApract4	1.00	456	SAConce24	0.89
375	OSconcept44	1.00	416	SApract5	0.20	457	SAConcept25	0.89
376	OSconcpt45	0.80	417	SApract6	1.00	458	SAConcep26	0.89
377	OSConcept46	1.00	418	SApract7	1.00	459	SAconcept27	0.89
378	OSconcpt47	1.00	419	SApract8	1.00	460	SAconcet28	0.89
379	OSconcept48	1.00	420	SApract9	1.00	461	SAconcept29	0.89
380	OSconcet49	1.00	421	SApract10	1.00	462	SAconcept30	0.78
381	OSconct50	1.00	422	SApract11	0.89	463	SAconc31	0.67
382	OSconc51	1.00	423	SApractic12	0.89	464	SAconce32	0.78
383	OSconcept52	1.00	424	SApract13	0.89	465	SAcon33	0.78
384	OSconce53	1.00	425	SAPracti14	1.00	466	SAcon34	0.89
385	OScon54	1.00	426	SApract15	1.00	467	SAConc35	0.78
386	SASSII1	1.00	427	SAPract16	0.89	468	SAconc36	0.67
387	SASSII2	1.00	428	SAPract17	0.89	469	SAconcept37	0.78
388	SASSII3	1.00	429	SApract18	1.0	470	SAconcept38	0.78
389	SASSII4	1.00	430	SApract19	1.00	471	SAconce39	0.78
390	SASSII5	1.00	431	SApract20	1.00	472	SAconc40	0.89
391	SASSII6	1.00	432	SAPract21	1.0	473	SAconcept41	0.89
392	SASSII7	1.00	433	SAConcep1	1.00	474	SAconcept42	0.78

393	SASSII8	1.00	434	SAconcep2	1.00	475	SAconcept43	0.89
394	SASSII9	1.00	435	SAConcep3	1.00	476	SAconcept44	0.89
395	SASSII10	1.00	436	SAConce4	1.00	477	SAconcpt45	0.89
396	SASSII11	1.00	437	SACocept5	0.89	478	SAConcept46	0.89
397	SASSII12	1.00	438	SAConcept6	1.00	479	SAconcpt47	0.78
398	SASSII13	1.00	439	SAConcept7	1.00	480	SAconcept48	0.78
399	SASSII14	1.00	440	SAConcept8	1.00	481	SAconcet49	0.66
400	SASSII15	1.00	441	SAConcept9	0.89	482	SAconct50	0.95
401	SASSI1	1.00	442	SAconcet10	1.00	483	SAconc51	1
402	SASSI2	0.89	443	SAconcept11	1.00	484	SAconcept52	0.66
403	SASSI3	1.00	444	SAconcept12	0.89	485	SAconce53	0.76
404	SASSI4	1.00	445	SAconcept13	0.89	486	SAcon54	1
405	SASSI5	1.00	446	SAconc14	1.00	487	SRSSII1	1
406	SASSI6	0.89	447	SAConce15	1.00	488	SRSSII2	1
407	SASSI7	1.00	448	SAConcept16	1.00	489	SRSSII3	1
408	SASSI8	1.00	449	SAConcept17	1.00	490	SRSSII4	0.66
409	SASSI9	0.89	450	SAconcet18	1.00	491	SRSSII5	0.76
410	SASSI10	1.00	451	SAconcept19	1.00	492	SRSSII6	0.66

Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
493	SRSSII7	0.7	534	SRConcep1	0.76	575	SRconcept42	0.89
494	SRSSII8	1.00	535	SRconcep2	0.89	576	SRconcept43	1.00
495	SRSSII9	1.00	536	SRConcep3	1.00	577	SRconcept44	1.00
496	SRSSII10	1.00	537	SRConce4	0.76	578	SRconcpt45	0.89
497	SRSSII11	1.00	538	SRCocept5	0.67	579	SRConcept46	1.00
498	SRSSII12	1.00	539	SRConcept6	0.76	580	SRconcpt47	0.76
499	SRSSII13	1.00	540	SRConcept7	0.89	581	SRconcept48	0.89
500	SRSSII14	1.00	541	SRConcept8	1.00	582	SRconcet49	0.76
501	SRSSII15	1.00	542	SRConcept9	1.00	583	SRconct50	1.00
502	SRSSI1	0.89	543	SRconcet10	1.00	584	SRconc51	1.00
503	SRSSI2	0.76	544	SRconcept11	0.76	585	SRconcept52	0.76
504	SRSSI3	0.67	545	SRconcept12	0.76	586	SRconce53	0.76
505	SRSSI4	0.76	546	SRconcept13	1.00	587	SRcon54	0.89
506	SRSSI5	0.76	547	SRconc14	1.00	588	CSSII1	1.00
507	SRSSI6	0.67	548	SRConce15	0.76	589	CSSII2	0.76
508	SRSSI7	0.67	549	SRConcept16	0.76	590	CSSII3	1.00
509	SRSSI8	0.67	550	SRConcept17	0.89	591	CSSII4	0.89
510	SRSSI9	0.89	551	SRconcet18	0.76	592	CSSII5	0.76
511	SRSSI10	0.76	552	SRconcept19	0.76	593	CSSII6	1.00
512	SRSSI11	0.76	553	SRConcept20	0.89	594	CSSII7	0.89
513	SRpract1	1.00	554	SRconcept21	0.89	595	CSSII8	1.00
514	SRpract2	1.00	555	SRConcept22	1.00	596	CSSII9	0.76
515	SRpract3	1.00	556	SRCocpt23	0.89	597	CSSII10	1.00
516	SRpract4	0.89	557	SRConce24	1.00	598	CSSII11	0.89

517	SRpract5	0.76	558	SRConcept25	0.89	599	CSSII12	1.00
518	SRpract6	0.89	559	SRConcep26	1.00	600	CSSII13	1.00
519	SRpract7	1.00	560	SRconcept27	0.76	601	CSSII14	1.00
520	SRpract8	1.00	561	SRconcet28	0.76	602	CSSII15	1.00
521	SRpract9	0.76	562	SRconcept29	1.00	603	CSSI1	1.00
522	SRpract10	0.76	563	SRconcept30	0.76	604	CSSI2	0.76
523	SRpract11	1.00	564	SRconc31	0.76	605	CSSI3	0.89
524	SRpractic12	0.89	565	SRconce32	1.00	606	CSSI4	1.00
525	SRpract13	1.00	566	SRcon33	0.76	607	CSSI5	0.76
526	SRPracti14	0.89	567	SRcon34	0.89	608	CSSI6	1.00
527	SRpract15	0.76	568	SRConc35	1.00	609	CSSI7	0.76
528	SRPract16	0.89	569	SRconc36	1.00	610	CSSI8	1.00
529	SRPract17	0.76	570	SRconcept37	0.89	611	CSSI9	1.00
530	SRpract18	0.89	571	SRconcept38	0.76	612	CSSI10	1.00
531	SRpract19	0.76	572	SRconce39	0.76	613	CSSI11	1.00
532	SRpract20	0.76	573	SRconc40	0.76	614	Cpract1	1.00
533	SRPract21	0.76	574	SRconcept41	0.67	615	Cpract2	0.76

Sr. No.	Item No.	CVI	Sr. No.	Item No.	CVI
616	Cpract3	1.00	657	CCocpt23	1.00
617	Cpract4	0.89	658	CConce24	1.00
618	Cpract5	0.76	659	CConcept25	1.00
619	Cpract6	0.76	660	CConcep26	1.00
620	Cpract7	1.00	661	Cconcept27	0.89
621	Cpract8	1.00	662	Cconcet28	0.76
622	Cpract9	0.76	663	Cconcept29	0.76
623	Cpract10	1.00	664	Cconcept30	0.76
624	Cpract11	1.00	665	Cconc31	0.76
625	Cpractic12	0.76	666	Cconce32	1.00
626	Cpract13	1.00	667	Ccon33	0.89
627	CPracti14	1.00	668	Ccon34	0.76
628	Cpract15	1.00	669	CConc35	1.00
629	CPract16	0.89	670	Cconc36	1.00
630	CPract17	0.76	671	Cconcept37	0.89
631	Cpract18	0.76	672	Cconcept38	0.76
632	Cpract19	0.89	673	Cconce39	0.76
633	Cpract20	0.76	674	Cconc40	0.76
634	CPract21	0.76	675	Cconcept41	0.67
635	CConcep1	0.76	676	Cconcept42	0.89
636	Cconcep2	0.76	677	Cconcept43	0.76
637	CConcep3	0.89	678	Cconcept44	0.76
638	CConce4	0.89	679	Cconcpt45	0.89
639	CCocept5	1.00	680	CConcept46	0.76
640	CConcept6	0.76	681	Cconcpt47	0.76

641	CConcept7	0.00	682	Cconcept48	0.89
642	CConcept8	1.00	683	Cconcet49	0.76
643	CConcept9	1.00	684	Cconct50	1.00
644	Cconcet10	0.76	685	Cconc51	1.00
645	Cconcept11	0.89	686	Cconcept52	0.76
646	Cconcept12	0.76	687	Cconce53	0.76
647	Cconcept13	0.76	688	Ccon54	0.89
648	Cconc14	0.89			
649	CConce15	1.00			
650	CConcept16	0.76			
651	CConcept17	0.89			
652	Cconcet18	0.76			
653	Cconcept19	1.00			
654	CConcept20	1.00			
655	Cconcept21	1.00			
656	CConcept22	1.00			

Discussion

The development and validation of the Indigenous Diagnostic Questionnaire for Intellectual Disability addresses the need for a culturally relevant tool to assess Intellectual Disability, i.e., one of the most prevailing developmental disability in Pakistan. The questionnaire has two main subdomains i.e., intellectual skills and adaptive skills. It can be administered by mental health professionals and researchers in a cost-effective and time efficient manner to address both intellectual functioning and adaptive functioning domains of Intellectual Developmental Disorder in DSM-5TR. The questionnaire's administration takes about 45 minutes and is designed for children aged 6-18 years. The questionnaire is comprised of 3 dorms, ie one is for children age 6 to 11 years and the other is for children and adolescents with age 12 to 18 years. Present research study aimed at determining the degree to which the questionnaire encompasses the targeted construct, its related functions, and implications that can be drawn from the subsequent data, namely content validity of the questionnaire (Nayak & Khuntia, 2023). Content validity was assessed in two phases i.e., development phase and judgement quantification phase. In the later phase, content validity index method was utilized to assess the relevance of the items and questionnaire to the construct (Almanasreh et al., 2019; Lynn, 1986). The content validity Index of the questionnaire was calculated for individual items (I-CVI) and the whole questionnaire (S-CVI). Items with I-CVI greater than or equal to 0.78 were retained indicating that the experts agreed that those items were relevant to the construct (Nayak & Khuntia, 2023).

Several research has shown a range of acceptable estimates for Ave-CVI varying from 0.80 to 0.90. S-CVI/UA valued the overall content validity of the IDQID to be 0.81. However, the S-CVI/ Ave was 0.87. Though the Universal Agreement method deliberates only items with an I-CVI of 1.00 and might be considered more comprehensive than the Average method, it may undervalue the overall questionnaire's content validity since the probability of attaining 100% agreement in all items reduces as the number of experts increases. The S-CVI/Ave approach, which is less narrowed, may overemphasize content validity since the numerator in the average approach is always greater than the Universal Agreement approach if all I-CVI values are not equal to 1.00. Subsequently, both the S-CVI/UA and S-CVI/ Ave were computed; the IDQID's overall content validity maybe somewhere in between (Nayak & Khuntia, 2023).

After implementing various suggestions given by the experts a total of 173 items were retained of the 168 items.

Limitations

This study poses a few limitations including the possibility of bias owing to experts' subjective comments, and not determining criterion and construct validity and not evaluating confirmatory factor analysis due to time constraints.

Implications

Present research had future implications in healthcare department providing a comprehensive tool for diagnosing intellectual disability, planning idiosyncratic intervention, and assessing the progress of intervention for both children and adolescents. Furthermore, future research can focus on assessing construct and criterion validity, developing normative data for different age groups and enhancing this questionnaire's generalizability. This study stresses the need for policy makers to take measures to utilize culturally sensitive tools for mental health assessment in different domains of psychiatry.

Conclusion

The researchers developed and assessed the content validity of the Indigenous Diagnostic Questionnaire of Intellectual Disability for 6-18 years old. Content Validity Index for each item was greater than or equal to 0.78 and overall CVI was 0.87 by averaging approach and 0.81 by universal agreement approach. It is concluded that IDQID has great content validity and has implications for future research and clinical purposes. Addressing the limitations of this study and leveraging its implications can contribute to the enhancement of support services, educational programs, and policies aimed at improving the quality of life for intellectually disabled children and their families.

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