

**Psychometric characteristics of cognitive
development and achievement instruments in
Round 2 of Young Lives: Annexes**

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GRADE

ANNEX 1:
ITEM STATISTICS

Cognitive Developmental Assessment (CDA)

Table 1. Item statistics in the Cognitive Developmental Assessment, Quantitative Subscale – Ethiopia

	Response options					Difficulty ² (IRT)	CTT item fit indicator		IRT item fit Indicator		Bias Analysis ³				Warnings	Item kept for the analysis ⁵
	1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test corr.	Infit (IRT)	Outfit (IRT)	Gender	Language ⁴					
										Male - Female	Amarigna - Oromifa	Amarigna - Tigrigna	Oromifa - Tigrigna			
CDA01	17	24	57		1	1.8	-0.04	1.4	2	0.08	0.76*	1.33*	0.57*	A C E	No	
CDA02	11	12	76		1	-1.1	0.47	0.9	0.9	0	0.2	0.26	0.05		Yes	
CDA03	58	17	23		1	-0.1	0.47	1	0.9	0.07	-0.28	-0.34*	-0.06	E	Yes	
CDA04	8	24	65		2	-0.4	0.44	1	1	0	0.1	0.13	0.03		Yes	
CDA05	31	51	14		3	0.3	0.44	1	1	-0.06	-0.06	-0.34*	-0.28	E	Yes	
CDA06	54	19	25		2	0.1	0.41	1	1	0.14	0.32*	0.03	-0.29	E	Yes	
CDA07	25	14	59		2	-0.1	0.41	1.1	1.1	-0.05	0.38*	0.21	-0.17	E	Yes	
CDA08	11	20	24	43	2	0.7	0.37	1	0.9	0	-0.22	-0.36*	-0.14	E	Yes	
CDA09	42	32	22		3	0.8	0.47	1	1.1	0.05	-0.36*	0.03	0.39*	E	Yes	
CDA10	5	8	8	78	1	-1.2	0.38	0.9	0.7	0.07	0.01	-0.35*	-0.36*	E	Yes	
CDA11	6	76	9	8	1	-1.1	0.56	0.8	0.7	0	-0.05	-0.35	-0.3	E	Yes	
CDA12	6	12	76	5	1	-1.1	0.5	0.9	0.8	0.05	-0.19	-0.21	-0.02		Yes	
CDA13	43	17	17	21	2	0.7	0.52	0.9	0.9	-0.15	-0.49*	-0.23	0.26	E	Yes	
CDA14	9	10	16	64	1	-0.3	0.49	0.9	0.9	-0.11	0.02	0.3	0.28	E	Yes	
CDA15	17	38	26	16	2	1	0.32	1.1	1.2	-0.09	0.04	0	-0.04		Yes	

* Difference statistically significant at 5%

Cronbach's alpha = 0.67

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The number of observations for each language was: Amarigna: 842; Oromifa: 308; Tigrigna: 378.

5. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 2. Item statistics in the Cognitive Developmental Assessment, Quantitative Subscale – India

	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³		Warnings	Item kept for the analysis ⁵
	1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender	Language ⁴		
										Male - Female	Telugu - Kannada		
CDA01	23	58	18		0	0.6	0.33	1.1	1.2	0.15	-0.79*	E	Yes
CDA02	7	12	80		0	-0.7	0.41	1	0.9	0.14	2.12*	E	Yes
CDA03	74	15	11		0	-0.3	0.46	0.9	0.9	-0.09	-0.37		Yes
CDA04	5	30	64		0	0.3	0.43	1	1	0	0.56		Yes
CDA05	25	62	10		3	0.4	0.48	1	0.9	-0.13	-0.64*	E	Yes
CDA06	75	12	13		0	-0.3	0.4	1	1	-0.06	-0.7*	E	Yes
CDA07	33	22	44		0	1.3	0.34	1.1	1.2	0.1	0.46		Yes
CDA08	5	11	22	61	1	0.5	0.54	0.9	0.9	0	-0.25		Yes
CDA09	49	34	16		0	1.1	0.36	1.1	1.1	-0.14	-0.07		Yes
CDA10	2	3	5	90	0	-1.6	0.41	0.9	0.8	0.08	1.22		Yes
CDA11	3	90	4	2	0	-1.6	0.32	1	1	0	0.71		Yes
CDA12	7	15	75	3	1	-0.3	0.37	1	1	0.20*	0.94*	DE	No
CDA13	56	15	14	15	1	0.7	0.5	0.9	0.9	0.08	-0.2		Yes
CDA14	5	5	8	81	1	-0.8	0.42	1	0.9	-0.09	0.31		Yes
CDA15	15	54	21	9	1	0.8	0.38	1.1	1.1	-0.13	-0.12		Yes

* Difference statistically significant at 5%

Cronbach's alpha = 0.64

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The number of observations for each language was: Telugu: 1778; Kannada: 68.

5. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 3. Item statistics in the Cognitive Developmental Assessment, Quantitative Subscale – Peru

	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³		Warnings	Item kept for the analysis ⁵
	1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender	Language ⁴		
										Male - Female	Spanish - Quechua		
CDA01	13	56	31		1	0.88	0.22	1.24	1.36	0.20*	-0.05	D	No
CDA02	6	4	90		1	-1.44	0.47	0.88	0.67	0.12	-0.48*	E	Yes
CDA03	75	12	13		1	-0.16	0.43	0.99	0.94	0.1	-0.26		Yes
CDA04	6	28	65		1	0.38	0.43	1	0.96	0	0.04		Yes
CDA05	21	65	9		5	0.38	0.53	0.89	0.83	-0.06	-0.85*	E	Yes
CDA06	44	37	18		1	1.45	0.21	1.21	1.35	0.13	1.29*	E	Yes
CDA07	36	27	36		1	1.84	0.23	1.16	1.32	0	0.86*	E	Yes
CDA08	7	9	23	59	3	0.74	0.55	0.86	0.82	0	-0.77*	E	Yes
CDA09	52	34	13		1	1.07	0.37	1.05	1.1	-0.28*	0.69*	DE	No
CDA10	1	2	3	94	1	-2.16	0.4	0.91	0.61	-0.07	-0.59*	E	Yes
CDA11	2	93	2	2	1	-1.94	0.44	0.88	0.62	0	-0.80*	E	Yes
CDA12	4	8	85	3	1	-0.92	0.41	0.97	0.94	-0.07	0.26		Yes
CDA13	74	11	6	8	1	-0.12	0.49	0.92	0.81	0.07	-0.3		Yes
CDA14	5	3	8	83	1	-0.81	0.51	0.88	0.74	-0.26*	-0.51*	DE	No
CDA15	15	57	18	9	1	0.82	0.45	0.97	0.95	0	0.26		Yes

* Difference statistically significant at 5%

Cronbach's alpha = 0.62

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The number of observations for each language was: Spanish: 1732; Quechua: 216.

5. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 4. Item statistics in the Cognitive Developmental Assessment, Quantitative Subscale – Vietnam

	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³		Warnings	Item kept for the analysis
	1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item - Test corr.	Infit (IRT)	Outfit (IRT)	Gender	Language ⁴		
										Male - Female	Tiếng Việt - H'Mong		
CDA01	23	32	45	0	1	2.2	0.35	1.1	1.3	-0.06	0.06		Yes
CDA02	3	3	94	0	0	-2.2	0.38	0.9	0.7	0.00	-0.08		Yes
CDA03	48	37	14	0	1	1.3	0.46	1	1.1	0.13	0.89*	E	Yes
CDA04	3	19	78	0	0	-0.5	0.49	0.9	0.8	-0.07	-0.36	E	Yes
CDA05	16	74	5	1	5	-0.2	0.54	0.9	0.9	-0.12	-1.13*	E	Yes
CDA06	23	65	12	0	1	2.7	0.08	1.3	2.9	-0.14	2.88*	A C E	No
CDA07	22	54	23	0	0	2.7	0.3	1.1	1.7	0.13	1.06*	C E	Yes
CDA08	5	7	20	64	4	0.4	0.56	0.9	0.8	-0.18	-0.61*	E	Yes
CDA09	82	13	3	1	0	-0.8	0.38	1	1.1	-0.05	2.62*	E	Yes
CDA10	1	2	6	91	0	-1.7	0.46	0.9	0.7	0.00	-2.05*	E	Yes
CDA11	2	94	3	1	0	-2.2	0.42	0.9	0.8	0.15	-0.2		Yes
CDA12	3	7	89	2	0	-1.4	0.41	1	0.9	0.19	-0.31		Yes
CDA13	71	14	7	8	1	0	0.47	1	1	0.00	0.29		Yes
CDA14	6	3	6	85	1	-1.1	0.48	0.9	0.8	0.00	-0.63*	E	Yes
CDA15	17	56	14	11	1	0.8	0.5	1	1	0.12	-0.69*	E	Yes

* Difference statistically significant at 5%

Cronbach's alpha = 0.65

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The number of observations for each language was: Spanish: 1732; Quechua: 216.

5. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Mathematics Achievement Test

Table 5. Item statistics in the Math Assessment – Ethiopia

	Type ¹	Response options						Difficulty ⁴ (IRT)	CTT item fit indicator		IRT item fit Indicator		Bias Analysis ⁵				Warnings	Item kept for the analysis ⁷
		1 (%)	2 (%)	3 (%)	4 (%)	NR ² (%)	RA ³ (%)		Item-Rest correlation	Infit (IRT)	Outfit (IRT)	Gender		Language ⁶				
												Male - Female	Amarigna - Oromifa	Amarigna - Tigrigna	Oromifa - Tigrigna			
MATH01	OE						57	-0.2	0.66	0.9	0.8	0.28	-0.31	0.41	0.72*	E	Yes	
MATH02	OE						58	-0.2	0.66	0.9	0.8	-0.11	-0.05	0.09	0.15		Yes	
MATH03	OE						81	-2	0.59	0.9	1	0.12	0.04	0.1	0.06		Yes	
MATH04	MC	11	62	9	13	6	62	-0.5	0.61	1	0.9	-0.08	-0.4	-0.3	0.1		Yes	
MATH05	MC	6	74	7	7	7	74	-1.4	0.62	0.9	0.8	-0.13	-0.78*	-0.4	0.39	E	Yes	
MATH06	MC	53	15	9	16	7	53	0.1	0.57	1.1	1.1	-0.15	0.76*	-0.54*	-1.31*	E	Yes	
MATH07	MC	22	52	10	9	7	52	0.2	0.57	1.1	1	-0.1	0.11	0.09	-0.02		Yes	
MATH08	MC	18	19	15	42	7	42	0.8	0.54	1.1	1.2	-0.26	-0.69*	-0.41*	0.28	E	Yes	
MATH09	OE						59	-0.3	0.54	1.1	1.2	0.55*	1.15*	0.96*	-0.19	DE	No	
MATH10	OE						11	3.6	0.41	1.1	0.9	-0.27	-0.38	0.14	0.52		Yes	

* Difference statistically significant at 5%

Cronbach's alpha = 0.78

1. Type of item: OE refers to an open ended item, MC refers to a multiple choice item.

2. NR: No Response.

3. RA: Percentage of children who answer the item correctly.

4. The item difficulty according to the IRT 1 parameter model estimation.

5. Difference in difficulty between two groups that are compared (the DIF analysis used the method of Mantel-Haenszel).

6. The number of observations for each language was: Amarigna: 436; Oromifa: 159; Tigrigna: 198.

7. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 6. Item statistics in the Math Assessment – India

	Type ¹	Response options						Difficulty ⁴ (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ⁵	Warnings	Item kept for the analysis ⁷
		1 (%)	2 (%)	3 (%)	4 (%)	NR ² (%)	RA ³ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender		
												Male - Female		
MATH01	OE						83	-1.3	0.66	0.9	1.1	0.34		Yes
MATH02	OE						74	-0.3	0.7	0.9	0.8	-0.23		Yes
MATH03	OE						89	-2.3	0.6	1	1	0.25		Yes
MATH04	MC	5	75	3	11	6	75	-0.4	0.66	1	0.9	-0.15		Yes
MATH05	MC	3	83	2	6	6	83	-1.3	0.69	0.9	0.8	-0.28		Yes
MATH06	MC	61	12	6	14	6	61	0.8	0.62	1.1	1.1	-0.1		Yes
MATH07	MC	5	69	9	9	8	69	0.1	0.63	1.1	1.1	0.06		Yes
MATH08	MC	20	21	14	39	7	39	2.4	0.53	1.2	2	0.06	C	Yes
MATH09	OE						72	-0.1	0.66	1	1	0.55*	D	No
MATH10	OE						41	2.3	0.65	0.9	0.8	-0.32		Yes

* Difference statistically significant at 5%

Cronbach's alpha = 0.83

1. Type of item: OE refers to an open ended item, MC refers to a multiple choice item.

2. NR: No Response.

3. RA: Percentage of children who answer the item correctly.

4. The item difficulty according to the IRT 1 parameter model estimation.

5. Difference in difficulty between two groups that are compared (the DIF analysis used the method of Mantel-Haenszel).

6. The number of observations for each language was: Amarniga: 436; Oromifa: 159; Tigrigna: 198.

7. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 7. Item statistics in the Math Assessment – Peru

	Response options							Difficulty ⁴ (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ⁵		Warnings	Item kept for the analysis ⁷
	Type ¹	1 (%)	2 (%)	3 (%)	4 (%)	NR ² (%)	RA ³ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender	Language ⁶		
												Male - Female	Spanish - Quechua		
MATH01	OE						89	-0.6	0.4	1	1.2	0.88*	1.27*	DE	No
MATH02	OE						79	-0.4	0.56	1	1.1	0	0.09		Yes
MATH03	OE						95	-3	0.41	1.1	1.6	-0.11	1	C	Yes
MATH04	MC	4	70	4	19	3	70	-0.1	0.59	0.9	0.9	-0.28	0.16		Yes
MATH05	MC	2	91	1	3	3	91	-2.3	0.54	0.8	1.3	0.31	-0.79		Yes
MATH06	MC	68	10	5	13	4	68	0.8	0.56	1	0.9	0.22	-0.77*	E	Yes
MATH07	MC	6	77	4	7	6	77	1.5	0.55	1.2	1.3	-0.27	0		Yes
MATH08	MC	13	14	19	51	4	51	0.9	0.6	0.9	0.8	-0.44*	0.44	D	No
MATH09	OE						65	-0.2	0.55	1.1	1.1	0.36	-0.11		Yes
MATH10	OE						27	3.4	0.55	0.9	0.8	-0.21	-1.21		Yes

* Difference statistically significant at 5%

Cronbach's alpha = 0.71

1. Type of item: OE refers to an open ended item, MC refers to a multiple choice item.

2. NR: No Response.

3. RA: Percentage of children who answer the item correctly.

4. The item difficulty according to the IRT 1 parameter model estimation.

5. Difference in difficulty between two groups that are compared (the DIF analysis used the method of Mantel-Haenszel).

6. The number of observations for each language was: Spanish: 640; Quechua: 43.

7. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Table 8. Item statistics in the Math Assessment – Vietnam

	Type ¹							Difficulty ⁴ (IRT)	CTT item fit indicator	IRT item fit Indicators		Bias Analysis ⁵	Warnings	Item kept for the analysis ⁶
		1 (%)	2 (%)	3 (%)	4 (%)	NR ² (%)	RA ³ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender		
												Male - Female		
MATH01	OE						89	-1.5	0.62	1.1	1.9	0.34	C	Yes
MATH02	OE						88	-0.4	0.65	1.0	1.1	0.00		Yes
MATH03	OE						97	-2.6	0.58	1.0	1.4	-0.25		Yes
MATH04	MC	4	86	3	4	3	86	0.3	0.69	1.0	1.0	0.08		Yes
MATH05	MC	0	96	1	1	3	96	-1.8	0.64	0.8	0.6	0.00		Yes
MATH06	MC	77	6	5	8	3	77	0.5	0.65	1.0	0.9	0.39		Yes
MATH07	MC	7	70	8	9	5	70	-0.2	0.59	1.0	1.0	-0.37*	D	No
MATH08	MC	5	10	4	76	4	76	1.6	0.69	0.9	1.3	-0.05		Yes
MATH09	OE						86	0.7	0.61	1.1	1.1	0.00		Yes
MATH10	OE						48	3.4	0.64	1.0	0.8	-0.17		Yes

* Difference statistically significant at 5%

Crobach's alpha = 0.82

1. Type of item: OE refers to an open ended item, MC refers to a multiple choice item.

2. NR: No Response.

3. RA: Percentage of children who answer the item correctly.

4. The item difficulty according to the IRT 1 parameter model estimation.

5. Difference in difficulty between two groups that are compared (the DIF analysis used the method of Mantel-Haenszel).

6. The number of observations for each language was: Kinh: 76; Tiếng Việt Nam: 820.

7. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender. Gender bias suggests results should be analysed separately for each group.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%. E: The difference between language groups is significant at 5%.

Peabody Picture Vocabulary Test (PPVT)

Table 9. Item statistics in the Peabody Picture Vocabulary Test for the Younger Cohort, Ethiopia - Amarigna

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male – Female		
ppvt001	625	4	1	3	92	0	-7.62	0.24	1.02	1.70	0.14	C	Yes
ppvt002	625	2	2	94	2	0	-7.83	0.27	1.00	0.87	0.88 *	D	No
ppvt003	625	96	3	1	1	0	-8.24	0.23	0.97	1.13	0.00		Yes
ppvt004	625	87	7	2	4	0	-6.98	0.36	0.97	0.67	0.00		Yes
ppvt005	625	5	4	27	64	0	-5.45	0.39	1.02	1.11	0.06		Yes
ppvt006	625	90	6	1	2	0	-7.25	0.30	1.01	0.76	0.00		Yes
ppvt007	625	16	58	12	13	0	-5.12	0.42	1.02	1.06	0.00		Yes
ppvt008	625	19	15	58	8	0	-5.16	0.40	0.94	0.83	0.21		Yes
ppvt009	625	16	9	9	67	0	-5.60	0.42	0.99	0.98	0.07		Yes
ppvt010	625	21	50	16	13	0	-4.76	0.27	1.16	6.53	-0.55 *	CD	No
ppvt011	625	12	78	8	3	0	-6.21	0.37	0.95	1.79	-0.08	C	Yes
ppvt012	625	6	16	71	7	0	-5.81	0.36	1.08	3.25	0.00	C	Yes
ppvt013	750	9	86	4	2	0	-6.53	0.27	0.99	0.80	0.00		Yes
ppvt014	750	73	11	9	6	0	-5.62	0.20	1.23	2.61	-0.08	C	Yes
ppvt015	750	8	15	72	5	0	-5.56	0.34	0.96	2.64	0.10	C	Yes
ppvt016	750	77	11	9	3	0	-5.88	0.17	1.24	2.69	0.12	C	Yes
ppvt017	750	14	18	60	9	0	-4.85	0.35	1.00	1.54	0.18	C	Yes
ppvt018	750	22	38	21	19	0	-3.63	0.11	1.43	2.27	-0.35 *	CD	No
ppvt019	750	74	8	9	9	0	-5.63	0.10	1.23	3.26	0.27	A C	No
ppvt020	750	13	20	19	48	0	-4.18	-0.08	1.18	5.37	0.00	A C	No
ppvt021	750	11	15	67	7	0	-5.23	0.00	1.19	9.90	-0.26	A C	No
ppvt022	750	19	10	12	58	1	-4.76	0.21	1.28	8.01	0.23	C	Yes
ppvt023	750	15	47	27	11	0	-4.15	0.31	1.14	1.68	0.00	C	Yes
ppvt024	750	16	9	12	62	0	-4.94	0.28	1.13	1.43	-0.26		Yes
ppvt025	782	70	12	9	10	0	-4.98	0.28	0.97	1.48	0.31		Yes
ppvt026	782	18	17	55	10	0	-4.16	0.27	1.02	1.61	-0.09	C	Yes
ppvt027	782	19	19	24	38	0	-3.13	0.16	1.47	3.37	-0.09	C	Yes
ppvt028	782	9	11	15	65	0	-4.71	0.21	1.06	1.51	0.00	C	Yes
ppvt029	782	57	20	12	11	1	-4.27	0.19	1.17	2.07	0.42 *	CD	No
ppvt030	782	25	50	11	13	0	-3.89	0.21	1.24	3.83	-0.09	C	Yes

ppvt031	782	15	19	54	12	0	-4.13	0.25	1.04	1.34	0.23		Yes
ppvt032	782	17	62	12	9	0	-4.56	0.29	1.02	1.93	0.00	C	Yes
ppvt033	782	17	63	8	13	0	-4.58	0.27	1.07	2.49	-0.33	* CD	No
ppvt034	782	43	20	18	19	0	-3.47	0.12	1.58	3.90	-0.11	BC	No
ppvt035	782	16	18	16	50	0	-3.87	0.17	1.31	2.38	0.46	* CD	No
ppvt036	782	9	32	54	5	0	-4.10	0.12	1.42	5.90	0.23	C	Yes
ppvt037	575	27	33	16	23	0	-2.15	0.05	1.55	2.31	0.08	ABC	No
ppvt038	575	4	9	8	79	0	-4.31	0.11	0.72	0.72	-0.09		Yes
ppvt039	575	12	24	53	10	0	-3.20	0.11	1.14	2.14	-0.10	C	Yes
ppvt040	575	22	32	17	28	1	-1.37	0.10	1.67	1.94	0.10	BC	No
ppvt041	575	32	49	9	10	0	-3.01	0.11	1.22	1.67	0.20	C	Yes
ppvt042	575	38	27	20	14	1	-2.46	0.04	1.36	1.70	0.18	A_C	No
ppvt043	575	22	21	37	20	1	-2.35	0.06	1.40	1.98	0.22	A_C	No
ppvt044	575	28	32	15	26	0	-1.61	0.06	1.58	2.04	-0.02	ABC	No
ppvt045	575	15	21	10	54	0	-3.27	0.06	1.06	1.17	0.27	A	No
ppvt046	575	16	32	33	19	0	-2.04	0.13	1.32	1.67	0.24	C	Yes
ppvt047	575	12	11	71	6	0	-3.98	0.13	0.79	1.08	0.17		Yes
ppvt048	575	73	16	6	5	0	-4.08	0.03	0.89	3.71	-0.17	A_C	No
ppvt049	364	13	35	38	13	1	-1.49	0.12	1.22	1.49	0.00		Yes
ppvt050	364	60	23	9	8	0	-2.42	0.16	0.85	0.69	0.17		Yes
ppvt051	364	49	18	19	14	0	-1.99	0.01	0.99	0.69	-0.19	A	No
ppvt052	364	25	51	12	13	0	-2.06	0.12	1.04	0.82	-0.12		Yes
ppvt053	364	34	20	16	30	0	-1.03	0.15	1.52	1.26	0.21	B	No
ppvt054	364	10	47	27	16	0	-1.89	0.04	1.22	1.39	0.00	A	No
ppvt055	364	38	52	6	3	0	-1.49	0.12	1.22	1.04	-0.27		Yes
ppvt056	364	12	9	49	30	0	-1.06	-0.04	1.30	0.90	-0.48	A	No
ppvt057	364	16	62	13	9	0	-2.48	0.01	0.80	0.61	0.00	A	No
ppvt058	364	28	30	20	22	0	-0.33	0.04	1.49	0.97	0.07	A	No
ppvt059	364	7	14	74	5	0	-2.89	-0.06	0.78	0.63	0.05	A	No
ppvt060	364	18	31	13	38	0	-1.46	0.14	0.99	0.67	-0.17		Yes
ppvt061	203	2	3	6	88	0	-1.99	-0.06	0.56	0.31	-0.14	A_C	No
ppvt062	203	77	15	3	4	0	-1.73	0.02	0.63	0.35	-0.13	A_C	No
ppvt063	203	7	80	9	4	0	-1.79	0.10	0.59	0.31	-0.08	A_C	No
ppvt064	203	6	13	75	5	0	-1.68	0.13	0.66	0.45	0.07	C	Yes
ppvt065	203	16	9	22	52	1	-0.98	0.09	0.89	0.48	-0.04	A_C	No
ppvt066	203	23	24	33	20	0	-0.15	0.05	1.26	0.55	0.18	A	No
ppvt067	203	28	49	14	10	0	-0.85	0.26	1.00	0.52	-0.61	* D	No

ppvt068	203	71	18	5	5	0	-1.57	-0.03	0.66	0.32	-0.18	A_C_	No
ppvt069	203	23	14	21	42	0	-0.57	0.10	1.20	0.74	-0.17	A_	No
ppvt070	203	27	49	12	12	0	-0.87	0.20	0.88	0.40	-0.32	_C_	Yes
ppvt071	203	18	16	44	23	0	-0.66	0.14	0.89	0.35	-0.22	_C_	Yes
ppvt072	203	45	27	13	14	1	-0.70	0.14	0.95	0.44	-0.37	_C_	Yes
ppvt073	163	5	86	4	6	0	-1.50	-0.05	0.57	0.27	-0.07	A_C_	No
ppvt074	163	20	9	12	59	0	-0.79	0.17	0.73	0.26	-0.12	_C_	Yes
ppvt075	163	4	22	67	7	0	-1.03	0.19	0.77	0.45	-0.21	_C_	Yes
ppvt076	163	21	45	20	13	1	0.96	0.27	1.34	0.36	0.94 *	_CD	No
ppvt077	163	70	11	8	10	1	-1.11	-0.01	0.70	0.33	-0.35	A_C_	No
ppvt078	163	14	13	56	16	0	-0.72	0.12	0.86	0.41	-0.32	_C_	Yes
ppvt079	163	9	74	9	7	0	-1.22	0.00	0.61	0.29	0.07	A_C_	No
ppvt080	163	34	18	37	11	0	0.19	0.20	1.21	0.39	-0.46	_C_	Yes
ppvt081	163	34	31	12	23	1	0.36	0.17	1.31	0.41	-0.65	_C_	Yes
ppvt082	163	12	10	13	66	0	-0.99	0.09	0.77	0.36	-0.37	A_C_	No
ppvt083	163	21	25	33	20	1	0.22	0.14	1.32	0.44	0.26	_C_	Yes
ppvt084	163	35	12	13	40	0	-0.10	0.04	1.23	0.51	-0.52	A_	No
ppvt085	123	7	68	20	5	0	-0.55	0.10	0.65	0.20	-0.13	_C_	Yes
ppvt086	123	10	15	7	67	1	-0.53	0.11	0.79	0.26	0.26	_C_	Yes
ppvt087	123	54	19	17	9	1	-0.15	0.07	0.93	0.28	0.18	A_C_	No
ppvt088	123	27	28	18	28	0	1.01	-0.12	1.15	0.29	0.05	A_C_	No
ppvt089	123	16	27	40	16	1	0.39	-0.07	1.15	0.35	0.15	A_C_	No
ppvt090	123	57	15	15	13	0	-0.23	0.10	0.86	0.28	0.95 *	_CD	No
ppvt091	123	33	24	11	29	3	0.92	0.23	1.33	0.35	-0.11	_C_	Yes
ppvt092	123	19	35	40	7	0	0.61	-0.01	1.12	0.30	-0.77	A_C_	No
ppvt093	123	15	15	66	4	0	-0.49	-0.04	0.80	0.25	-0.11	A_C_	No
ppvt094	123	15	52	21	11	1	-0.07	0.06	0.92	0.28	0.00	A_C_	No
ppvt095	123	7	25	38	30	0	0.46	0.00	1.13	0.30	-0.33	A_C_	No
ppvt096	123	25	23	10	41	1	1.17	0.20	1.52	0.37	-1.34 *	_BCD	No
ppvt097	81	21	14	41	25	0	2.79	0.19	1.49	0.15	0.39	_C_	Yes
ppvt098	81	16	27	15	42	0	1.73	0.10	1.08	0.19	-0.55	_C_	Yes
ppvt099	81	16	20	25	40	0	1.11	0.20	1.14	0.23	0.87	_C_	Yes
ppvt100	81	9	12	74	5	0	0.04	-0.06	0.67	0.17	-0.18	A_C_	No
ppvt101	81	15	20	17	48	0	0.78	0.47	0.93	0.24	-0.14	_C_	Yes
ppvt102	81	11	27	30	30	2	3.07	0.22	1.22	0.37	0.95	_C_	Yes
ppvt103	81	6	30	53	11	0	0.61	-0.07	0.85	0.20	0.09	A_C_	No
ppvt104	81	12	7	12	68	0	0.19	0.32	0.69	0.17	0.20	_C_	Yes

ppvt105	81	40	23	22	15	0	1.11	0.17	0.97	0.21	0.23	<u>C</u>	Yes
ppvt106	81	25	22	38	15	0	2.05	0.19	1.16	0.20	-0.80	<u>C</u>	Yes
ppvt107	81	56	16	15	14	0	0.54	0.03	0.88	0.23	0.11	A <u>C</u>	No
ppvt108	80	9	30	54	6	1	0.54	0.00	0.79	0.18	-0.21	A <u>C</u>	No
ppvt109	40	8	3	5	85	0	1.01	-0.03	0.58	0.09	0.26	A <u>C</u>	No
ppvt110	40	13	65	8	15	0	1.46	0.20	0.58	0.07	0.15	<u>C</u>	Yes
ppvt111	40	20	20	55	5	0	1.73	0.15	0.84	0.09	-0.24	<u>C</u>	Yes
ppvt112	40	3	18	63	18	0	1.52	0.03	0.68	0.09	-0.86	A <u>C</u>	No
ppvt113	40	28	20	45	8	0	2.79	0.05	1.04	0.09	1.43 *	A <u>CD</u>	No
ppvt114	40	65	8	3	25	0	1.46	0.04	0.62	0.08	-0.11	A <u>C</u>	No
ppvt115	40	13	23	13	53	0	1.81	0.14	0.83	0.08	0.20	<u>C</u>	Yes
ppvt116	40	5	70	8	18	0	1.34	0.17	0.59	0.08	-0.04	<u>C</u>	Yes
ppvt117	40	35	40	20	5	0	2.43	0.19	1.01	0.09	-0.69	<u>C</u>	Yes
ppvt118	40	3	88	10	0	0	0.96	-0.03	0.55	0.09	0.36	A <u>C</u>	No
ppvt119	40	3	5	5	88	0	0.96	-0.16	0.54	0.09	0.36	A <u>C</u>	No
ppvt120	40	10	28	45	18	0	2.05	0.08	0.90	0.09	-0.41	A <u>C</u>	No
ppvt121	35	9	77	6	9	0	1.40	0.02	0.50	0.06	0.02	ABC	No
ppvt122	35	9	23	11	57	0	1.88	-0.10	0.78	0.08	0.66	A <u>C</u>	No
ppvt123	35	17	23	43	17	0	2.33	0.00	1.06	0.09	0.86	A <u>C</u>	No
ppvt124	35	34	31	20	11	3	2.79	0.38	1.13	0.09	0.91	<u>C</u>	Yes
ppvt125	35	9	17	51	23	0	2.05	0.10	0.79	0.07	-0.03	<u>C</u>	Yes
ppvt126	35	51	26	11	11	0	2.05	0.18	0.69	0.06	-0.03	<u>C</u>	Yes
ppvt127	35	3	80	14	3	0	1.34	0.02	0.54	0.07	-0.04	A <u>C</u>	No
ppvt128	35	69	14	14	3	0	1.59	0.17	0.55	0.06	0.11	<u>C</u>	Yes
ppvt129	35	20	11	26	43	0	2.33	0.19	0.92	0.09	0.86	<u>C</u>	Yes
ppvt130	35	60	9	3	29	0	1.81	-0.02	0.64	0.07	0.81	A <u>C</u>	No
ppvt131	35	17	14	34	34	0	2.66	-0.12	1.05	0.09	0.65	A <u>C</u>	No
ppvt132	35	6	9	80	6	0	1.34	-0.20	0.57	0.07	0.18	A <u>C</u>	No
ppvt133	28	11	32	46	7	4	2.54	0.16	0.84	0.07	0.43	<u>C</u>	Yes
ppvt134	28	18	57	7	18	0	2.23	0.00	0.65	0.05	-0.53	A <u>C</u>	Yes
ppvt135	28	50	29	18	4	0	2.43	0.27	0.68	0.06	-0.69	<u>C</u>	Yes
ppvt136	28	0	21	14	64	0	2.05	0.26	0.68	0.06	-0.03	<u>C</u>	Yes
ppvt137	28	89	11	0	0	0	1.52	0.19	0.54	0.06	0.00	<u>C</u>	Yes
ppvt138	28	25	21	46	7	0	3.40	0.16	0.94	0.07	-0.55	<u>C</u>	Yes
ppvt139	28	4	4	11	82	0	1.66	0.09	0.56	0.06	0.24	A <u>C</u>	Yes
ppvt140	28	21	21	39	18	0	3.83	0.03	1.07	0.09	1.11	A <u>C</u>	Yes
ppvt141	28	0	89	7	4	0	1.52	-0.02	0.47	0.05	0.26	ABC	Yes

ppvt142	28	32	39	29	0	0	3.23	0.28	1.14	0.08	-0.03	<u> </u> C	Yes
ppvt143	28	14	82	4	0	0	1.66	0.03	0.61	0.06	0.24	A <u> </u> C	Yes
ppvt144	28	14	4	75	7	0	1.81	0.04	0.50	0.05	0.20	ABC <u> </u>	Yes
ppvt145	24	4	4	0	92	0	1.73	0.53	0.46	0.04	0.37	<u> </u> BC	Yes
ppvt146	24	42	17	33	8	0	3.23	0.27	0.84	0.04	-0.81	<u> </u> C	Yes
ppvt147	24	0	96	4	0	0	1.66	0.03	0.47	0.05	0.24	ABC <u> </u>	Yes
ppvt148	24	8	0	92	0	0	1.73	0.43	0.46	0.05	0.37	<u> </u> BC	Yes
ppvt149	24	71	17	8	4	0	2.14	0.44	0.55	0.05	-0.27	<u> </u> C	Yes
ppvt150	24	8	8	67	17	0	2.23	0.24	0.54	0.04	-0.12	<u> </u> C	Yes
ppvt151	24	4	25	17	54	0	2.54	0.20	0.86	0.06	-0.52	<u> </u> C	Yes
ppvt152	24	29	33	13	25	0	3.40	0.24	0.98	0.05	-1.56	<u> </u> C	Yes
ppvt153	24	25	33	29	13	0	3.23	0.11	1.04	0.06	-0.03	<u> </u> C	Yes
ppvt154	24	17	50	8	25	0	2.66	0.18	0.83	0.05	0.17	<u> </u> C	Yes
ppvt155	24	71	13	4	13	0	2.14	0.19	0.53	0.04	0.11	<u> </u> C	Yes
ppvt156	24	17	21	13	50	0	2.66	-0.23	0.72	0.04	0.17	A <u> </u> C	Yes
ppvt157	21	14	76	10	0	0	2.23	0.14	0.47	0.03	-0.53	<u> </u> BC	Yes
ppvt158	21	29	19	24	29	0	3.60	0.30	0.63	0.02	-0.25	<u> </u> C	Yes
ppvt159	21	29	29	5	38	0	3.23	0.19	0.77	0.05	-0.03	<u> </u> C	Yes
ppvt160	21	24	14	57	5	0	2.66	0.46	0.51	0.03	0.17	<u> </u> C	Yes
ppvt161	21	38	5	10	48	0	2.92	0.37	0.59	0.03	-0.52	<u> </u> C	Yes
ppvt162	21	57	10	24	10	0	2.66	0.32	0.56	0.03	-0.34	<u> </u> C	Yes
ppvt163	21	24	48	29	0	0	2.92	0.07	0.70	0.04	-0.52	A <u> </u> C	Yes
ppvt164	21	48	14	10	29	0	2.92	0.16	0.83	0.05	0.65	<u> </u> C	Yes
ppvt165	21	29	24	10	38	0	3.23	0.24	0.90	0.04	0.64	<u> </u> C	Yes
ppvt166	21	14	67	5	14	0	2.43	0.21	0.79	0.06	0.23	<u> </u> C	Yes
ppvt167	21	14	10	71	5	0	2.33	0.19	0.71	0.05	-0.38	<u> </u> C	Yes
ppvt168	21	24	24	48	5	0	2.92	-0.02	0.91	0.05	0.65	A <u> </u> C	Yes
ppvt169	14	0	29	7	64	0	3.07	0.21	0.67	0.03	-0.30	<u> </u> C	Yes
ppvt170	14	0	93	0	7	0	2.54	0.27	0.48	0.03	-0.03	<u> </u> BC	Yes
ppvt171	14	64	21	7	7	0	3.07	0.16	0.60	0.03	0.34	<u> </u> C	Yes
ppvt172	14	21	14	43	21	0	3.60	0.46	0.63	0.02	-1.32	<u> </u> C	Yes
ppvt173	14	7	21	14	57	0	3.23	0.39	0.53	0.02	-0.03	<u> </u> C	Yes
ppvt174	14	7	79	14	0	0	2.79	0.19	0.57	0.03	0.39	<u> </u> C	Yes
ppvt175	14	7	0	93	0	0	2.54	0.07	0.55	0.03	-0.03	A <u> </u> C	Yes
ppvt176	14	7	79	7	7	0	2.79	0.05	0.66	0.04	-0.72	A <u> </u> C	Yes
ppvt177	14	43	21	14	21	0	3.60	-0.06	0.97	0.04	-0.25	A <u> </u> C	Yes
ppvt178	14	0	21	71	7	0	2.92	0.54	0.55	0.03	0.08	<u> </u> C	Yes

ppvt179	14	0	0	36	64	0	3.07	0.64	0.60	0.03	0.95	C	Yes
ppvt180	14	57	7	36	0	0	3.23	0.08	0.73	0.03	-0.81	A C	Yes
ppvt181	14	29	14	0	57	0	3.23	0.49	0.91	0.04	-0.81	C	Yes
ppvt182	14	93	7	0	0	0	2.54	0.57	0.59	0.03	-0.52	C	Yes
ppvt183	14	7	0	86	7	0	2.66	0.10	0.51	0.03	-0.34	C	Yes
ppvt184	14	0	14	21	64	0	3.07	0.17	0.68	0.03	-0.30	C	Yes
ppvt185	14	29	14	0	50	7	4.10	0.46	0.92	0.03	0.60	C	Yes
ppvt186	14	14	14	71	0	0	2.92	0.29	0.55	0.03	-0.52	C	Yes
ppvt187	14	7	86	0	7	0	2.66	0.17	0.59	0.03	0.17	C	Yes
ppvt188	14	7	21	29	36	7	3.83	0.35	0.83	0.03	0.11	C	Yes
ppvt189	14	14	57	21	7	0	3.23	-0.01	0.78	0.03	0.64	A C	Yes
ppvt190	14	0	21	71	7	0	2.92	0.44	0.57	0.03	0.08	C	Yes
ppvt191	14	93	7	0	0	0	2.54	0.24	0.50	0.03	-0.52	BC	Yes
ppvt192	14	29	57	14	0	0	3.23	0.42	0.97	0.05	-0.03	C	Yes
ppvt193	14	14	7	7	71	0	2.92	-0.15	0.55	0.03	-0.52	A C	Yes
ppvt194	14	14	79	0	7	0	2.79	0.14	0.57	0.03	-0.14	C	Yes
ppvt195	14	7	0	86	7	0	2.66	0.63	0.47	0.03	0.17	BC	Yes
ppvt196	14	71	7	14	7	0	2.92	0.21	0.60	0.03	0.08	C	Yes
ppvt197	14	36	0	43	21	0	3.83	0.16	0.89	0.04	-1.04	C	Yes
ppvt198	14	0	0	0	100	0	2.43		0.49	0.03	-0.21	BC	Yes
ppvt199	14	7	14	71	7	0	2.92	0.12	0.61	0.03	-1.22	C	Yes
ppvt200	14	86	7	0	7	0	2.66	0.09	0.57	0.03	0.17	A C	Yes
ppvt201	14	21	21	14	43	0	3.60	0.36	0.65	0.02	-0.25	C	Yes
ppvt202	14	43	50	0	7	0	3.40	0.08	0.71	0.03	-1.56	A C	Yes
ppvt203	14	0	14	86	0	0	2.66	0.20	0.54	0.03	-0.34	C	Yes
ppvt204	14	21	71	7	0	0	2.92	0.68	0.51	0.02	0.08	C	Yes

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 10. Item statistics in the Peabody Picture Vocabulary Test for the Younger Cohort, India - Telugu

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male – Female		
ppvt001	1500	3	1	0	96	0	-7.35	0.15	1.00	3.42	-0.16	<u>C</u>	Yes
ppvt002	1500	1	2	96	1	0	-7.27	0.14	0.98	1.80	-0.30	<u>C</u>	Yes
ppvt003	1500	99	0	0	0	0	-8.87	0.14	0.98	1.93	-0.27	<u>C</u>	Yes
ppvt004	1500	96	2	1	1	0	-7.26	0.16	1.00	0.83	0.31	<u>C</u>	Yes
ppvt005	1500	3	3	35	59	0	-3.91	0.19	1.31	1.96	0.00	<u>C</u>	Yes
ppvt006	1500	98	2	1	0	0	-7.84	0.14	0.97	0.58	0.54	<u>C</u>	Yes
ppvt007	1500	11	83	3	3	0	-5.51	0.24	1.08	2.26	0.15	<u>C</u>	Yes
ppvt008	1500	28	12	54	6	0	-3.65	0.23	1.23	1.56	0.05	<u>C</u>	Yes
ppvt009	1500	8	5	7	80	0	-5.27	0.03	1.20	3.25	0.17	<u>A C</u>	No
ppvt010	1500	7	60	19	14	0	-3.95	0.19	1.44	3.43	-0.10	<u>C</u>	Yes
ppvt011	1500	10	79	7	4	0	-5.21	0.05	1.15	1.91	0.20	<u>A C</u>	No
ppvt012	1500	4	17	77	2	0	-5.00	0.22	1.16	1.50	0.00	<u>C</u>	Yes
ppvt013	1539	19	71	6	4	0	-4.58	0.13	1.12	2.09	0.28 *	<u>CD</u>	No
ppvt014	1539	79	6	8	7	0	-5.15	0.12	1.19	3.22	-0.44 *	<u>CD</u>	No
ppvt015	1539	6	13	78	3	0	-5.09	0.17	1.13	2.65	0.27	<u>C</u>	Yes
ppvt016	1539	65	18	12	6	0	-4.20	0.13	1.31	2.83	0.27 *	<u>CD</u>	No
ppvt017	1539	12	16	68	5	0	-4.35	0.12	1.14	1.71	0.00	<u>C</u>	Yes
ppvt018	1539	31	38	20	11	0	-2.61	0.15	1.59	2.34	-0.18	<u>BC</u>	No
ppvt019	1539	57	6	26	11	0	-3.73	0.18	1.55	4.20	0.00	<u>BC</u>	No
ppvt020	1539	19	24	12	45	0	-3.07	0.19	1.48	2.54	0.00	<u>C</u>	Yes
ppvt021	1539	21	22	38	19	0	-2.61	0.09	1.63	2.53	0.07	<u>ABC</u>	No
ppvt022	1539	40	2	6	52	0	-3.47	0.14	1.26	2.02	0.00	<u>C</u>	Yes
ppvt023	1539	23	45	19	13	0	-3.07	0.21	1.48	2.42	0.06	<u>C</u>	Yes
ppvt024	1539	28	14	9	48	0	-3.24	0.07	1.31	2.16	-0.11	<u>A C</u>	No
ppvt025	1458	78	11	4	7	0	-4.31	0.12	0.88	1.47	0.10	<u>C</u>	Yes
ppvt026	1458	12	8	68	11	0	-3.77	0.14	1.00	1.46	0.17	<u>C</u>	Yes
ppvt027	1458	20	15	34	32	0	-1.58	0.21	1.43	1.50	0.00	<u>C</u>	Yes
ppvt028	1458	13	7	14	66	0	-3.64	0.16	1.03	1.50	-0.13	<u>C</u>	Yes
ppvt029	1458	59	12	7	22	0	-3.25	0.10	1.31	3.07	0.18	<u>C</u>	Yes
ppvt030	1458	7	56	34	3	0	-3.10	0.14	1.40	2.64	-0.19	<u>C</u>	Yes
ppvt031	1458	12	25	49	14	0	-2.70	0.17	1.25	1.54	0.20	<u>C</u>	Yes

ppvt032	1458	17	67	9	7	0	-3.68	0.21	1.06	1.58	-0.05	<u>C</u>	Yes
ppvt033	1458	11	67	8	14	0	-3.69	0.22	1.03	1.44	-0.20		Yes
ppvt034	1458	44	23	20	13	0	-2.42	0.15	1.47	2.07	0.17	<u>C</u>	Yes
ppvt035	1458	19	20	13	48	0	-2.62	0.15	1.32	1.63	0.44 *	<u>CD</u>	No
ppvt036	1458	6	30	61	3	0	-3.37	0.11	1.10	1.99	0.00	<u>C</u>	Yes
ppvt037	1156	20	39	21	20	0	-1.52	0.16	1.51	1.86	-0.21	<u>BC</u>	No
ppvt038	1156	5	5	2	88	0	-3.84	0.05	0.65	0.62	-0.09	<u>A</u>	No
ppvt039	1156	10	29	50	11	0	-2.12	0.14	1.23	1.28	0.00		Yes
ppvt040	1156	29	27	18	27	0	-0.82	0.12	1.68	1.62	0.07	<u>BC</u>	No
ppvt041	1156	24	53	9	14	0	-2.29	0.13	1.20	1.65	0.28 *	<u>CD</u>	No
ppvt042	1156	23	33	19	25	0	-0.37	0.00	2.19	2.35	-0.25	<u>ABC</u>	No
ppvt043	1156	25	17	45	14	0	-1.84	0.13	1.15	1.18	0.09		Yes
ppvt044	1156	25	34	14	27	0	-0.70	0.06	1.67	1.64	0.33 *	<u>ABCD</u>	No
ppvt045	1156	25	29	15	31	0	-1.02	0.14	1.49	1.44	0.25		Yes
ppvt046	1156	12	30	41	17	0	-0.95	0.17	1.47	1.41	0.15		Yes
ppvt047	1156	6	5	85	3	0	-3.72	0.20	0.68	1.59	0.00	<u>C</u>	Yes
ppvt048	1156	85	6	5	4	0	-3.72	0.02	0.76	1.74	0.00	<u>A C</u>	No
ppvt049	826	5	21	70	4	0	-2.12	-0.08	0.81	0.76	0.07	<u>A</u>	No
ppvt050	826	42	38	14	6	0	-0.92	0.23	1.35	1.09	-0.09		Yes
ppvt051	826	44	25	21	11	0	-1.01	0.34	1.20	0.90	0.14		Yes
ppvt052	826	27	51	10	12	0	-1.35	-0.02	1.18	1.05	-0.19	<u>A</u>	No
ppvt053	826	39	16	27	17	0	0.85	0.07	1.77	1.55	-0.59 *	<u>ABCD</u>	No
ppvt054	826	13	47	23	16	0	-1.20	0.01	1.42	1.54	0.00	<u>A C</u>	No
ppvt055	826	59	32	4	5	0	-1.71	0.23	1.01	1.00	0.06		Yes
ppvt056	826	27	19	9	45	0	-1.08	-0.06	1.17	1.01	-0.32 *	<u>A D</u>	No
ppvt057	826	18	59	12	12	0	-1.69	0.23	1.03	1.08	-0.30 *	<u>D</u>	No
ppvt058	826	24	25	22	28	0	0.38	0.03	1.79	1.34	0.22	<u>AB</u>	No
ppvt059	826	5	16	74	4	0	-2.28	0.03	0.71	0.72	-0.07	<u>A</u>	No
ppvt060	826	22	14	14	50	0	-1.30	0.04	1.19	1.09	0.00	<u>A</u>	No
ppvt061	573	21	20	10	50	0	-0.49	0.31	1.01	0.50	0.09	<u>C</u>	Yes
ppvt062	573	94	3	2	1	0	-1.94	0.19	0.51	0.36	0.00	<u>C</u>	Yes
ppvt063	573	7	76	11	6	0	-1.45	0.28	0.64	0.40	0.15	<u>C</u>	Yes
ppvt064	573	8	14	73	6	0	-1.34	0.32	0.69	0.47	0.00	<u>C</u>	Yes
ppvt065	573	15	13	30	42	0	-0.15	0.22	1.33	0.71	0.19		Yes
ppvt066	573	21	23	26	31	0	0.84	0.14	1.62	0.86	0.20	<u>B</u>	No
ppvt067	573	23	56	12	10	0	-0.74	0.16	1.21	0.82	-0.12		Yes
ppvt068	573	67	18	8	7	0	-1.15	0.35	0.76	0.49	0.29	<u>C</u>	Yes

ppvt069	573	10	3	11	75	0	-1.41	-0.06	0.73	0.55	0.23	A	No
ppvt070	573	21	59	9	12	0	-0.85	0.32	0.92	0.54	-0.15		Yes
ppvt071	573	9	15	67	9	0	-1.13	0.21	0.79	0.51	0.00		Yes
ppvt072	573	45	27	12	16	0	-0.29	0.32	1.17	0.64	0.25		Yes
ppvt073	506	2	95	1	3	0	-1.65	0.11	0.50	0.30	0.11	BC	No
ppvt074	506	9	5	2	84	0	-1.37	0.21	0.56	0.32	0.21	C	Yes
ppvt075	506	26	13	50	11	0	-0.22	0.25	1.14	0.56	0.50 *	D	No
ppvt076	506	34	27	25	14	0	0.55	0.23	1.35	0.61	-0.24		Yes
ppvt077	506	68	9	16	7	0	-0.90	0.23	0.78	0.48	-0.13	C	Yes
ppvt078	506	9	9	74	8	0	-1.06	0.29	0.70	0.40	0.14	C	Yes
ppvt079	506	10	57	23	10	0	-0.50	0.07	1.12	0.66	0.06	A	No
ppvt080	506	37	18	32	12	0	0.37	0.21	1.42	0.64	0.08		Yes
ppvt081	506	28	38	13	20	0	0.34	-0.06	1.32	0.58	0.77 *	A D	No
ppvt082	506	19	12	11	58	0	-0.55	0.18	1.01	0.55	-0.11		Yes
ppvt083	506	26	23	35	17	0	0.51	0.12	1.48	0.64	0.44 *	D	No
ppvt084	506	23	13	8	57	0	-0.50	0.15	1.03	0.56	-0.28		Yes
ppvt085	442	18	51	23	9	0	0.03	0.26	1.03	0.45	0.24	C	Yes
ppvt086	442	26	24	23	26	0	1.27	0.19	1.23	0.53	0.17		Yes
ppvt087	442	60	17	14	9	0	-0.33	0.05	1.02	0.56	0.16	A	No
ppvt088	442	17	35	15	33	0	0.88	0.25	1.13	0.41	-0.13	C	Yes
ppvt089	442	18	27	37	19	0	0.68	0.18	1.28	0.52	0.10		Yes
ppvt090	442	44	19	14	24	0	0.34	0.30	1.04	0.44	0.23	C	Yes
ppvt091	442	22	27	15	36	0	0.72	-0.13	1.25	0.50	-0.02	A C	No
ppvt092	442	11	40	39	10	0	0.52	-0.03	1.21	0.51	-0.30	A	No
ppvt093	442	14	12	73	1	0	-0.74	-0.12	0.71	0.39	0.28	A C	No
ppvt094	442	16	61	16	7	0	-0.34	0.11	1.03	0.52	-0.06		Yes
ppvt095	442	9	17	56	18	0	-0.17	0.29	0.86	0.37	0.10	C	Yes
ppvt096	441	42	22	11	25	0	0.40	-0.03	1.24	0.53	0.18	A	No
ppvt097	284	24	19	25	33	0	2.51	0.10	1.21	0.35	0.42	A C	No
ppvt098	284	19	48	12	21	0	1.02	0.13	1.11	0.36	0.00	C	Yes
ppvt099	284	7	18	28	46	0	1.06	0.26	1.00	0.30	0.21	C	Yes
ppvt100	284	1	2	94	2	0	-0.33	0.00	0.55	0.23	-0.11	A C	No
ppvt101	284	8	20	12	60	0	0.58	0.31	0.70	0.23	-0.06	C	Yes
ppvt102	284	20	27	17	36	0	2.43	0.24	1.17	0.43	0.16	C	Yes
ppvt103	284	14	18	47	21	0	1.05	0.31	0.82	0.24	-0.14	C	Yes
ppvt104	284	3	8	9	80	0	0.02	0.13	0.63	0.25	-0.36	C	Yes
ppvt105	284	59	18	7	16	0	0.62	0.27	0.73	0.24	0.00	C	Yes

ppvt106	284	19	40	27	14	0	1.34	0.36	0.91	0.27	0.15	<u>C</u>	Yes
ppvt107	284	37	17	33	14	0	1.46	0.09	1.35	0.45	-0.12	A <u>C</u>	No
ppvt108	283	8	30	58	3	0	0.63	0.15	0.86	0.28	-0.19	<u>C</u>	Yes
ppvt109	209	6	5	6	84	0	0.53	0.23	0.51	0.16	-0.14	<u>C</u>	Yes
ppvt110	209	13	82	4	0	0	0.57	0.33	0.55	0.16	-0.26	<u>C</u>	Yes
ppvt111	209	26	22	50	2	0	1.46	0.29	0.82	0.19	0.00	<u>C</u>	Yes
ppvt112	209	9	22	47	22	0	1.58	0.11	0.91	0.21	-0.32	<u>C</u>	Yes
ppvt113	209	34	12	43	10	0	2.06	0.05	1.19	0.31	-0.06	A <u>C</u>	No
ppvt114	209	85	3	2	10	0	0.51	0.23	0.52	0.16	0.00	<u>C</u>	Yes
ppvt115	209	31	3	1	64	0	1.03	-0.06	0.72	0.18	-0.06	A <u>C</u>	No
ppvt116	209	13	65	7	15	0	1.01	-0.08	0.68	0.18	-0.27	A <u>C</u>	No
ppvt117	209	18	36	35	11	0	2.99	0.07	1.18	0.36	-0.11	A <u>C</u>	No
ppvt118	209	2	93	3	1	0	0.32	0.24	0.47	0.16	-0.14	<u>BC</u>	No
ppvt119	209	7	7	14	72	0	0.81	-0.17	0.56	0.16	0.00	A <u>C</u>	No
ppvt120	208	18	28	36	17	0	1.96	0.27	0.86	0.20	-0.33	<u>C</u>	Yes
ppvt121	185	19	52	22	6	0	1.59	0.22	0.74	0.15	-0.08	<u>C</u>	Yes
ppvt122	185	8	12	14	66	0	1.19	0.33	0.64	0.15	-0.29	<u>C</u>	Yes
ppvt123	185	19	15	50	17	0	1.68	0.26	0.78	0.15	-0.49	<u>C</u>	Yes
ppvt124	185	17	44	25	14	0	1.86	0.04	0.96	0.18	0.21	A <u>C</u>	No
ppvt125	185	10	25	50	15	0	1.66	0.03	0.86	0.17	0.05	A <u>C</u>	No
ppvt126	185	78	5	4	13	0	0.89	0.26	0.58	0.15	-0.11	<u>C</u>	Yes
ppvt127	185	1	98	1	0	0	0.46	0.08	0.43	0.13	-0.19	ABC	No
ppvt128	185	91	2	7	0	0	0.61	-0.20	0.46	0.13	-0.14	ABC	No
ppvt129	185	19	9	34	38	0	2.09	-0.10	0.95	0.16	-0.45	A <u>C</u>	No
ppvt130	185	40	19	14	28	0	2.02	0.25	0.92	0.16	-0.22	<u>C</u>	Yes
ppvt131	185	23	10	26	41	0	1.98	0.12	1.02	0.20	-0.46	<u>C</u>	Yes
ppvt132	184	6	5	85	3	1	0.73	0.15	0.54	0.15	-0.35	<u>C</u>	Yes
ppvt133	170	1	15	78	6	0	1.05	0.31	0.54	0.13	-0.25	<u>C</u>	Yes
ppvt134	170	4	91	1	4	0	0.76	0.17	0.47	0.13	-0.09	<u>BC</u>	No
ppvt135	170	48	22	26	5	0	1.88	0.34	0.80	0.14	-0.06	<u>C</u>	Yes
ppvt136	170	9	9	7	75	0	1.12	0.18	0.60	0.14	-0.36	<u>C</u>	Yes
ppvt137	170	79	7	13	1	0	1.02	-0.07	0.65	0.16	-0.14	A <u>C</u>	No
ppvt138	170	29	41	19	11	0	2.62	0.18	0.94	0.16	-0.14	<u>C</u>	Yes
ppvt139	170	8	12	15	65	0	1.37	0.25	0.65	0.14	0.21	<u>C</u>	Yes
ppvt140	170	6	19	41	34	0	2.41	0.25	0.94	0.15	0.00	<u>C</u>	Yes
ppvt141	170	0	98	1	2	0	0.63	0.02	0.42	0.12	-0.19	ABC	No
ppvt142	170	26	17	52	4	0	1.73	0.31	0.72	0.13	-0.48	<u>C</u>	Yes

ppvt143	170	2	96	1	2	0	0.67	0.23	0.44	0.12	-0.07	<u>BC</u>	No
ppvt144	169	7	11	69	12	1	1.25	0.32	0.57	0.12	-0.31	<u>C</u>	Yes
ppvt145	163	4	7	5	84	0	0.99	0.35	0.46	0.11	0.00	<u>BC</u>	No
ppvt146	163	18	20	50	12	0	1.86	0.13	0.79	0.14	-0.17	<u>C</u>	Yes
ppvt147	163	5	90	4	1	0	0.86	0.18	0.48	0.12	-0.06	<u>BC</u>	No
ppvt148	163	12	11	61	15	0	1.54	0.27	0.65	0.13	0.24	<u>C</u>	Yes
ppvt149	163	55	30	8	7	0	1.72	0.31	0.77	0.14	0.00	<u>C</u>	Yes
ppvt150	163	28	18	44	10	0	2.06	0.27	0.78	0.13	0.28	<u>C</u>	Yes
ppvt151	163	8	25	6	61	0	1.56	0.23	0.69	0.13	0.14	<u>C</u>	Yes
ppvt152	163	39	43	6	13	0	2.26	0.03	1.04	0.18	-0.34	<u>A C</u>	No
ppvt153	163	9	77	11	2	0	1.14	0.11	0.62	0.14	-0.08	<u>C</u>	Yes
ppvt154	163	13	44	6	37	0	2.06	-0.09	0.87	0.14	0.00	<u>A C</u>	No
ppvt155	163	57	26	7	10	0	1.66	0.28	0.67	0.13	-0.31	<u>C</u>	Yes
ppvt156	162	31	10	5	53	1	1.77	-0.07	0.82	0.14	0.33	<u>A C</u>	No
ppvt157	137	5	77	14	4	0	1.46	0.31	0.55	0.11	0.00	<u>C</u>	Yes
ppvt158	137	36	27	10	27	0	2.62	0.04	0.95	0.14	-0.14	<u>A C</u>	No
ppvt159	137	23	34	10	32	0	2.77	0.09	0.93	0.14	-0.23	<u>A C</u>	No
ppvt160	137	40	18	20	22	0	3.34	0.32	0.86	0.09	-0.11	<u>C</u>	Yes
ppvt161	137	26	5	8	61	0	1.84	0.29	0.69	0.12	-0.61 *	<u>CD</u>	No
ppvt162	137	48	12	9	30	0	2.20	0.19	0.77	0.12	0.09	<u>C</u>	Yes
ppvt163	137	31	36	15	18	0	2.59	0.34	0.76	0.10	-0.30	<u>C</u>	Yes
ppvt164	137	58	15	4	22	0	1.90	0.21	0.77	0.13	0.05	<u>C</u>	Yes
ppvt165	137	3	17	4	76	0	1.48	0.25	0.52	0.10	0.04	<u>C</u>	Yes
ppvt166	137	4	89	1	6	0	1.20	-0.06	0.51	0.11	0.00	<u>A C</u>	No
ppvt167	137	4	1	93	1	0	1.12	-0.03	0.49	0.11	-0.07	<u>ABC</u>	No
ppvt168	136	14	15	43	28	1	2.33	0.13	0.91	0.14	-0.52	<u>C</u>	Yes
ppvt169	111	3	20	13	65	0	2.06	0.24	0.63	0.10	-0.06	<u>C</u>	Yes
ppvt170	111	14	78	5	2	0	1.77	0.23	0.58	0.10	-0.42	<u>C</u>	Yes
ppvt171	111	49	26	6	19	0	2.48	0.33	0.72	0.10	-0.16	<u>C</u>	Yes
ppvt172	111	41	24	17	18	0	3.81	0.06	0.94	0.13	-0.14	<u>A C</u>	No
ppvt173	111	21	28	34	17	0	3.81	0.19	1.00	0.12	0.11	<u>C</u>	Yes
ppvt174	111	12	68	14	6	0	2.00	0.34	0.59	0.09	-0.43	<u>C</u>	Yes
ppvt175	111	3	8	81	8	0	1.72	0.13	0.56	0.10	-0.29	<u>C</u>	Yes
ppvt176	111	32	44	11	14	0	2.62	0.24	0.85	0.11	-0.26	<u>C</u>	Yes
ppvt177	111	27	10	24	39	0	3.26	0.12	0.95	0.12	0.40	<u>C</u>	Yes
ppvt178	111	6	14	64	15	0	2.09	0.25	0.64	0.09	-0.19	<u>C</u>	Yes
ppvt179	111	6	8	11	75	0	1.84	-0.04	0.62	0.10	-0.61 *	<u>A CD</u>	No

ppvt180	111	41	14	43	3	0	2.74	0.34	0.81	0.10	0.43	C	Yes
ppvt181	83	11	10	46	34	0	3.34	0.17	0.90	0.10	-0.30	C	Yes
ppvt182	83	13	75	10	2	0	4.42	0.11	1.00	0.11	0.43	C	Yes
ppvt183	83	2	4	83	11	0	2.13	0.17	0.59	0.09	-0.56	C	Yes
ppvt184	83	11	5	11	73	0	2.31	-0.19	0.61	0.08	-0.16	A C	No
ppvt185	83	36	19	20	24	0	3.26	0.02	0.86	0.09	0.24	A C	No
ppvt186	83	12	2	86	0	0	2.09	0.22	0.57	0.08	0.00	C	Yes
ppvt187	83	6	90	0	4	0	2.00	0.16	0.53	0.08	-0.17	C	Yes
ppvt188	83	13	46	20	20	0	3.94	0.12	0.93	0.09	0.64	C	Yes
ppvt189	83	12	58	17	13	0	2.65	0.25	0.71	0.08	0.00	C	Yes
ppvt190	83	2	19	66	12	0	2.46	0.28	0.60	0.07	-0.10	C	Yes
ppvt191	83	71	16	6	7	0	2.36	0.28	0.64	0.08	-0.38	C	Yes
ppvt192	83	27	59	2	12	0	2.62	0.13	0.76	0.09	-0.48	C	Yes
ppvt193	76	58	7	21	14	0	4.42	0.23	0.91	0.07	0.43	C	Yes
ppvt194	76	16	64	7	13	0	2.62	0.37	0.64	0.07	-0.14	C	Yes
ppvt195	76	20	14	57	9	0	2.80	0.18	0.74	0.08	-0.45	C	Yes
ppvt196	76	57	12	8	24	0	2.80	0.28	0.68	0.07	0.19	C	Yes
ppvt197	76	39	16	24	21	0	3.26	0.03	0.83	0.08	-0.44	A C	No
ppvt198	76	3	7	3	88	0	2.17	0.32	0.54	0.08	-0.03	C	Yes
ppvt199	76	0	9	84	7	0	2.24	0.13	0.61	0.08	-0.28	C	Yes
ppvt200	76	54	8	12	26	0	2.86	0.25	0.75	0.08	-0.07	C	Yes
ppvt201	76	14	12	3	71	0	2.48	-0.01	0.66	0.08	0.05	A C	No
ppvt202	76	5	75	5	14	0	2.41	0.19	0.65	0.08	-0.09	C	Yes
ppvt203	76	5	33	59	3	0	2.74	-0.05	0.74	0.08	-0.42	A C	No
ppvt204	76	28	45	4	24	0	3.10	0.30	0.75	0.07	-0.20	C	Yes

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 11. Item statistics in the Peabody Picture Vocabulary Test for the Younger Cohort. Peru - Spanish

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	674	9	77	5	9	0	-7.99	0.40	1.12	1.10	0.21	_____	Yes
ppvt002	692	15	39	12	34	1	-5.51	0.58	1.36	1.43	-0.14	_____	Yes
ppvt003	695	89	7	2	1	0	-9.14	0.26	1.22	3.37	0.02	<u> C </u>	Yes
ppvt004	741	3	92	1	4	0	-9.52	0.26	1.04	0.90	0.27	_____	Yes
ppvt005	760	48	25	15	11	1	-5.95	0.54	1.42	1.39	-0.39	_____	Yes
ppvt006	770	9	5	6	79	0	-7.96	0.37	1.36	1.75	0.37	<u> C </u>	Yes
ppvt007	783	54	18	16	11	0	-6.18	0.54	1.34	0.96	0.00	_____	Yes
ppvt008	818	50	23	11	16	1	-5.86	0.58	1.21	1.06	-0.43	_____	Yes
ppvt009	803	18	8	7	67	1	-6.63	0.53	1.12	1.03	0.36	_____	Yes
ppvt010	828	14	69	8	9	1	-6.56	0.53	1.13	0.85	-0.31	_____	Yes
ppvt011	835	4	4	82	9	1	-7.44	0.50	0.79	0.40	0.09	<u> C </u>	Yes
ppvt012	868	11	12	47	29	1	-4.97	0.63	1.24	0.96	0.14	_____	Yes
ppvt013	876	3	13	75	9	0	-6.33	0.54	1.14	1.34	-0.09	_____	Yes
ppvt014	902	12	3	77	7	0	-6.42	0.56	0.96	0.95	0.14	_____	Yes
ppvt015	892	8	76	9	7	0	-6.06	0.61	0.90	0.69	0.15	_____	Yes
ppvt016	905	15	60	15	9	1	-5.05	0.65	1.07	0.90	-0.37	_____	Yes
ppvt017	914	69	12	9	10	1	-5.42	0.64	1.03	0.85	0.11	_____	Yes
ppvt018	922	59	18	7	15	1	-4.81	0.68	1.01	0.68	0.43	_____	Yes
ppvt019	913	7	73	7	12	0	-5.45	0.66	0.88	0.77	-0.24	_____	Yes
ppvt020	897	22	48	22	6	1	-4.00	0.67	1.17	1.04	-0.66	_____	Yes
ppvt021	913	12	8	19	60	1	-4.48	0.65	1.16	1.32	0.32	_____	Yes
ppvt022	953	9	12	70	9	0	-4.82	0.64	1.14	1.56	-0.09	<u> C </u>	Yes
ppvt023	955	17	65	11	6	0	-4.35	0.68	1.08	0.99	-0.33	_____	Yes
ppvt024	937	17	9	11	63	1	-4.07	0.71	0.98	0.99	0.18	_____	Yes
ppvt025	948	8	13	64	14	1	-4.03	0.73	0.88	0.61	-0.38	_____	Yes
ppvt026	929	4	8	70	18	0	-4.27	0.72	0.90	0.70	0.00	_____	Yes
ppvt027	989	11	6	76	6	1	-4.44	0.72	0.84	0.82	0.17	_____	Yes
ppvt028	973	8	6	12	74	0	-4.11	0.71	0.94	0.79	-0.22	_____	Yes
ppvt029	973	15	75	1	8	1	-4.06	0.69	1.06	1.03	-0.15	_____	Yes
ppvt030	986	10	16	28	46	0	-2.44	0.70	1.10	0.89	-0.05	_____	Yes
ppvt031	971	12	19	55	14	1	-2.84	0.70	1.14	0.79	-0.35	_____	Yes

ppvt032	955	14	77	6	3	0	-3.86	0.69	1.04	1.29	-0.30	___	Yes
ppvt033	947	22	9	10	58	1	-2.82	0.72	1.03	0.78	0.67	___	Yes
ppvt034	952	1	2	0	97	0	-4.81	0.77	0.50	0.28	0.00	<u>BC</u>	No
ppvt035	949	37	16	21	24	1	-1.64	0.65	1.27	0.97	-0.12	___	Yes
ppvt036	938	5	15	25	55	0	-2.52	0.69	1.17	0.91	0.00	___	Yes
ppvt037	928	45	15	11	27	2	-1.88	0.68	1.14	0.94	-0.36	___	Yes
ppvt038	892	11	43	30	15	1	-1.64	0.65	1.27	0.97	-0.21	___	Yes
ppvt039	880	11	26	53	9	1	-2.07	0.70	1.06	0.72	0.15	___	Yes
ppvt040	859	17	11	47	24	1	-1.69	0.67	1.13	0.82	0.21	___	Yes
ppvt041	811	3	5	66	27	0	-2.37	0.72	0.99	0.71	0.11	___	Yes
ppvt042	789	36	41	10	12	1	-1.09	0.66	1.07	0.78	0.08	___	Yes
ppvt043	731	66	4	11	19	0	-1.82	0.74	0.81	0.73	0.39	___	Yes
ppvt044	708	2	49	18	30	1	-0.99	0.68	0.96	0.57	-0.11	___	Yes
ppvt045	686	48	14	19	18	0	-0.76	0.65	1.05	0.74	-0.26	___	Yes
ppvt046	674	3	22	7	68	0	-1.46	0.71	0.90	0.68	-0.16	___	Yes
ppvt047	665	9	74	6	11	0	-1.57	0.76	0.69	0.41	-0.11	<u>C</u>	Yes
ppvt048	655	13	63	18	5	0	-1.06	0.70	0.88	0.51	-0.13	___	Yes
ppvt049	647	70	11	3	15	1	-1.26	0.71	0.87	0.50	0.44	<u>C</u>	Yes
ppvt050	635	12	19	62	6	0	-0.88	0.69	0.89	0.52	0.00	___	Yes
ppvt051	628	5	29	21	43	1	0.03	0.55	1.28	0.88	0.20	___	Yes
ppvt052	604	10	62	20	8	0	-0.73	0.68	0.91	0.55	0.11	___	Yes
ppvt053	597	10	18	54	17	0	-0.33	0.66	0.88	0.41	0.08	<u>C</u>	Yes
ppvt054	584	11	27	45	15	1	0.14	0.58	1.14	0.58	-0.07	___	Yes
ppvt055	559	13	13	29	44	0	0.29	0.58	1.10	0.54	0.46	___	Yes
ppvt056	530	20	25	12	44	0	0.43	0.59	0.98	0.43	0.00	<u>C</u>	Yes
ppvt057	507	61	22	11	5	1	-0.19	0.61	1.05	0.69	0.00	___	Yes
ppvt058	475	30	28	28	15	0	1.48	0.47	1.13	0.47	0.62	<u>C</u>	Yes
ppvt059	437	55	23	6	15	0	0.37	0.58	1.03	0.48	0.09	<u>C</u>	Yes
ppvt060	417	57	12	15	15	0	0.38	0.61	0.84	0.33	0.20	<u>C</u>	Yes
ppvt061	387	13	43	27	16	2	2.72	0.37	1.12	0.41	-0.24	<u>C</u>	Yes
ppvt062	354	19	30	20	30	1	2.59	0.37	1.23	0.52	-0.13	___	Yes
ppvt063	310	19	21	15	45	0	1.48	0.52	0.87	0.27	0.10	<u>C</u>	Yes
ppvt064	282	32	52	6	10	0	1.43	0.53	0.85	0.26	0.10	<u>C</u>	Yes
ppvt065	257	15	18	62	5	0	1.27	0.53	0.90	0.33	-0.10	<u>C</u>	Yes
ppvt066	240	12	21	56	10	0	1.60	0.51	0.83	0.29	0.43	<u>C</u>	Yes
ppvt067	224	50	11	27	13	0	1.93	0.48	0.83	0.22	-0.09	<u>C</u>	Yes
ppvt068	204	22	52	14	9	3	2.01	0.47	0.90	0.28	-0.20	<u>C</u>	Yes

ppvt069	177	29	16	21	33	0	2.96	0.37	0.97	0.30	-0.28	C	Yes
ppvt070	174	22	37	30	9	1	2.81	0.38	1.03	0.27	-0.74	C	Yes
ppvt071	170	8	41	27	24	1	3.33	0.35	0.92	0.20	1.16	C	Yes
ppvt072	155	32	30	20	15	3	3.21	0.36	0.94	0.19	0.82	C	Yes
ppvt073	133	18	17	16	42	8	3.04	0.37	0.94	0.22	0.08	C	Yes
ppvt074	119	41	23	18	16	3	3.27	0.36	0.84	0.15	-0.40	C	Yes
ppvt075	109	24	17	48	12	0	3.18	0.38	0.83	0.13	0.00	C	Yes
ppvt076	93	18	45	17	17	2	3.49	0.35	0.79	0.12	-0.24	C	Yes
ppvt077	86	10	19	41	28	2	3.79	0.33	0.81	0.09	0.07	C	Yes
ppvt078	76	17	25	28	30	0	4.64	0.25	0.94	0.08	0.26	C	Yes
ppvt079	69	19	25	39	16	1	4.16	0.28	0.99	0.11	1.55	C	Yes
ppvt080	66	33	9	20	36	2	4.32	0.29	0.77	0.08	-0.41	C	Yes
ppvt081	58	12	38	24	26	0	4.44	0.27	0.89	0.10	0.59	C	Yes
ppvt082	48	4	10	42	42	2	4.57	0.26	0.94	0.07	0.68	C	Yes
ppvt083	39	18	21	15	46	0	5.74	0.18	1.06	0.06	0.06	C	Yes
ppvt084	35	40	11	9	40	0	5.04	0.24	0.73	0.05	-0.49	C	Yes
ppvt085	30	23	23	27	27	0	5.74	0.18	1.13	0.07	0.06	C	Yes
ppvt086	27	22	30	44	4	0	5.74	0.18	0.96	0.06	1.61	C	Yes
ppvt087	25	4	36	16	44	0	5.74	0.20	0.72	0.02	1.61	C	Yes
ppvt088	23	17	30	26	26	0	6.09	0.17	1.07	0.05	0.22	C	Yes
ppvt089	18	22	28	33	17	0	7.27	0.12	0.95	0.02	-0.49	C	Yes
ppvt090	14	21	7	64	7	0	8.82	0.09	0.37	0.00	0.24	ABC	Yes
ppvt091	9	0	22	33	44	0	6.87	0.14	1.01	0.03	0.17	C	Yes
ppvt092	7	43	14	43	0	0	7.27	0.13	0.70	0.02	-0.49	C	Yes
ppvt093	7	14	0	43	43	0	7.27	0.13	0.70	0.02	-0.49	C	Yes
ppvt094	6	33	17	17	33	0	7.85	0.10	0.80	0.02	-1.49	C	Yes
ppvt095	5	0	80	0	20	0	8.82	0.08	1.42	0.01	0.24	A C	Yes
ppvt096	3	0	0	67	33	0	8.82	0.08	1.42	0.01	0.24	A C	Yes
ppvt097	3	0	33	33	33	0	8.82	0.09	0.37	0.00	0.24	ABC	Yes
ppvt098	3	33	33	33	0	0	8.82	0.09	0.37	0.00	0.24	ABC	Yes
ppvt099	3	33	0	67	0	0	7.85	0.10	1.50	0.03	-1.49	ABC	Yes
ppvt100	3	0	33	67	0	0	7.85	0.10	1.50	0.03	-1.49	ABC	Yes
ppvt101	3	0	0	33	67	0	10.30		1.00	1.00	0.00		Yes
ppvt102	3	33	0	33	33	0	8.82	0.0753	1.42	0.01	0.24	A C	Yes
ppvt103	1	0	100	0	0	0	10.30		1.00	1.00	0.00		Yes
ppvt104	1	0	0	0	100	0	10.30		1.00	1.00	0.00		Yes
ppvt105	1	0	0	0	100	0	10.30		1.00	1.00	0.00		Yes

ppvt106	1	100	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt107	1	100	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt108	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt109	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt110	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt111	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt112	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt113	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt114	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt115	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt116	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt117	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt118	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt119	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt120	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt121	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt122	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt123	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt124	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes
ppvt125	0	0	0	0	0	0	10.30		1.00	1.00	0.00	_____	Yes

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 12. Item statistics in the Peabody Picture Vocabulary Test for the Younger Cohort, Vietnam - Tieng Viet Nam

	N	Response options					Difficulty (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis	Warnings	Item kept for the analysis
		1 (%)	2 (%)	3 (%)	4 (%)	NR (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	648	1	1	1	97	0	-8.62	0.14	0.97	0.59	0.10	___	Yes
ppvt002	648	0	1	99	0	0	-10.00	0.09	0.98	0.15	0.41	A_C_	No
ppvt003	648	100	0	0	0	0	-11.62	0.05	0.97	0.04	-0.99	A_C_	No
ppvt004	648	94	3	1	2	0	-7.75	0.21	0.93	0.40	0.00	_C_	Yes
ppvt005	647	1	2	31	66	0	-5.67	0.39	0.94	0.87	-0.24	___	Yes
ppvt006	648	95	2	1	1	0	-8.13	0.16	1.01	0.64	-0.62	___	Yes
ppvt007	648	4	90	3	3	0	-7.25	0.25	0.93	0.56	-0.14	___	Yes
ppvt008	648	13	7	77	4	0	-6.19	0.34	0.92	0.90	0.00	___	Yes
ppvt009	648	10	2	4	84	0	-6.65	0.28	0.98	2.08	-0.19	_C_	Yes
ppvt010	647	2	71	14	13	0	-5.86	0.32	1.06	1.23	0.00	___	Yes
ppvt011	648	8	80	7	5	0	-6.39	0.31	1.00	0.83	-0.25	___	Yes
ppvt012	648	4	12	77	7	0	-6.22	0.31	0.98	1.06	0.17	___	Yes
ppvt013	869	4	92	2	1	0	-7.18	0.22	1.01	1.14	0.56 *	_D	No
ppvt014	869	75	4	7	14	0	-5.65	0.28	1.18	2.24	0.17	_C_	Yes
ppvt015	869	5	4	89	1	0	-6.82	0.30	0.96	0.45	-0.34	_C_	Yes
ppvt016	869	67	13	7	13	0	-5.25	0.35	1.11	1.55	0.38 *	_CD	No
ppvt017	869	10	12	71	7	0	-5.42	0.40	0.97	0.90	-0.06	___	Yes
ppvt018	868	21	45	27	6	1	-4.29	0.35	1.29	2.38	-0.08	_C_	Yes
ppvt019	869	83	6	7	3	0	-6.23	0.24	1.14	1.70	-0.29	_C_	Yes
ppvt020	869	9	28	6	57	0	-4.78	0.42	1.07	1.27	-0.09	___	Yes
ppvt021	869	6	9	83	3	0	-6.18	0.21	1.18	2.40	-0.05	_C_	Yes
ppvt022	869	28	4	13	55	0	-4.71	0.36	1.17	2.69	-0.17	_C_	Yes
ppvt023	869	14	70	11	5	0	-5.38	0.38	0.99	1.62	-0.34 *	_CD	No
ppvt024	869	21	3	4	72	0	-5.49	0.35	1.05	1.26	-0.05	___	Yes
ppvt025	1592	63	19	9	8	2	-3.77	0.38	1.32	1.99	-0.32 *	_CD	No
ppvt026	1593	4	1	90	4	0	-6.09	0.32	1.00	1.09	-0.36	___	Yes
ppvt027	1593	4	8	2	85	0	-5.45	0.36	1.05	2.21	-0.29	_C_	Yes
ppvt028	1593	3	2	4	91	0	-6.16	0.31	0.96	1.48	-0.19	___	Yes
ppvt029	1593	83	6	7	3	1	-5.27	0.28	1.19	2.82	0.16	_C_	Yes
ppvt030	1593	5	87	5	2	0	-5.69	0.27	1.11	5.25	0.57 *	_CD	No
ppvt031	1593	5	7	79	9	0	-4.95	0.41	1.00	2.02	0.07	_C_	Yes
ppvt032	1592	2	94	2	2	0	-6.56	0.29	0.93	1.17	-0.23	___	Yes

ppvt033	1593	5	85	3	6	0	-5.48	0.34	1.07	1.36	0.08	___	Yes
ppvt034	1593	78	11	8	3	0	-4.80	0.37	1.14	1.58	0.29 *	__CD	No
ppvt035	1592	9	10	12	69	1	-4.16	0.34	1.31	1.92	-0.40 *	__CD	No
ppvt036	1593	1	37	60	2	0	-3.60	0.20	1.68	3.07	0.22	_BC_	No
ppvt037	1541	19	43	31	6	1	-2.45	0.26	1.60	2.28	0.09	_BC_	No
ppvt038	1542	1	2	2	95	0	-6.36	0.36	0.80	0.78	0.13	___	Yes
ppvt039	1541	17	18	47	18	1	-2.72	0.25	1.63	2.46	0.06	_BC_	No
ppvt040	1541	33	31	22	13	2	-1.84	0.27	1.54	2.16	-0.06	_BC_	No
ppvt041	1542	46	44	3	7	0	-2.50	0.31	1.49	2.19	-0.30 *	__CD	No
ppvt042	1541	12	41	20	27	0	-0.02	0.18	1.48	3.95	0.30	_C_	Yes
ppvt043	1540	14	13	58	13	2	-3.36	0.40	1.30	1.69	0.27 *	__CD	No
ppvt044	1541	20	21	11	47	1	-2.71	0.42	1.27	1.94	0.14	_C_	Yes
ppvt045	1541	24	18	9	48	1	-2.78	0.37	1.38	1.95	-0.17	_C_	Yes
ppvt046	1542	11	63	16	9	0	-3.69	0.45	1.16	1.70	-0.37 *	__CD	No
ppvt047	1542	7	4	84	4	0	-5.12	0.45	0.91	0.95	0.13	___	Yes
ppvt048	1542	45	17	16	21	1	-2.60	0.30	1.51	2.26	0.23	_BC_	No
ppvt049	1145	2	9	88	1	0	-3.76	0.63	0.72	0.78	0.00	___	Yes
ppvt050	1145	50	16	12	21	1	-2.07	0.52	1.05	1.20	0.00	___	Yes
ppvt051	1145	74	10	6	8	1	-3.18	0.56	0.94	1.27	0.09	___	Yes
ppvt052	1145	36	38	15	10	0	-1.50	0.49	1.08	1.11	-0.09	___	Yes
ppvt053	1144	29	26	26	18	1	-0.18	0.32	1.33	1.19	0.13	___	Yes
ppvt054	1145	8	51	25	15	1	-2.12	0.37	1.33	1.81	0.10	_C_	Yes
ppvt055	1145	55	38	4	3	0	-2.33	0.54	1.02	1.24	0.02	___	Yes
ppvt056	1145	15	18	28	39	0	-1.58	0.48	1.13	1.11	-0.26 *	__D	No
ppvt057	1145	9	70	12	8	1	-3.00	0.55	0.95	1.56	0.45 *	_CD	No
ppvt058	1145	6	23	46	25	0	-1.92	0.36	1.35	1.71	0.14	_C_	Yes
ppvt059	1145	12	29	41	17	1	-1.70	0.51	1.06	1.10	-0.44 *	__D	No
ppvt060	1145	21	22	15	40	1	-1.65	0.54	1.02	0.95	-0.28 *	__D	No
ppvt061	848	17	2	2	79	0	-2.47	0.67	0.73	0.87	0.00	___	Yes
ppvt062	848	25	42	19	13	2	-0.25	0.35	1.30	0.93	-0.06	___	Yes
ppvt063	848	7	65	15	13	1	-2.00	0.64	0.81	0.66	0.02	___	Yes
ppvt064	848	12	14	69	5	0	-2.13	0.67	0.74	0.78	-0.05	___	Yes
ppvt065	848	19	6	9	67	0	-2.06	0.63	0.83	0.72	0.15	___	Yes
ppvt066	847	22	26	30	21	1	-0.53	0.39	1.25	0.96	-0.17	___	Yes
ppvt067	848	24	51	13	12	0	-1.48	0.53	1.04	0.83	0.19	___	Yes
ppvt068	848	74	13	7	5	1	-2.30	0.66	0.74	0.81	0.07	___	Yes
ppvt069	848	8	5	17	70	0	-2.16	0.65	0.79	0.81	-0.19	___	Yes

ppvt070	848	23	64	7	5	1	-1.98	0.67	0.75	0.61	0.00	___	Yes
ppvt071	848	18	11	62	9	0	-1.91	0.55	0.99	1.02	-0.13	___	Yes
ppvt072	848	79	10	4	6	1	-2.49	0.71	0.66	0.55	-0.15	___	Yes
ppvt073	751	17	63	7	13	0	-1.66	0.66	0.78	0.58	0.27 *	___D	No
ppvt074	751	13	7	3	78	0	-2.13	0.73	0.63	0.47	-0.10	___C_	Yes
ppvt075	751	12	6	79	2	0	-2.19	0.72	0.64	0.61	-0.13	___	Yes
ppvt076	751	33	33	23	11	1	-0.48	0.48	1.06	0.65	0.51 *	___D	No
ppvt077	751	72	8	6	13	0	-1.95	0.69	0.70	0.60	0.25	___	Yes
ppvt078	751	11	9	67	13	0	-1.81	0.67	0.75	0.63	0.16	___	Yes
ppvt079	751	2	74	18	6	0	-2.01	0.71	0.67	0.52	0.00	___	Yes
ppvt080	751	49	10	32	9	0	-1.16	0.58	0.90	0.65	0.13	___	Yes
ppvt081	750	28	35	16	20	1	-0.57	0.45	1.15	0.76	0.11	___	Yes
ppvt082	751	16	23	16	44	1	-0.99	0.52	1.01	0.76	0.29	___	Yes
ppvt083	751	16	32	36	15	1	-0.61	0.46	1.12	0.79	0.32 *	___D	No
ppvt084	750	17	27	17	40	0	-0.80	0.49	1.07	0.74	0.24	___	Yes
ppvt085	597	30	27	20	22	1	0.18	0.42	1.12	0.62	-0.11	___	Yes
ppvt086	597	22	14	22	41	0	-0.48	0.51	1.00	0.63	-0.06	___	Yes
ppvt087	597	27	28	24	20	1	0.18	0.39	1.21	0.69	0.00	___	Yes
ppvt088	597	22	22	15	41	0	-0.46	0.53	0.96	0.58	0.12	___	Yes
ppvt089	596	20	29	30	21	1	0.05	0.43	1.14	0.61	0.00	___	Yes
ppvt090	597	51	10	16	23	1	-0.83	0.58	0.88	0.54	0.02	___	Yes
ppvt091	596	26	33	27	14	1	1.12	0.29	1.29	0.73	0.18	___	Yes
ppvt092	597	23	29	25	23	0	0.08	0.40	1.18	0.66	-0.13	___	Yes
ppvt093	597	29	13	55	3	0	-0.97	0.57	0.91	0.63	-0.20	___	Yes
ppvt094	597	35	24	32	7	2	0.29	0.37	1.23	0.70	-0.43 *	___D	No
ppvt095	596	15	16	26	40	3	0.08	0.42	1.15	0.63	-0.06	___	Yes
ppvt096	596	31	29	23	12	5	-0.24	0.49	1.04	0.58	0.18	___	Yes
ppvt097	185	11	40	28	21	1	1.29	0.45	0.93	0.31	0.00	___C_	Yes
ppvt098	185	30	32	19	18	1	1.60	0.40	1.03	0.28	-0.42	___C_	Yes
ppvt099	185	3	9	28	61	0	0.70	0.54	0.78	0.30	-0.41	___C_	Yes
ppvt100	185	29	15	22	35	0	2.10	0.32	1.10	0.31	-0.53	___C_	Yes
ppvt101	185	4	12	10	74	1	0.43	0.57	0.73	0.31	-0.15	___C_	Yes
ppvt102	185	21	26	14	38	1	2.17	0.30	1.14	0.41	-0.14	___C_	Yes
ppvt103	185	4	5	70	21	0	0.50	0.59	0.68	0.27	-0.28	___C_	Yes
ppvt104	185	4	12	9	74	1	0.42	0.59	0.69	0.27	-0.08	___C_	Yes
ppvt105	185	50	22	10	17	1	0.99	0.51	0.80	0.30	-0.22	___C_	Yes
ppvt106	185	10	36	37	17	1	1.45	0.43	0.94	0.28	-0.21	___C_	Yes

ppvt107	185	51	16	21	8	4	0.93	0.49	0.87	0.33	-0.05	__C__	Yes
ppvt108	184	3	45	43	1	8	0.98	0.44	0.99	0.37	-0.07	__C__	Yes
ppvt109	118	13	24	26	36	2	2.04	0.39	0.95	0.18	-0.52	__C__	Yes
ppvt110	118	6	86	8	0	0	0.86	0.59	0.62	0.17	-0.09	__C__	Yes
ppvt111	118	9	31	53	8	0	1.53	0.49	0.78	0.16	-0.20	__C__	Yes
ppvt112	118	6	25	53	15	1	1.51	0.49	0.77	0.16	-0.25	__C__	Yes
ppvt113	118	25	13	29	31	3	2.46	0.30	1.11	0.21	-0.42	__C__	Yes
ppvt114	118	75	4	8	14	0	1.05	0.57	0.66	0.17	0.00	__C__	Yes
ppvt115	118	41	20	20	17	2	2.95	0.26	1.12	0.20	-0.92	__C__	Yes
ppvt116	118	52	24	11	13	1	2.55	0.31	1.05	0.21	0.29	__C__	Yes
ppvt117	118	23	33	32	9	3	2.55	0.33	1.00	0.19	-0.43	__C__	Yes
ppvt118	118	0	96	2	1	2	0.69	0.62	0.57	0.17	-0.13	__C__	Yes
ppvt119	118	0	0	0	99	1	0.64	0.63	0.57	0.17	-0.13	__C__	Yes
ppvt120	118	29	14	43	10	4	1.69	0.46	0.82	0.16	0.03	__C__	Yes
ppvt121	98	40	36	16	7	1	2.27	0.38	0.91	0.15	0.24	__C__	Yes
ppvt122	98	16	10	29	45	0	1.98	0.43	0.85	0.14	-0.05	__C__	Yes
ppvt123	98	19	29	38	13	1	2.20	0.41	0.84	0.13	0.07	__C__	Yes
ppvt124	98	23	19	34	21	2	3.01	0.32	0.88	0.10	0.45	__C__	Yes
ppvt125	98	22	24	18	35	0	3.08	0.29	0.99	0.13	0.35	__C__	Yes
ppvt126	98	38	26	24	10	2	2.20	0.42	0.83	0.13	-0.07	__C__	Yes
ppvt127	98	3	91	5	1	0	1.04	0.58	0.61	0.16	-0.13	__C__	Yes
ppvt128	98	24	29	21	26	0	2.74	0.31	1.00	0.16	-0.44	__C__	Yes
ppvt129	98	2	2	17	79	0	1.24	0.56	0.63	0.15	-0.02	__C__	Yes
ppvt130	98	36	7	19	36	2	2.24	0.42	0.82	0.12	-0.13	__C__	Yes
ppvt131	96	18	22	33	22	5	2.59	0.33	0.97	0.17	-0.52	__C__	Yes
ppvt132	96	7	7	65	13	8	1.33	0.53	0.69	0.15	-0.06	__C__	Yes
ppvt133	54	2	26	70	2	0	2.17	0.46	0.68	0.08	0.27	__C__	Yes
ppvt134	54	15	57	13	15	0	2.42	0.43	0.74	0.08	0.14	__C__	Yes
ppvt135	54	35	22	35	7	0	3.01	0.30	1.00	0.11	-0.57	__C__	Yes
ppvt136	54	0	0	2	98	0	1.74	0.53	0.57	0.09	0.06	__C__	Yes
ppvt137	54	61	26	2	9	2	2.34	0.45	0.69	0.08	0.27	__C__	Yes
ppvt138	54	17	52	26	6	0	3.87	0.22	1.00	0.09	0.29	__C__	Yes
ppvt139	54	26	26	30	17	2	3.87	0.21	1.04	0.09	-0.72	__C__	Yes
ppvt140	54	2	28	43	28	0	3.29	0.34	0.75	0.06	-0.61	__C__	Yes
ppvt141	54	30	33	11	22	4	3.08	0.31	0.95	0.10	0.35	__C__	Yes
ppvt142	54	46	15	28	11	0	3.29	0.32	0.82	0.07	0.00	__C__	Yes
ppvt143	54	4	96	0	0	0	1.76	0.53	0.58	0.09	0.22	__C__	Yes

ppvt144	54	2	15	70	11	2	2.13	0.47	0.68	0.09	0.32	__C__	Yes
ppvt145	42	0	10	0	90	0	2.17	0.49	0.59	0.07	0.13	__C__	Yes
ppvt146	42	17	14	52	14	2	2.84	0.39	0.73	0.07	0.22	__C__	Yes
ppvt147	42	5	86	2	7	0	2.24	0.48	0.59	0.07	0.15	__C__	Yes
ppvt148	42	7	2	79	12	0	2.34	0.46	0.63	0.07	-0.02	__C__	Yes
ppvt149	42	38	38	10	12	2	3.22	0.32	0.85	0.07	-0.74	__C__	Yes
ppvt150	42	26	29	17	24	5	4.14	0.21	0.97	0.07	-0.17	__C__	Yes
ppvt151	42	2	21	2	71	2	2.46	0.45	0.60	0.06	0.80	__C__	Yes
ppvt152	42	33	31	12	21	2	3.37	0.29	0.95	0.07	-0.46	__C__	Yes
ppvt153	42	14	50	21	14	0	2.90	0.36	0.82	0.08	0.13	__C__	Yes
ppvt154	42	7	40	7	45	0	3.14	0.36	0.73	0.05	1.27 *	__CD	No
ppvt155	42	17	19	5	57	2	4.14	0.22	0.93	0.08	1.37	__C__	Yes
ppvt156	42	17	0	0	83	0	2.27	0.47	0.63	0.07	0.39	__C__	Yes
ppvt157	34	18	35	32	12	3	3.55	0.29	0.85	0.06	-0.09	__C__	Yes
ppvt158	34	18	38	6	35	3	4.31	0.20	0.97	0.06	1.19	__C__	Yes
ppvt159	34	9	47	15	29	0	3.75	0.27	0.88	0.05	-0.47	__C__	Yes
ppvt160	34	24	6	26	44	0	3.87	0.26	0.85	0.07	1.64	__C__	Yes
ppvt161	34	15	12	0	71	3	2.74	0.42	0.63	0.06	0.86	__C__	Yes
ppvt162	34	38	24	9	29	0	3.45	0.30	0.86	0.07	0.07	__C__	Yes
ppvt163	34	41	29	21	6	3	3.75	0.28	0.80	0.05	0.46	__C__	Yes
ppvt164	34	29	29	21	21	0	3.75	0.27	0.85	0.06	1.75 *	__CD	No
ppvt165	34	9	26	41	21	3	4.00	0.24	0.89	0.06	1.52	__C__	Yes
ppvt166	34	12	59	6	21	3	2.90	0.40	0.65	0.05	0.63	__C__	Yes
ppvt167	34	6	21	53	9	12	2.84	0.39	0.73	0.07	0.22	__C__	Yes
ppvt168	33	42	6	12	18	21	3.55	0.27	0.94	0.08	-0.09	__C__	Yes
ppvt169	15	0	7	0	93	0	3.37	0.37	0.62	0.03	0.21	__C__	Yes
ppvt170	15	7	80	13	0	0	3.55	0.35	0.64	0.03	0.31	__C__	Yes
ppvt171	15	53	27	0	20	0	4.00	0.27	0.78	0.03	0.71	__C__	Yes
ppvt172	15	47	7	27	20	0	4.74	0.18	0.90	0.05	0.66	__C__	Yes
ppvt173	15	27	7	47	20	0	5.04	0.17	0.94	0.03	0.23	__C__	Yes
ppvt174	15	7	80	13	0	0	3.55	0.34	0.66	0.03	0.31	__C__	Yes
ppvt175	15	0	0	100	0	0	3.29	0.37	0.62	0.04	0.33	__C__	Yes
ppvt176	15	20	53	7	20	0	4.00	0.29	0.72	0.03	0.08	__C__	Yes
ppvt177	15	47	0	7	47	0	4.14	0.26	0.81	0.03	0.50	__C__	Yes
ppvt178	15	33	33	20	13	0	5.04	0.15	0.98	0.04	0.23	__C__	Yes
ppvt179	15	53	7	7	33	0	4.50	0.24	0.77	0.02	1.95	__C__	Yes
ppvt180	15	7	7	53	27	7	5.46	0.13	0.93	0.05	1.16	__C__	Yes

ppvt181	12	0	33	17	50	0	4.31	0.25	0.80	0.03	0.26	__C_	Yes
ppvt182	12	25	50	17	8	0	5.04	0.17	0.90	0.03	1.53	__C_	Yes
ppvt183	12	0	0	92	8	0	3.64	0.34	0.64	0.03	0.62	__C_	Yes
ppvt184	12	0	0	0	100	0	3.55	0.35	0.62	0.03	0.31	__C_	Yes
ppvt185	12	25	25	0	50	0	5.04	0.17	0.91	0.02	-1.21	__C_	Yes
ppvt186	12	17	17	67	0	0	4.00	0.28	0.80	0.03	0.08	__C_	Yes
ppvt187	12	25	67	8	0	0	4.00	0.29	0.71	0.02	1.52	__C_	Yes
ppvt188	12	8	42	8	42	0	4.50	0.23	0.82	0.02	0.96	__C_	Yes
ppvt189	12	8	33	8	50	0	4.74	0.20	0.89	0.03	-0.49	__C_	Yes
ppvt190	12	8	0	75	17	0	3.87	0.31	0.68	0.02	0.29	__C_	Yes
ppvt191	12	75	8	0	17	0	3.87	0.31	0.67	0.02	0.88	__C_	Yes
ppvt192	12	33	42	8	17	0	4.50	0.23	0.84	0.02	0.96	__C_	Yes
ppvt193	11	45	9	45	0	0	7.38		me	me	0.00	* _BCD	Yes
ppvt194	11	9	73	0	18	0	4.00	0.30	0.68	0.02	0.08	__C_	Yes
ppvt195	11	18	0	82	0	0	3.87	0.31	0.66	0.02	0.29	__C_	Yes
ppvt196	11	36	18	0	45	0	4.74	0.22	0.79	0.02	1.75	__C_	Yes
ppvt197	11	36	0	45	18	0	4.74	0.20	0.86	0.03	1.75	__C_	Yes
ppvt198	11	9	0	0	91	0	3.75	0.32	0.66	0.03	0.46	__C_	Yes
ppvt199	11	0	9	82	9	0	3.87	0.31	0.68	0.02	0.88	__C_	Yes
ppvt200	11	64	9	0	27	0	4.14	0.28	0.71	0.02	0.50	__C_	Yes
ppvt201	11	9	45	0	45	0	4.50	0.22	0.89	0.03	-0.06	__C_	Yes
ppvt202	11	18	45	27	9	0	4.50	0.22	0.86	0.03	-0.06	__C_	Yes
ppvt203	11	9	45	36	9	0	4.74	0.21	0.86	0.02	0.66	__C_	Yes
ppvt204	11	27	36	18	18	0	4.74	0.20	0.89	0.02	0.66	__C_	Yes

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 13. Item statistics in the Peabody Picture Vocabulary Test for the Older Cohort, Ethiopia - Amargina

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	25	4	0	0	96	0	-6.06	0.16	1.04	0.22	-0.94	C	Yes
ppvt002	25	0	0	96	4	0	-6.06	0.09	0.98	0.06	1.52	A C	Yes
ppvt003	25	100	0	0	0	0	-7.29		1.00	1.00	0.00 *	D	Yes
ppvt004	25	92	0	8	0	0	-5.34	-0.04	1.06	0.76	0.28	A	Yes
ppvt005	25	0	4	28	68	0	-3.84	0.37	1.02	0.81	-1.92		Yes
ppvt006	25	100	0	0	0	0	-7.29		1.00	1.00	0.00 *	D	Yes
ppvt007	25	20	68	8	4	0	-3.84	0.28	0.87	0.38	-1.02	C	Yes
ppvt008	25	0	0	88	12	0	-4.92	-0.01	1.03	0.53	-0.47	A	Yes
ppvt009	25	0	0	4	96	0	-6.06	0.14	1.05	0.29	1.52	C	Yes
ppvt010	25	4	60	8	28	0	-3.59	0.54	0.89	0.74	-1.37		Yes
ppvt011	25	0	96	4	0	0	-6.06	-0.10	1.05	0.59	1.52	A	Yes
ppvt012	25	4	12	76	8	0	-4.16	0.14	1.08	0.64	-0.54		Yes
ppvt013	42	2	95	2	0	0	-5.34	-0.02	1.06	0.76	0.28	A	No
ppvt014	42	93	5	2	0	0	-4.92	0.30	1.07	1.95	-0.47	C	Yes
ppvt015	42	2	2	95	0	0	-5.34	-0.06	1.07	0.73	2.24	A	No
ppvt016	42	86	10	5	0	0	-4.16	-0.02	0.89	0.25	0.21	A C	No
ppvt017	42	0	5	93	2	0	-4.92	0.24	1.04	0.50	-0.47	C	Yes
ppvt018	42	14	60	14	12	0	-2.96	0.14	0.94	0.57	-1.67 *	D	No
ppvt019	42	90	5	0	5	0	-4.61	0.17	1.05	0.27	0.25	C	Yes
ppvt020	42	10	19	14	57	0	-2.89	0.04	0.93	0.94	-0.41	A	No
ppvt021	42	5	7	88	0	0	-4.36	0.24	1.10	1.58	-1.26	C	Yes
ppvt022	42	5	5	5	86	0	-4.16	0.03	0.94	0.33	-0.54	A C	No
ppvt023	42	26	62	7	5	0	-3.03	0.28	0.95	0.69	-0.46		Yes
ppvt024	42	10	2	7	81	0	-3.84	0.03	0.93	0.36	-1.92	A C	No
ppvt025	87	98	0	0	2	0	-5.34	-0.14	1.09	5.03	2.24	A C	No
ppvt026	87	2	2	91	5	0	-3.84	0.11	0.93	0.35	-1.92	C	Yes
ppvt027	87	6	10	11	72	0	-2.53	-0.06	1.16	1.41	-1.24 *	A D	No
ppvt028	87	3	5	6	86	0	-3.37	0.01	0.94	0.53	0.17	A	No
ppvt029	87	82	10	5	3	0	-3.03	0.13	1.21	1.45	-0.79		Yes
ppvt030	87	3	85	9	2	0	-3.28	0.15	0.92	0.72	-3.91 *	D	No
ppvt031	87	1	13	80	6	0	-2.96	0.23	0.98	0.36	-0.58	C	Yes

ppvt032	87	5	93	1	1	0	-4.16	0.05	0.97	0.21	0.21	A_C	No
ppvt033	87	2	87	1	9	0	-3.48	0.16	0.97	1.22	-0.46		Yes
ppvt034	87	59	24	6	9	2	-1.99	0.09	1.00	1.03	-0.68	A	No
ppvt035	87	3	3	6	87	0	-3.48	0.14	0.92	1.56	0.39	C	Yes
ppvt036	87	1	15	80	3	0	-2.96	0.06	1.02	0.92	0.00	A	No
ppvt037	105	30	49	9	11	2	-1.39	0.07	1.03	1.07	-0.72 *	A_D	No
ppvt038	105	0	1	1	98	0	-5.34	0.21	1.05	0.69	0.28		Yes
ppvt039	105	2	14	79	4	1	-2.64	0.15	1.23	1.77	0.36	C	Yes
ppvt040	105	37	9	7	48	0	-1.07	0.16	1.01	0.93	-0.61		Yes
ppvt041	105	27	68	1	5	0	-2.07	0.25	1.07	1.57	-0.21	C	Yes
ppvt042	105	39	26	18	16	1	-1.12	0.09	1.06	0.95	-0.63	A	No
ppvt043	105	22	19	47	10	3	-1.33	0.12	1.02	1.09	-0.58		Yes
ppvt044	105	27	24	9	40	1	-1.14	-0.08	1.02	1.21	-0.69 *	A_D	No
ppvt045	105	7	14	6	73	0	-2.33	0.11	1.00	0.80	-0.26		Yes
ppvt046	105	6	90	1	4	0	-3.48	0.26	0.90	1.13	0.82		Yes
ppvt047	105	5	5	88	3	0	-3.28	0.19	0.99	0.57	0.34		Yes
ppvt048	105	90	7	1	2	1	-3.48	0.09	1.25	3.46	0.82	A_C	No
ppvt049	120	8	27	49	15	2	-1.17	0.12	0.98	0.76	-0.54		Yes
ppvt050	120	83	10	4	3	0	-2.64	0.14	0.95	0.96	-0.09		Yes
ppvt051	120	91	3	2	5	0	-3.37	0.19	1.01	0.49	0.56	C	Yes
ppvt052	120	18	60	12	11	0	-1.54	0.22	0.93	0.75	-0.46		Yes
ppvt053	120	26	16	23	35	1	-0.76	0.08	1.17	1.07	-0.49	A	No
ppvt054	120	8	58	26	5	3	-1.48	0.05	1.09	1.41	-0.32	A	No
ppvt055	120	60	34	5	1	0	-1.54	0.06	1.00	0.92	-0.46	A	No
ppvt056	120	3	5	40	52	1	-1.22	0.25	0.95	0.83	-0.77 *	D	No
ppvt057	120	9	72	9	10	0	-2.03	0.15	1.03	1.23	-0.45		Yes
ppvt058	120	18	19	50	13	1	-1.20	-0.04	1.14	1.26	-0.27	A	No
ppvt059	120	3	2	96	0	0	-4.16	0.29	0.88	0.37	0.21	C	Yes
ppvt060	120	6	12	4	78	0	-2.38	0.25	1.09	1.35	-0.56		Yes
ppvt061	189	1	1	2	97	0	-4.16	0.09	0.97	0.58	0.99	A	No
ppvt062	189	97	2	1	1	0	-3.99	0.05	0.91	0.29	-0.80	A_C	No
ppvt063	189	3	90	3	3	0	-2.82	0.14	1.00	0.40	0.28	C	Yes
ppvt064	189	3	10	85	2	0	-2.28	0.16	0.98	0.72	0.21		Yes
ppvt065	189	12	7	23	58	1	-0.69	0.07	1.17	1.18	-0.26	A	No
ppvt066	189	8	25	38	28	1	0.05	-0.16	1.20	1.21	-0.51	A	No
ppvt067	189	16	72	6	6	0	-1.39	0.17	1.21	1.36	-0.48		Yes
ppvt068	189	79	16	2	2	2	-1.80	0.19	1.07	1.07	-0.68		Yes

ppvt069	189	5	8	11	76	0	-1.60	0.25	1.26	1.37	0.02		Yes
ppvt070	189	13	79	2	5	1	-1.84	-0.05	1.13	1.33	-0.17	A	No
ppvt071	189	12	5	71	11	0	-1.36	0.15	1.23	1.48	-0.30		Yes
ppvt072	189	80	10	3	6	1	-1.91	0.09	1.17	0.90	-0.49	A	No
ppvt073	258	2	92	3	3	0	-2.70	0.07	1.11	2.42	1.28	A CD *	No
ppvt074	258	10	4	6	79	0	-1.36	0.15	1.12	1.81	0.50	C	Yes
ppvt075	258	9	16	71	4	0	-0.80	0.14	1.33	1.71	-0.02	C	Yes
ppvt076	258	45	26	15	14	0	0.48	0.10	1.12	1.10	-0.66	A D *	No
ppvt077	258	81	7	5	7	0	-1.48	0.12	1.04	0.82	0.03		Yes
ppvt078	258	25	8	54	12	0	0.07	0.05	1.16	1.15	-0.39	A	No
ppvt079	258	4	91	3	2	0	-2.53	0.14	1.15	2.60	0.56	C	Yes
ppvt080	258	59	8	28	5	0	-0.15	0.05	1.14	1.07	-0.51	A	No
ppvt081	258	29	43	13	13	2	0.59	-0.02	1.36	1.38	0.14	A	No
ppvt082	258	14	8	8	70	0	-0.78	0.14	1.05	0.93	-0.09		Yes
ppvt083	258	3	28	58	10	1	-0.12	0.02	1.19	1.34	0.34	A	No
ppvt084	258	29	4	7	59	0	-0.15	0.00	1.42	1.60	-1.14	A CD *	No
ppvt085	336	7	85	6	3	0	-1.20	0.09	1.13	2.53	0.15	A C	No
ppvt086	336	5	12	6	78	0	-0.64	0.20	1.20	1.81	0.72	CD *	No
ppvt087	336	61	15	12	10	1	0.44	0.03	1.39	1.44	-0.59	A D *	No
ppvt088	336	13	20	24	43	0	1.40	0.03	1.31	1.35	-0.13	A	No
ppvt089	336	15	15	46	24	1	1.29	0.01	1.36	1.51	0.14	A C	No
ppvt090	336	71	9	12	8	0	-0.19	0.13	1.25	1.32	-0.04		Yes
ppvt091	336	6	9	10	75	1	-0.43	-0.01	1.19	1.96	-0.39	A C	No
ppvt092	336	16	47	33	4	0	1.21	0.07	1.19	1.17	-0.39	A	No
ppvt093	336	4	10	84	2	0	-1.12	0.19	1.16	1.40	0.83	D *	No
ppvt094	336	6	73	15	5	1	-0.33	0.13	1.22	1.46	-0.42		Yes
ppvt095	336	5	9	74	12	1	-0.37	0.01	1.09	1.21	0.00	A	No
ppvt096	336	49	12	7	31	0	1.08	0.05	1.52	1.62	-0.22	ABC	No
ppvt097	344	20	45	22	13	0	1.70	0.13	1.50	1.89	-0.48	BC	No
ppvt098	344	18	45	6	31	0	1.72	-0.04	1.34	1.46	-0.08	A	No
ppvt099	344	3	8	19	69	0	0.34	0.29	1.18	1.50	0.44	C	Yes
ppvt100	344	2	5	89	5	0	-1.02	0.12	0.93	1.39	-0.10		Yes
ppvt101	344	4	11	10	74	0	0.03	0.19	1.18	1.45	0.12		Yes
ppvt102	344	26	20	13	40	0	2.68	0.03	1.40	2.06	0.05	A C	No
ppvt103	344	3	8	82	7	0	-0.45	0.29	0.97	0.97	0.39		Yes
ppvt104	344	3	4	8	85	0	-0.64	0.22	0.87	0.92	0.10		Yes
ppvt105	344	70	17	5	6	1	0.30	0.12	1.33	1.87	0.09	C	Yes

ppvt106	344	12	59	22	6	0	0.94	-0.11	1.21	1.32	-0.33	A	No	
ppvt107	344	76	11	8	6	0	-0.04	0.24	1.22	1.85	0.49	C	Yes	
ppvt108	344	6	15	73	5	1	0.11	-0.09	1.14	1.29	0.02	A	No	
ppvt109	394	3	2	5	89	1	-0.60	0.27	0.92	1.46	0.44		Yes	
ppvt110	394	16	40	13	31	0	2.67	-0.16	1.23	1.31	-0.17	A	No	
ppvt111	394	13	26	55	6	0	1.74	0.17	1.54	1.72	0.00	BC	No	
ppvt112	394	3	13	77	6	0	0.32	0.31	1.01	1.03	0.47		Yes	
ppvt113	394	49	11	26	14	0	2.07	0.17	1.75	2.30	0.00	BC	No	
ppvt114	394	86	4	1	9	0	-0.35	0.15	1.06	1.78	-0.14	C	Yes	
ppvt115	394	3	8	8	81	0	0.05	0.26	1.13	1.48	0.37		Yes	
ppvt116	394	4	86	4	6	0	-0.33	0.25	0.96	1.11	-0.18		Yes	
ppvt117	394	45	31	17	6	2	2.33	0.27	1.38	1.52	0.08	C	Yes	
ppvt118	394	4	89	5	2	0	-0.54	0.36	0.79	1.03	0.74	*	D	No
ppvt119	394	1	2	2	96	0	-1.20	0.23	0.72	0.37	0.37	C	Yes	
ppvt120	394	7	19	55	18	1	1.70	0.20	1.54	1.57	0.50	*	BCD	No
ppvt121	368	7	90	2	1	0	-0.19	0.10	0.92	1.70	0.58	*	CD	No
ppvt122	368	3	13	23	60	0	1.66	0.36	0.90	0.83	-0.08		Yes	
ppvt123	368	18	11	54	16	0	1.98	-0.23	1.22	1.12	0.27	A	No	
ppvt124	368	24	40	25	9	1	2.79	0.36	1.18	1.21	-0.16		Yes	
ppvt125	368	16	29	48	7	0	2.33	-0.05	1.47	1.54	-0.23	A C	No	
ppvt126	368	46	34	11	8	0	2.45	0.00	1.53	1.76	0.00	ABC	No	
ppvt127	368	5	87	6	1	1	0.05	0.27	0.83	1.01	0.67	*	D	No
ppvt128	368	64	7	20	9	0	1.44	0.24	1.15	1.21	0.22		Yes	
ppvt129	368	13	9	21	56	1	1.90	0.20	1.35	1.40	-0.13		Yes	
ppvt130	368	71	8	6	15	0	1.04	0.39	0.82	0.67	0.26		Yes	
ppvt131	368	19	11	28	42	1	2.70	-0.12	1.33	1.36	-0.17	A	No	
ppvt132	368	5	4	87	3	1	0.02	0.31	0.85	0.78	0.44		Yes	
ppvt133	306	5	22	57	15	0	2.37	0.18	1.15	0.98	0.23		Yes	
ppvt134	306	4	91	4	2	0	0.78	0.15	0.70	0.63	-0.08		Yes	
ppvt135	306	57	18	23	3	0	2.40	-0.16	1.05	0.85	0.41	A	No	
ppvt136	306	5	19	18	58	0	2.34	0.24	1.08	0.91	0.05		Yes	
ppvt137	306	78	11	5	5	0	1.37	0.30	0.76	0.79	-0.07		Yes	
ppvt138	306	51	22	16	10	0	2.63	0.29	1.12	0.99	-0.11		Yes	
ppvt139	306	3	5	15	77	0	1.46	0.09	1.17	1.15	0.19	A	No	
ppvt140	306	8	19	35	39	0	3.28	0.33	1.08	1.12	-0.11		Yes	
ppvt141	306	5	89	4	2	0	0.86	0.31	0.62	0.51	0.09		Yes	
ppvt142	306	26	23	45	6	0	2.93	0.23	1.08	0.99	0.00		Yes	

ppvt143	306	9	83	7	2	0	1.16	0.36	0.70	0.64	-0.12	_____	Yes
ppvt144	306	3	9	73	16	0	1.63	0.21	0.95	1.08	0.22	_____	Yes
ppvt145	274	1	3	3	93	0	1.12	0.18	0.58	0.45	0.23	___C_	Yes
ppvt146	274	24	16	50	9	0	2.95	0.34	0.98	0.72	0.28	_____	Yes
ppvt147	274	3	91	4	1	0	1.23	0.23	0.58	0.48	0.08	___C_	Yes
ppvt148	274	9	4	85	2	0	1.47	0.20	0.76	0.69	0.22	_____	Yes
ppvt149	274	71	16	7	6	0	2.05	0.38	0.84	0.67	0.00	_____	Yes
ppvt150	274	14	12	66	8	1	2.27	0.30	0.95	0.79	0.32	_____	Yes
ppvt151	274	4	8	5	81	0	1.63	0.39	0.63	0.57	0.00	_____	Yes
ppvt152	274	53	35	2	9	1	2.81	0.13	1.21	1.01	-0.26	_____	Yes
ppvt153	274	14	41	21	24	0	3.40	-0.02	1.22	0.98	0.41	A___	No
ppvt154	274	17	43	16	23	1	3.28	0.27	1.04	0.90	0.00	_____	Yes
ppvt155	274	88	7	2	3	0	1.35	-0.17	0.61	0.52	0.21	A___	No
ppvt156	274	8	3	7	82	0	1.58	0.41	0.60	0.48	0.00	___C_	Yes
ppvt157	254	2	91	4	4	0	1.52	0.31	0.56	0.43	0.19	___C_	Yes
ppvt158	254	26	35	22	17	0	4.28	0.14	1.14	0.83	0.00	_____	Yes
ppvt159	254	15	42	14	29	0	4.10	0.24	1.06	0.80	0.00	_____	Yes
ppvt160	254	7	14	71	8	0	2.28	-0.14	0.83	0.65	0.53	* A_D	No
ppvt161	254	42	4	4	51	0	3.09	0.17	1.09	0.84	0.13	_____	Yes
ppvt162	254	67	8	3	22	0	2.45	0.34	0.80	0.62	0.20	_____	Yes
ppvt163	254	9	44	37	10	0	3.36	0.36	0.86	0.56	0.27	_____	Yes
ppvt164	254	63	19	6	13	0	2.57	-0.12	0.87	0.66	0.14	A___	No
ppvt165	254	40	9	7	43	0	3.41	0.22	1.05	0.79	-0.25	_____	Yes
ppvt166	254	5	89	4	3	0	1.60	0.27	0.62	0.50	0.16	___C_	Yes
ppvt167	254	9	15	70	4	0	2.31	0.25	0.90	0.78	0.04	_____	Yes
ppvt168	254	4	3	75	17	1	2.11	-0.20	0.75	0.59	-0.05	A___	No
ppvt169	217	1	6	6	86	0	2.18	-0.11	0.61	0.47	0.31	A_C_	No
ppvt170	217	5	86	6	4	0	2.19	0.32	0.61	0.46	0.35	___C_	Yes
ppvt171	217	58	29	6	7	0	3.14	-0.10	0.96	0.68	-0.43	A___	No
ppvt172	217	48	8	35	9	0	4.06	0.26	1.01	0.63	-0.22	_____	Yes
ppvt173	217	33	24	17	26	0	4.49	0.26	0.97	0.60	0.19	_____	Yes
ppvt174	217	7	80	10	3	0	2.37	0.22	0.78	0.60	0.11	_____	Yes
ppvt175	217	0	4	94	2	0	1.93	0.25	0.56	0.42	0.24	___C_	Yes
ppvt176	217	15	58	9	18	0	3.14	0.36	0.88	0.65	0.23	_____	Yes
ppvt177	217	42	12	20	25	0	3.72	0.34	0.95	0.64	-0.54	_____	Yes
ppvt178	217	1	10	82	6	0	2.30	0.34	0.63	0.47	0.00	___C_	Yes
ppvt179	217	4	7	13	75	1	2.54	0.37	0.66	0.49	0.45	___C_	Yes

ppvt180	217	40	11	47	2	0	3.82	0.40	0.90	0.55	-0.43	---	Yes
ppvt181	197	8	12	6	75	0	2.79	0.22	0.75	0.54	-0.10	---	Yes
ppvt182	197	79	15	5	2	0	2.67	0.21	0.80	0.59	0.15	---	Yes
ppvt183	197	3	3	85	9	0	2.48	0.39	0.61	0.44	-0.10	C	Yes
ppvt184	197	12	16	17	55	0	3.45	0.26	0.82	0.54	0.45	---	Yes
ppvt185	197	23	10	21	39	8	4.80	0.35	0.84	0.42	-0.07	C	Yes
ppvt186	197	3	7	85	5	0	2.47	0.26	0.65	0.48	0.23	C	Yes
ppvt187	197	9	87	3	2	0	2.42	0.24	0.65	0.49	-0.10	C	Yes
ppvt188	197	11	28	19	41	2	3.97	0.30	0.91	0.55	-0.38	---	Yes
ppvt189	197	15	59	15	11	0	3.28	0.23	0.91	0.61	0.09	---	Yes
ppvt190	197	4	6	86	4	0	2.43	0.20	0.68	0.51	0.23	---	Yes
ppvt191	197	88	7	2	3	0	2.37	0.22	0.59	0.45	0.17	C	Yes
ppvt192	197	11	73	7	7	3	2.85	0.27	0.73	0.52	-0.23	---	Yes
ppvt193	185	30	21	12	37	0	4.23	0.17	0.97	0.56	0.58	---	Yes
ppvt194	185	36	52	7	4	1	3.65	0.26	0.83	0.54	0.36	---	Yes
ppvt195	185	7	5	79	9	0	2.81	0.37	0.68	0.47	0.00	C	Yes
ppvt196	185	75	10	8	8	0	2.93	-0.05	0.73	0.49	0.12	A C	No
ppvt197	185	66	10	6	18	0	3.18	0.37	0.76	0.48	-0.24	C	Yes
ppvt198	185	0	6	5	89	0	2.53	0.16	0.65	0.47	-0.13	C	Yes
ppvt199	185	2	6	77	15	0	2.85	0.10	0.80	0.57	-0.10	---	Yes
ppvt200	185	89	5	3	2	1	2.53	0.12	0.66	0.48	0.17	C	Yes
ppvt201	185	32	25	9	34	0	4.37	0.14	0.98	0.56	-0.06	---	Yes
ppvt202	185	24	26	44	6	0	4.74	0.25	0.94	0.55	0.50	---	Yes
ppvt203	185	4	9	84	2	1	2.67	0.24	0.70	0.51	0.21	---	Yes
ppvt204	185	25	67	5	3	0	3.16	0.41	0.73	0.48	0.26	C	Yes

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 14. Item statistics in the Peabody Picture Vocabulary Test for the Older Cohort, India - Telugu

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	278	1	1	0	98	0	-5.30	0.18	1.14	1.01	0.99	_____	Yes
ppvt002	278	0	1	99	0	0	-5.85	0.16	1.08	0.78	-0.15	_____	Yes
ppvt003	278	99	0	0	0	0	-6.28	0.19	1.06	0.44	2.53	___C___	Yes
ppvt004	278	100	0	0	0	0	-8.22		1.00	1.00	0.00 *	___D___	No
ppvt005	278	0	0	17	83	0	-2.60	0.1755	1.31	1.01	0.60	_____	Yes
ppvt006	278	99	1	0	0	0	-6.28	0.23	1.04	0.07	0.59	___C___	Yes
ppvt007	278	2	98	0	0	0	-5.10	-0.08	1.14	1.80	2.29 *	A CD	No
ppvt008	278	10	5	84	1	0	-2.69	0.33	1.13	0.60	0.06	_____	Yes
ppvt009	278	1	0	1	97	0	-4.77	-0.07	1.07	2.07	-0.05	A C	No
ppvt010	278	0	79	14	8	0	-2.28	0.22	1.20	1.08	0.18	_____	Yes
ppvt011	278	0	99	0	0	0	-6.28	0.16	0.83	0.11	-1.36	___C___	Yes
ppvt012	278	2	3	95	0	0	-4.22	-0.17	0.97	0.87	0.32	A	No
ppvt013	406	3	94	1	2	0	-3.38	0.27	1.20	0.80	0.46	_____	Yes
ppvt014	406	99	0	1	0	0	-5.10	-0.07	1.14	2.04	0.54	A C	No
ppvt015	406	0	1	97	1	0	-4.31	0.22	1.19	0.52	-0.29	_____	Yes
ppvt016	406	94	3	2	1	0	-3.48	0.31	1.04	0.51	0.03	_____	Yes
ppvt017	406	1	1	98	0	0	-4.64	0.18	1.12	0.77	0.26	_____	Yes
ppvt018	406	6	84	4	6	0	-2.14	0.26	1.30	0.98	0.10	_____	Yes
ppvt019	406	88	1	7	3	0	-2.54	0.17	1.29	1.12	0.15	_____	Yes
ppvt020	406	9	12	5	74	0	-1.41	0.32	1.16	0.79	0.17	_____	Yes
ppvt021	406	13	11	64	13	0	-0.85	0.25	1.20	0.92	0.16	_____	Yes
ppvt022	406	5	1	6	88	0	-2.60	-0.09	1.27	1.27	0.73 *	A D	No
ppvt023	406	22	73	3	2	0	-1.32	0.19	1.40	1.18	0.47 *	___D___	No
ppvt024	406	10	1	5	84	0	-2.16	0.30	1.23	0.92	0.15	_____	Yes
ppvt025	511	99	0	0	1	0	-4.64	0.21	0.89	1.12	-0.87	_____	Yes
ppvt026	511	0	1	98	1	0	-4.41	0.19	0.95	1.36	0.71	_____	Yes
ppvt027	511	6	11	22	60	0	-0.28	0.34	1.08	0.80	-0.05	_____	Yes
ppvt028	511	1	0	1	97	0	-4.05	0.16	0.94	0.57	0.00	_____	Yes
ppvt029	511	74	6	3	17	0	-1.02	0.02	1.46	1.37	0.18	A	No
ppvt030	511	1	69	31	0	0	-0.70	0.02	1.48	1.27	0.63 *	A D	No
ppvt031	511	2	9	84	5	0	-1.80	0.28	1.33	1.07	0.10	_____	Yes

ppvt032	511	11	75	7	7	0	-1.05	0.17	1.35	1.14	0.00		Yes
ppvt033	511	1	93	2	4	0	-2.85	0.27	1.22	0.99	0.37		Yes
ppvt034	511	71	9	13	7	0	-0.84	0.34	1.21	0.98	-0.62 *	D	No
ppvt035	511	6	7	8	78	0	-1.30	0.34	1.18	0.84	0.53 *	D	No
ppvt036	511	0	7	92	0	0	-2.72	0.21	1.20	1.20	0.00		Yes
ppvt037	542	21	58	13	7	0	-0.07	0.19	1.24	1.09	-0.30		Yes
ppvt038	542	1	0	1	98	0	-4.41	0.18	0.94	0.22	-1.18	C	Yes
ppvt039	542	3	19	76	2	0	-1.02	0.38	1.07	0.76	-0.17		Yes
ppvt040	542	36	7	15	42	0	0.84	0.22	1.04	1.07	-0.20		Yes
ppvt041	542	12	78	2	8	0	-1.20	0.23	1.27	0.95	0.38		Yes
ppvt042	542	28	18	14	40	0	1.12	0.15	1.05	1.21	-0.17		Yes
ppvt043	542	13	7	73	7	0	-0.87	0.41	1.13	0.83	-0.27		Yes
ppvt044	542	14	34	8	44	0	0.54	0.17	1.22	1.14	-0.41 *	D	No
ppvt045	542	28	6	17	49	0	0.32	0.28	1.16	1.05	0.11		Yes
ppvt046	542	4	57	36	3	0	-0.01	0.27	1.13	0.92	0.00		Yes
ppvt047	542	1	1	97	0	0	-3.97	0.22	0.97	0.38	-0.12	C	Yes
ppvt048	542	96	2	1	1	0	-3.53	-0.04	1.17	1.75	-0.80	A C	No
ppvt049	555	4	12	82	3	0	-1.25	0.22	1.10	0.85	0.22		Yes
ppvt050	555	45	47	6	1	0	0.62	0.20	1.09	1.00	-0.04		Yes
ppvt051	555	65	20	8	7	0	-0.22	0.34	1.03	0.77	-0.15		Yes
ppvt052	555	7	85	5	3	0	-1.51	0.22	1.13	0.96	0.29		Yes
ppvt053	555	49	14	18	19	0	1.56	0.07	0.91	1.08	-0.47 *	A D	No
ppvt054	555	13	53	23	12	0	0.32	0.12	1.24	1.09	-0.20		Yes
ppvt055	555	83	15	1	0	0	-1.35	0.25	1.08	0.86	-0.35		Yes
ppvt056	555	10	20	8	62	0	-0.07	0.33	1.04	0.77	-0.34		Yes
ppvt057	555	5	77	7	10	0	-0.95	0.30	1.21	0.96	-0.84 *	D	No
ppvt058	555	14	12	57	17	0	0.12	0.16	1.21	1.08	-0.27		Yes
ppvt059	555	2	1	96	1	0	-2.96	0.14	0.90	0.77	-0.15		Yes
ppvt060	555	12	2	4	82	0	-1.28	-0.01	1.29	1.21	0.50 *	A D	No
ppvt061	596	8	7	6	80	0	-0.85	0.43	0.95	0.62	-0.22		Yes
ppvt062	596	96	3	1	1	0	-2.46	-0.10	0.79	0.87	0.21	A	No
ppvt063	596	2	93	2	3	0	-2.07	0.23	0.86	0.69	-0.46		Yes
ppvt064	596	1	3	94	1	0	-2.26	0.26	0.68	0.26	-0.36	C	Yes
ppvt065	596	5	14	44	37	0	1.17	0.12	1.03	0.99	-0.20		Yes
ppvt066	596	16	17	29	39	0	1.50	0.14	0.96	1.04	-0.15		Yes
ppvt067	596	20	62	7	11	0	0.12	0.10	1.28	1.11	0.07		Yes
ppvt068	596	83	9	5	3	0	-1.07	0.40	0.95	0.64	-0.50 *	D	No

ppvt069	596	5	0	6	90	0	-1.69	0.09	1.06	0.95	0.40	A	No
ppvt070	596	4	93	2	1	0	-2.05	0.26	0.81	0.61	-0.23		Yes
ppvt071	596	3	8	87	2	0	-1.41	0.16	1.02	0.81	0.06		Yes
ppvt072	596	53	14	8	25	0	0.55	0.32	1.04	0.88	0.05		Yes
ppvt073	712	1	97	1	1	0	-2.51	0.08	0.74	1.09	-0.14	A	No
ppvt074	712	1	1	0	98	0	-2.66	0.20	0.63	0.36	-0.25	C	Yes
ppvt075	712	16	3	78	3	0	-0.48	0.27	1.17	1.05	0.25		Yes
ppvt076	712	43	12	31	14	0	1.40	0.24	0.97	1.02	-0.43 *	D	No
ppvt077	712	84	6	7	2	0	-0.92	-0.12	1.08	0.87	-0.58 *	A D	No
ppvt078	712	2	4	93	1	0	-1.87	0.27	0.79	0.74	-0.30		Yes
ppvt079	712	5	73	15	7	0	-0.10	0.00	1.30	1.24	0.16	A	No
ppvt080	712	66	8	21	5	0	0.27	0.25	1.09	0.99	-0.30		Yes
ppvt081	712	26	55	11	9	0	0.84	0.13	1.16	1.08	-0.78 *	D	No
ppvt082	712	10	3	5	81	0	-0.70	0.24	1.11	1.14	-0.47 *	D	No
ppvt083	712	3	8	83	6	0	-0.80	0.23	1.08	0.91	0.11		Yes
ppvt084	712	4	7	4	85	0	-0.98	0.11	1.19	1.38	-0.74 *	D	No
ppvt085	745	21	47	20	13	0	1.36	0.09	1.24	1.34	-0.16	A	No
ppvt086	745	32	13	25	29	0	2.19	0.02	1.05	1.19	-0.27	A	No
ppvt087	745	90	3	4	3	0	-1.41	0.00	1.05	2.01	0.36	A C	No
ppvt088	745	5	8	9	78	0	-0.34	0.31	0.98	0.93	-0.08		Yes
ppvt089	745	15	28	34	22	0	1.94	0.06	1.09	1.31	0.00	A	No
ppvt090	745	64	14	7	16	0	0.52	0.27	1.05	0.93	-0.05		Yes
ppvt091	745	9	12	9	70	0	0.19	0.14	1.21	1.25	-0.08		Yes
ppvt092	745	8	52	38	2	0	1.11	0.16	1.23	1.20	0.15		Yes
ppvt093	745	1	1	97	0	0	-2.38	0.19	0.70	0.83	-0.15		Yes
ppvt094	745	13	52	28	7	0	1.11	0.20	1.49	1.65	0.22	C	Yes
ppvt095	745	5	7	78	10	0	-0.36	0.26	1.05	1.00	-0.47 *	D	No
ppvt096	745	81	9	3	7	0	-0.55	0.27	1.08	1.02	0.27		Yes
ppvt097	744	21	48	11	21	0	1.49	0.22	1.12	1.15	-0.99 *	D	No
ppvt098	744	20	62	1	16	0	0.80	-0.03	1.18	1.24	-0.04	A	No
ppvt099	744	1	8	17	74	0	0.18	0.25	1.14	1.28	0.28		Yes
ppvt100	744	2	2	94	2	0	-1.32	0.16	0.80	0.72	0.36		Yes
ppvt101	744	1	19	3	77	0	0.01	0.18	1.09	1.03	0.48 *	D	No
ppvt102	744	21	7	11	61	0	2.78	0.05	1.10	1.61	-0.16	A C	No
ppvt103	744	10	24	50	17	0	1.41	0.29	1.01	0.98	-0.06		Yes
ppvt104	744	0	3	1	96	0	-1.55	-0.04	0.76	0.68	-0.13	A	No
ppvt105	744	79	11	4	6	0	-0.15	0.31	0.95	0.84	-0.09		Yes

ppvt106	744	10	67	14	8	0	0.55	0.24	1.07	1.00	-0.52 *	___D	No
ppvt107	744	46	17	29	8	0	1.56	0.17	1.18	1.18	-0.33 *	___D	No
ppvt108	744	4	25	66	4	0	0.60	0.10	1.26	1.42	-0.06	___	Yes
ppvt109	836	1	0	0	98	0	-1.47	0.14	0.65	0.39	0.00	___C	Yes
ppvt110	836	14	84	1	1	0	-0.10	-0.04	0.97	1.03	0.33	A___	No
ppvt111	836	13	4	82	1	0	-0.01	0.31	0.85	0.83	-0.08	___	Yes
ppvt112	836	3	14	65	17	0	1.03	0.26	1.02	0.95	-0.28	___	Yes
ppvt113	836	49	11	29	11	0	1.90	0.15	1.22	1.22	-0.27	___	Yes
ppvt114	836	95	1	0	4	0	-1.03	0.15	0.77	0.71	0.05	___	Yes
ppvt115	836	13	1	1	85	0	-0.18	0.19	0.91	0.99	0.24	___	Yes
ppvt116	836	7	74	6	13	0	0.54	0.30	0.91	0.85	-0.27	___	Yes
ppvt117	836	37	34	25	4	0	2.54	-0.02	1.23	1.58	-0.78 *	A_CD	No
ppvt118	836	1	97	1	1	0	-1.28	-0.12	0.62	0.48	-0.13	A_C	No
ppvt119	836	5	13	11	71	0	0.68	0.30	0.90	0.82	-0.19	___	Yes
ppvt120	835	5	19	41	35	0	2.29	-0.05	1.06	1.31	0.17	A___	No
ppvt121	811	10	67	16	6	0	1.07	0.26	1.01	1.12	0.19	___	Yes
ppvt122	811	1	2	12	84	0	0.07	0.22	0.92	1.20	0.08	___	Yes
ppvt123	811	12	6	73	9	0	0.73	0.36	0.90	0.92	-0.12	___	Yes
ppvt124	811	15	67	10	8	0	1.06	0.29	1.08	1.09	0.00	___	Yes
ppvt125	811	5	24	64	7	0	1.21	0.22	1.08	1.05	-0.28	___	Yes
ppvt126	811	99	1	0	0	0	-1.11	0.15	0.55	0.29	0.15	___C	Yes
ppvt127	811	0	98	2	0	0	-1.00	0.12	0.59	0.79	0.16	___	Yes
ppvt128	811	94	1	4	1	0	-0.67	0.21	0.65	0.47	0.02	___C	Yes
ppvt129	811	12	1	18	69	0	0.97	0.20	1.15	1.28	0.14	___	Yes
ppvt130	811	78	6	7	9	0	0.44	0.34	0.93	0.98	-0.10	___	Yes
ppvt131	811	18	2	4	77	0	0.54	0.21	1.09	1.63	-0.23	___C	Yes
ppvt132	811	3	1	94	2	0	-0.64	-0.04	0.72	0.96	-0.19	A___	No
ppvt133	800	0	5	94	1	0	-0.51	0.23	0.65	0.57	0.06	___	Yes
ppvt134	800	4	92	1	2	0	-0.40	0.13	0.70	0.62	0.10	___	Yes
ppvt135	800	57	9	33	1	0	1.63	0.29	1.09	1.01	0.64 *	___D	No
ppvt136	800	7	2	4	88	0	-0.08	0.08	0.93	1.36	0.23	A___	No
ppvt137	800	78	3	16	3	0	0.50	0.08	1.10	1.75	0.00	A_C	No
ppvt138	800	57	25	13	6	0	1.65	0.24	1.20	1.17	0.37 *	___D	No
ppvt139	800	28	14	12	47	0	2.14	0.10	1.21	1.12	0.75 *	A_D	No
ppvt140	800	1	15	35	49	0	2.04	-0.13	1.14	1.03	0.44 *	A_D	No
ppvt141	800	2	95	2	1	0	-0.60	0.08	0.68	0.80	-0.10	A___	No
ppvt142	800	22	8	68	2	0	1.07	0.23	1.00	0.99	-0.17	___	Yes

ppvt143	800	7	92	1	1	0	-0.36	0.13	0.71	0.65	-0.24		Yes	
ppvt144	800	6	14	48	32	0	2.09	0.25	0.95	0.83	0.41	*	D	No
ppvt145	778	2	10	5	84	0	0.31	0.23	0.77	0.66	0.22			Yes
ppvt146	778	12	20	55	14	0	1.80	0.19	1.18	1.08	-0.10			Yes
ppvt147	778	2	96	1	1	0	-0.47	-0.03	0.63	0.51	0.23		A	No
ppvt148	778	4	13	69	14	0	1.10	0.15	1.07	0.99	0.20			Yes
ppvt149	778	60	34	5	2	0	1.58	0.28	1.04	0.96	-0.11			Yes
ppvt150	778	15	8	72	5	0	0.95	0.23	1.01	1.11	0.00			Yes
ppvt151	778	4	33	2	61	0	1.51	0.01	1.22	1.21	0.93	*	A D	No
ppvt152	778	46	45	4	5	0	2.25	0.17	1.29	1.20	0.00			Yes
ppvt153	778	5	81	10	4	0	0.47	-0.10	0.91	1.10	0.13		A	No
ppvt154	778	1	58	1	40	0	1.65	0.22	1.14	1.10	0.33	*	D	No
ppvt155	778	94	2	1	3	0	-0.34	0.16	0.66	0.69	-0.04			Yes
ppvt156	778	22	8	4	65	0	1.29	0.24	0.93	0.85	-0.14			Yes
ppvt157	746	4	87	6	2	0	0.34	0.24	0.72	0.69	0.00			Yes
ppvt158	746	23	43	21	13	0	3.63	0.13	1.24	1.46	0.19			Yes
ppvt159	746	13	35	21	31	0	3.11	0.05	1.23	1.22	0.22		A	No
ppvt160	746	16	10	38	36	0	2.71	0.26	1.15	0.99	0.28			Yes
ppvt161	746	29	3	3	65	0	1.42	0.19	1.05	0.99	0.00			Yes
ppvt162	746	51	8	7	34	0	2.09	0.18	1.24	1.18	0.59	*	D	No
ppvt163	746	26	42	8	24	0	2.55	0.15	1.00	0.86	0.29			Yes
ppvt164	746	85	5	2	8	0	0.47	-0.02	0.88	1.11	0.54	*	A D	No
ppvt165	746	14	15	14	57	0	1.81	0.19	0.96	0.82	0.07			Yes
ppvt166	746	1	97	2	0	0	-0.29	0.08	0.60	0.49	0.00		A C	No
ppvt167	746	3	1	96	1	0	-0.20	0.08	0.62	0.53	-0.23		A	No
ppvt168	746	2	4	81	13	0	0.67	0.17	0.85	0.86	0.00			Yes
ppvt169	704	15	22	20	43	0	2.59	-0.09	0.86	0.72	0.08		A	No
ppvt170	704	2	95	2	1	0	0.16	0.13	0.69	0.63	0.06			Yes
ppvt171	704	48	20	10	22	0	2.37	0.01	1.06	0.93	-0.21		A	No
ppvt172	704	28	27	32	13	0	3.19	0.16	1.06	0.96	-0.16			Yes
ppvt173	704	18	24	44	13	0	4.49	0.04	1.09	1.27	-0.19		A	No
ppvt174	704	12	34	44	10	0	3.06	0.00	0.94	0.82	0.41	*	A D	No
ppvt175	704	9	18	61	13	0	1.81	-0.12	0.88	0.74	0.06		A	No
ppvt176	704	21	44	10	25	0	2.55	0.21	1.16	1.02	0.26			Yes
ppvt177	704	30	4	18	48	0	3.31	0.11	1.35	1.31	1.03	*	D	No
ppvt178	704	7	23	63	7	0	1.69	0.36	0.76	0.64	-0.19			Yes
ppvt179	704	3	3	4	90	0	0.47	0.23	0.74	0.68	-0.30			Yes

ppvt180	704	45	12	39	3	1	2.50	0.23	1.06	0.91	0.13	_____	Yes
ppvt181	488	2	1	31	66	0	2.48	0.16	0.91	0.78	-0.27	_____	Yes
ppvt182	488	15	65	17	2	0	4.80	0.05	0.98	0.83	-0.30	A_____	No
ppvt183	488	0	2	92	6	0	1.67	-0.02	0.72	0.61	-0.36 *	A_D	No
ppvt184	488	1	1	1	97	0	1.52	0.24	0.66	0.52	-0.10	_____	Yes
ppvt185	488	60	11	12	17	0	2.69	0.19	0.90	0.70	0.00	_____	Yes
ppvt186	488	1	0	99	0	0	1.46	0.08	0.66	0.52	-0.13	A_____	No
ppvt187	488	16	83	0	1	0	1.94	0.08	0.74	0.65	-0.22	A_____	No
ppvt188	488	11	43	24	21	0	4.37	-0.01	1.05	0.86	-0.10	A_____	No
ppvt189	488	13	57	11	19	0	2.78	0.18	0.80	0.61	0.33	_____	Yes
ppvt190	488	4	20	70	6	0	2.34	0.29	0.75	0.58	0.05	_____	Yes
ppvt191	488	81	6	4	9	0	2.00	0.21	0.74	0.62	-0.05	_____	Yes
ppvt192	488	10	87	2	1	0	1.83	0.11	0.73	0.60	-0.07	_____	Yes
ppvt193	479	40	4	40	15	0	4.86	0.09	1.04	0.83	0.00	A_____	No
ppvt194	479	15	45	7	34	0	3.25	-0.07	0.84	0.62	0.40 *	A_D	No
ppvt195	479	8	3	87	3	0	1.88	0.20	0.71	0.59	0.00	_____	Yes
ppvt196	479	59	5	6	30	0	2.76	0.14	0.93	0.72	0.00	_____	Yes
ppvt197	479	55	8	20	17	0	2.88	0.09	0.91	0.71	0.20	A_____	No
ppvt198	479	10	9	10	71	0	2.37	-0.01	0.76	0.61	-0.06	A_____	No
ppvt199	479	2	5	85	8	0	1.92	0.12	0.79	0.68	-0.11	_____	Yes
ppvt200	479	46	10	16	28	0	3.21	0.17	0.86	0.63	0.38 *	_____D	No
ppvt201	479	30	14	8	47	0	3.17	0.00	0.85	0.65	0.21	A_____	No
ppvt202	479	1	55	2	41	0	2.89	0.08	0.90	0.71	0.12	A_____	No
ppvt203	479	1	28	67	4	0	2.50	0.24	0.74	0.56	0.00	_____	Yes
ppvt204	479	23	55	5	16	0	2.89	0.20	0.77	0.58	0.40 *	_____D	No

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 15. Item statistics in the Peabody Picture Vocabulary Test for the Older Cohort, Peru - Spanish

	N	Response options					Difficulty ² (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis ³	Warnings	Item kept for the analysis ⁴
		1 (%)	2 (%)	3 (%)	4 (%)	NR ¹ (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	4	25	25	0	50	0	-8.13	0.27	0.24	0.00	0.94	<u>BC</u>	Yes
ppvt002	4	50	25	0	25	0	-8.13	0.26	1.68	0.02	-1.68	<u>BC</u>	Yes
ppvt003	4	100	0	0	0	0	-12.15		1.00	1.00	0 *	<u>D</u>	Yes
ppvt004	4	0	100	0	0	0	-12.15		1.00	1.00	0 *	<u>D</u>	Yes
ppvt005	4	50	25	25	0	0	-9.34	0.20	2.52	0.02	-2.6	<u>BC</u>	Yes
ppvt006	4	0	0	0	100	0	-12.15		1.00	1.00	0 *	<u>D</u>	Yes
ppvt007	4	50	0	0	50	0	-9.34	0.20	2.52	0.02	-2.6	<u>BC</u>	Yes
ppvt008	4	0	25	50	25	0	-7.03	0.30	0.23	0.00	0	<u>BC</u>	Yes
ppvt009	4	25	0	0	75	0	-10.63	0.16	0.94	0.00	0.06	<u>C</u>	Yes
ppvt010	6	0	100	0	0	0	-12.15		1.00	1.00	0 *	<u>D</u>	Yes
ppvt011	6	0	0	100	0	0	-12.15		1.00	1.00	0 *	<u>D</u>	Yes
ppvt012	6	50	0	33	17	0	-7.03	0.30	0.23	0.00	0	<u>BC</u>	Yes
ppvt013	6	0	17	83	0	0	-10.63	0.16	0.72	0.00	0.06	<u>C</u>	Yes
ppvt014	6	0	17	83	0	0	-10.63	0.16	0.72	0.00	0.06	<u>C</u>	Yes
ppvt015	6	0	67	17	17	0	-9.34	0.23	0.45	0.00	0.21	<u>BC</u>	Yes
ppvt016	6	17	67	0	17	0	-9.34	0.22	1.19	0.01	0.21	<u>C</u>	Yes
ppvt017	6	67	33	0	0	0	-9.34	0.23	0.45	0.00	0.21	<u>BC</u>	Yes
ppvt018	7	43	43	14	0	0	-7.03	0.22	3.66	2.01	0	<u>BC</u>	Yes
ppvt019	6	0	33	33	33	0	-6.23	0.32	0.66	0.02	1.67	<u>C</u>	Yes
ppvt020	7	14	43	43	0	0	-6.23	0.29	0.79	0.87	1.67		Yes
ppvt021	8	0	0	0	100	0	-10.63	0.16	0.72	0.00	0.06	<u>C</u>	Yes
ppvt022	10	10	0	90	0	0	-9.34	0.23	0.45	0.00	0.21	<u>BC</u>	Yes
ppvt023	9	0	89	0	11	0	-8.13	0.26	1.22	0.01	-1.68	<u>C</u>	Yes
ppvt024	12	0	0	0	100	0	-9.34	0.23	0.45	0.00	0.21	<u>BC</u>	Yes
ppvt025	12	0	8	75	17	0	-6.23	0.32	0.66	0.02	1.67	<u>C</u>	Yes
ppvt026	12	0	0	75	25	0	-6.23	0.29	1.63	0.23	1.67	<u>BC</u>	Yes
ppvt027	16	0	0	94	6	0	-8.13	0.27	0.24	0.00	0.94	<u>BC</u>	Yes
ppvt028	19	0	11	5	84	0	-6.23	0.25	1.77	2.56	3.57 *	<u>BCD</u>	Yes
ppvt029	24	0	92	0	8	0	-7.03	0.27	1.31	0.46	2.56	<u>C</u>	Yes
ppvt030	29	7	3	10	79	0	-4.92	0.35	0.83	0.07	0.9	<u>C</u>	Yes
ppvt031	29	0	0	100	0	0	-8.13	0.27	0.24	0.00	0.94	<u>BC</u>	Yes

ppvt032	30	20	77	0	3	0	-4.40	0.30	1.86	0.59	1.88	*	<u>B D</u>	No
ppvt033	30	3	0	7	90	0	-5.67	0.33	0.70	0.02	2.58		<u>C</u>	Yes
ppvt034	32	0	0	0	100	0	-8.13	0.27	0.24	0.00	0.94		<u>BC</u>	No
ppvt035	36	72	6	14	8	0	-3.82	0.39	0.77	0.19	0.03		<u>C</u>	Yes
ppvt036	39	5	5	10	79	0	-4.18	0.34	1.32	0.43	-1.39		<u>C</u>	Yes
ppvt037	42	67	7	10	17	0	-3.24	0.42	0.86	0.17	-0.21		<u>C</u>	Yes
ppvt038	43	5	60	26	9	0	-2.89	0.42	1.06	0.33	-1.3		<u>C</u>	Yes
ppvt039	48	4	4	90	2	0	-4.92	0.32	1.51	0.13	-0.45		<u>BC</u>	No
ppvt040	56	13	2	79	7	0	-3.51	0.36	1.43	0.32	-0.43		<u>C</u>	Yes
ppvt041	58	0	0	93	7	0	-4.64	0.36	0.83	0.11	0.42		<u>C</u>	Yes
ppvt042	66	12	82	2	5	0	-3.24	0.39	1.24	0.26	-0.82		<u>C</u>	Yes
ppvt043	68	74	7	9	10	0	-2.51	0.45	0.85	0.19	-0.05		<u>C</u>	Yes
ppvt044	72	3	71	6	21	0	-2.26	0.45	0.96	0.21	-1.2		<u>C</u>	Yes
ppvt045	77	73	5	10	12	0	-2.18	0.43	1.08	1.03	-1.31	*	<u>D</u>	No
ppvt046	83	1	5	5	89	0	-3.37	0.38	1.19	0.36	1.57	*	<u>CD</u>	No
ppvt047	90	9	76	3	12	0	-2.11	0.46	0.93	0.19	-2.25	*	<u>CD</u>	No
ppvt048	105	7	79	12	2	0	-2.11	0.44	0.98	1.17	-0.7			Yes
ppvt049	109	84	4	5	6	1	-2.26	0.39	1.42	0.70	-0.12			Yes
ppvt050	133	14	5	75	6	0	-1.28	0.49	0.94	0.46	-0.52		<u>C</u>	Yes
ppvt051	135	6	3	6	85	0	-1.90	0.47	0.98	0.23	-0.42		<u>C</u>	Yes
ppvt052	136	1	82	16	1	0	-1.65	0.46	1.09	0.69	-1.1	*	<u>D</u>	No
ppvt053	163	1	10	82	7	0	-1.33	0.51	0.79	0.24	-0.23		<u>C</u>	Yes
ppvt054	191	2	13	81	4	0	-1.01	0.46	1.24	1.23	-0.09			Yes
ppvt055	194	3	2	7	88	0	-1.65	0.46	0.98	1.00	0.38			Yes
ppvt056	195	13	12	6	69	0	-0.17	0.55	0.99	0.39	0.87	*	<u>CD</u>	No
ppvt057	193	86	7	4	2	1	-1.33	0.46	1.08	2.49	0.17		<u>C</u>	Yes
ppvt058	195	8	28	58	5	1	0.44	0.55	1.05	0.79	-0.29			Yes
ppvt059	200	95	2	0	4	0	-2.04	0.44	0.94	0.87	0.37			Yes
ppvt060	206	90	2	5	2	0	-1.43	0.51	0.72	0.54	-0.02			Yes
ppvt061	215	9	24	24	43	0	1.34	0.63	0.86	0.68	0.14			Yes
ppvt062	220	38	27	11	21	3	1.58	0.57	1.15	1.24	0			Yes
ppvt063	237	12	14	9	65	0	0.61	0.58	0.95	0.76	0.38			Yes
ppvt064	280	5	93	1	1	0	-1.01	0.53	0.76	0.47	0.09		<u>C</u>	Yes
ppvt065	287	1	1	98	0	0	-1.65	0.50	0.66	0.98	-0.57			Yes
ppvt066	296	5	8	80	7	0	0.25	0.51	1.24	0.97	0.59			Yes
ppvt067	342	68	6	22	5	0	1.25	0.62	0.86	0.78	-0.99	*	<u>D</u>	No
ppvt068	348	11	83	2	4	0	0.23	0.50	1.14	1.98	0.06		<u>C</u>	Yes

ppvt069	369	5	9	11	74	1	1.13	0.60	0.95	0.80	0.63	*	__D	No
ppvt070	390	4	91	4	1	0	-0.17	0.51	1.01	1.33	0.16		___	Yes
ppvt071	400	4	12	80	5	0	0.85	0.57	1.00	1.02	-0.08		___	Yes
ppvt072	414	56	21	14	8	1	2.45	0.56	1.39	1.49	0		___	Yes
ppvt073	435	5	3	6	86	1	0.46	0.52	1.10	2.66	0.12		__C	Yes
ppvt074	431	76	13	6	4	0	1.37	0.60	1.02	0.92	0.61	*	__D	No
ppvt075	429	20	20	44	15	1	3.39	0.64	1.14	1.14	-0.05		___	Yes
ppvt076	429	15	76	3	6	0	1.50	0.58	1.07	1.39	-0.23		___	Yes
ppvt077	429	7	11	56	25	1	2.81	0.57	1.38	1.46	-0.17		___	Yes
ppvt078	425	20	44	29	6	1	3.51	0.60	1.34	1.37	-0.79	*	__D	No
ppvt079	421	16	10	70	4	0	2.14	0.57	1.23	1.73	0.54	*	__CD	No
ppvt080	412	19	9	17	51	4	3.28	0.53	1.61	1.82	0.38		__BC	No
ppvt081	405	28	33	27	9	2	4.36	0.57	1.43	1.42	0.31		___	Yes
ppvt082	411	0	4	87	9	0	1.75	0.65	0.82	0.77	-0.21		___	Yes
ppvt083	422	7	60	12	21	0	3.46	0.67	1.05	0.87	0.07		___	Yes
ppvt084	424	59	7	13	20	0	3.55	0.62	1.22	1.20	0.24		___	Yes
ppvt085	416	13	18	59	8	2	3.73	0.62	1.24	1.23	-0.39		___	Yes
ppvt086	408	13	69	13	4	0	3.26	0.71	0.81	0.71	-0.66	*	__D	No
ppvt087	399	10	54	9	27	0	4.14	0.65	1.11	1.03	-0.61	*	__D	No
ppvt088	399	4	71	14	11	0	3.41	0.73	0.73	0.54	0.24		___	Yes
ppvt089	381	15	21	8	56	0	4.45	0.67	1.04	0.79	0.27		___	Yes
ppvt090	381	8	5	47	40	0	5.41	0.60	1.22	0.88	0		___	Yes
ppvt091	357	20	9	20	49	1	5.07	0.60	1.27	0.97	-0.43		___	Yes
ppvt092	342	4	16	50	30	0	5.12	0.65	1.07	0.70	0.3		___	Yes
ppvt093	341	11	16	24	48	1	5.48	0.61	1.14	0.77	-0.07		___	Yes
ppvt094	337	18	5	9	68	0	4.65	0.72	0.80	0.57	-0.34		___	Yes
ppvt095	320	0	1	15	84	0	4.10	0.74	0.71	0.49	-0.15		__C	Yes
ppvt096	314	12	17	22	48	1	5.76	0.60	1.12	0.66	0.28		___	Yes
ppvt097	306	13	56	21	9	0	5.48	0.62	1.11	0.72	-0.19		___	Yes
ppvt098	299	26	46	2	26	0	6.05	0.58	1.14	0.69	0.4		___	Yes
ppvt099	290	1	7	86	6	0	4.48	0.78	0.55	0.32	0.27		__C	Yes
ppvt100	285	10	5	79	6	0	4.79	0.73	0.73	0.45	0.35		__C	Yes
ppvt101	280	30	23	35	11	1	7.00	0.48	1.17	0.83	-0.54		___	Yes
ppvt102	281	31	17	26	24	2	7.39	0.47	1.06	0.60	-0.2		___	Yes
ppvt103	274	57	18	7	18	0	5.81	0.68	0.77	0.41	0.18		__C	Yes
ppvt104	257	75	11	7	6	0	5.31	0.72	0.70	0.43	0		__C	Yes
ppvt105	251	33	4	13	49	2	7.12	0.51	1.00	0.58	-0.42		___	Yes

ppvt106	244	31	45	8	16	1	6.69	0.51	1.26	0.70	0.4		Yes	
ppvt107	239	26	62	10	1	0	6.07	0.64	0.87	0.46	0.18	C	Yes	
ppvt108	225	18	11	65	5	0	6.12	0.64	0.86	0.45	0.39	C	Yes	
ppvt109	210	9	8	60	23	0	6.48	0.61	0.86	0.42	-0.19	C	Yes	
ppvt110	203	16	24	31	27	2	7.74	0.45	1.06	0.46	0.02	C	Yes	
ppvt111	202	5	3	6	85	0	5.78	0.71	0.63	0.33	0	C	Yes	
ppvt112	203	36	43	6	13	1	7.24	0.53	0.93	0.41	0.89	*	CD	No
ppvt113	189	57	25	8	8	1	6.85	0.58	0.84	0.41	0.57	*	CD	No
ppvt114	187	14	41	4	40	2	7.51	0.44	1.21	0.63	-0.19			Yes
ppvt115	184	9	27	37	27	1	7.70	0.49	0.90	0.34	-0.36	C	Yes	
ppvt116	179	18	7	47	25	3	7.37	0.52	0.95	0.37	-0.15	C	Yes	
ppvt117	163	2	75	14	8	1	6.63	0.63	0.68	0.30	0.09	C	Yes	
ppvt118	158	17	16	44	23	1	7.77	0.47	0.94	0.36	-0.44	C	Yes	
ppvt119	157	68	3	9	20	1	6.96	0.57	0.86	0.39	-0.28	C	Yes	
ppvt120	152	20	11	34	32	3	8.27	0.41	1.06	0.38	-0.06	C	Yes	
ppvt121	144	17	63	16	3	0	7.27	0.55	0.81	0.34	0.26	C	Yes	
ppvt122	140	20	14	36	28	2	8.27	0.40	1.08	0.42	-0.46	C	Yes	
ppvt123	133	72	3	12	10	3	7.16	0.57	0.74	0.30	-0.26	C	Yes	
ppvt124	129	5	5	50	40	0	8.27	0.42	1.02	0.35	0.44	C	Yes	
ppvt125	127	43	6	20	28	3	8.85	0.36	1.00	0.33	0.91	*	CD	No

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

Table 16. Item statistics in the Peabody Picture Vocabulary Test for the Older Cohort, Vietnam - Tieng Viet Nam

	N	Response options					Difficulty (IRT)	CTT item fit indicator	IRT item fit Indicator		Bias Analysis	Warnings	Item kept for the analysis
		1 (%)	2 (%)	3 (%)	4 (%)	NR (%)		Item-Test correlation	Infit (IRT)	Outfit (IRT)	Gender Male - Female		
ppvt001	13	0	0	0	100	0	-10.30		me	me	0.00	_BC_	Yes
ppvt002	13	0	0	100	0	0	-10.30		me	me	0.00	_BC_	Yes
ppvt003	13	92	0	8	0	0	-8.96	0.11	1.38	0.52	-1.62	___	Yes
ppvt004	13	69	0	15	15	0	-6.91	0.29	1.33	0.08	-1.28	_C_	Yes
ppvt005	13	0	8	46	46	0	-5.57	0.38	0.94	0.15	0.93	_C_	Yes
ppvt006	13	85	0	8	8	0	-8.06	0.22	1.03	0.01	-3.05	_C_	Yes
ppvt007	13	8	85	0	8	0	-8.06	0.22	0.59	0.00	-0.84	_C_	Yes
ppvt008	13	8	8	85	0	0	-8.06	0.22	1.03	0.01	-3.05	_C_	Yes
ppvt009	13	0	8	8	85	0	-8.06	0.21	1.12	0.02	-0.84	_C_	Yes
ppvt010	13	23	38	8	31	0	-5.19	0.41	0.93	0.04	1.61	_C_	Yes
ppvt011	13	23	77	0	0	0	-7.43	0.24	1.21	0.26	0.03	_C_	Yes
ppvt012	13	8	31	62	0	0	-6.43	0.32	1.20	0.05	-0.51	_C_	Yes
ppvt013	15	27	73	0	0	0	-6.91	0.29	1.01	0.07	-1.28	_C_	Yes
ppvt014	15	67	13	20	0	0	-6.43	0.31	1.51	0.36	1.45	_BC_	Yes
ppvt015	15	7	7	80	7	0	-7.43	0.24	1.38	0.12	-2.24	_C_	Yes
ppvt016	15	33	20	7	40	0	-4.50	0.42	1.45	0.16	1.26	_C_	Yes
ppvt017	15	33	13	33	20	0	-4.50	0.44	0.94	0.06	1.26	_C_	Yes
ppvt018	15	7	40	53	0	0	-4.83	0.44	0.70	0.02	0.68	_C_	Yes
ppvt019	15	87	7	0	7	0	-8.06	0.19	1.60	0.22	-0.84	_BC_	Yes
ppvt020	15	13	20	33	33	0	-4.50	0.44	0.96	0.08	0.00	_C_	Yes
ppvt021	15	7	7	73	13	0	-6.91	0.28	1.29	0.16	0.75	_C_	Yes
ppvt022	15	33	0	13	53	0	-5.57	0.36	1.62	0.20	-2.14	_BC_	Yes
ppvt023	15	47	27	7	20	0	-4.21	0.45	1.02	0.07	1.72	_C_	Yes
ppvt024	15	40	7	40	13	0	-3.73	0.46	1.17	0.10	-0.34	_C_	Yes
ppvt025	44	64	23	11	2	0	-2.54	0.53	1.04	0.21	0.42	_C_	Yes
ppvt026	44	0	2	93	5	0	-5.19	0.40	1.06	0.04	-1.41	_C_	Yes
ppvt027	44	2	2	0	95	0	-5.57	0.39	0.71	0.02	-0.72	_C_	Yes
ppvt028	44	7	2	0	91	0	-4.83	0.43	0.58	0.03	-0.69	_C_	Yes
ppvt029	44	93	2	5	0	0	-5.19	0.38	1.14	0.22	1.61	_C_	Yes
ppvt030	44	2	98	0	0	0	-5.99	0.36	0.81	0.03	0.21	_C_	Yes
ppvt031	44	9	2	86	2	0	-4.21	0.47	0.61	0.03	0.57	_C_	Yes
ppvt032	44	0	95	0	5	0	-5.57	0.40	0.54	0.01	0.93	_C_	Yes

ppvt033	44	7	86	2	5	0	-4.21	0.47	0.53	0.05	0.57	__C__	Yes
ppvt034	44	86	5	0	9	0	-4.21	0.42	1.70	0.23	-0.52	__BC__	No
ppvt035	44	5	5	11	80	0	-3.53	0.47	0.88	0.27	-0.66	__C__	Yes
ppvt036	44	0	5	95	0	0	-5.57	0.34	1.28	1.12	0.93	_____	Yes
ppvt037	43	30	53	16	0	0	-2.08	0.55	0.96	0.30	-0.11	__C__	Yes
ppvt038	43	0	0	9	91	0	-4.50	0.43	1.16	0.10	-1.20	__C__	Yes
ppvt039	43	7	9	81	2	0	-3.53	0.50	0.88	0.04	-1.52	__C__	Yes
ppvt040	43	35	21	28	16	0	-1.52	0.59	0.88	0.28	-0.28	__C__	Yes
ppvt041	43	51	42	0	7	0	-1.71	0.56	1.02	0.37	-0.19	__C__	Yes
ppvt042	43	21	9	35	35	0	-1.19	0.62	0.82	0.30	0.19	__C__	Yes
ppvt043	43	19	0	70	12	0	-2.77	0.53	0.90	0.09	-0.56	__C__	Yes
ppvt044	43	16	30	12	42	0	-1.71	0.58	0.89	0.21	0.61	__C__	Yes
ppvt045	43	23	0	7	70	0	-2.77	0.47	1.06	1.02	1.45	* __D__	No
ppvt046	43	7	86	5	2	0	-3.96	0.39	1.86	1.02	0.06	__B__	No
ppvt047	43	7	0	93	0	0	-4.83	0.45	0.23	0.00	0.68	__BC__	No
ppvt048	43	56	16	5	23	0	-2.16	0.54	1.06	0.28	0.73	__C__	Yes
ppvt049	66	2	2	95	2	0	-3.96	0.47	0.73	0.05	1.04	__C__	Yes
ppvt050	66	65	15	6	14	0	-1.64	0.57	0.88	0.48	-0.05	__C__	Yes
ppvt051	66	92	3	0	5	0	-3.53	0.47	0.85	1.26	-0.66	_____	Yes
ppvt052	66	11	79	6	5	0	-2.34	0.48	1.27	0.74	0.78	_____	Yes
ppvt053	66	35	23	23	20	0	-0.30	0.62	1.04	0.60	-0.38	_____	Yes
ppvt054	66	14	62	15	8	2	-1.52	0.53	1.17	0.88	0.93	_____	Yes
ppvt055	66	74	26	0	0	0	-2.08	0.54	0.91	0.59	-0.45	_____	Yes
ppvt056	66	8	6	23	64	0	-1.58	0.58	0.84	0.33	-0.17	__C__	Yes
ppvt057	66	8	82	6	5	0	-2.54	0.52	0.88	0.49	0.42	__C__	Yes
ppvt058	66	5	5	83	8	0	-2.65	0.53	0.85	0.22	0.20	__C__	Yes
ppvt059	66	8	5	80	8	0	-2.44	0.53	0.88	0.38	-0.19	__C__	Yes
ppvt060	66	11	12	5	73	0	-2.00	0.57	0.78	0.25	0.06	__C__	Yes
ppvt061	65	11	0	2	88	0	-2.77	0.52	0.76	0.56	0.44	_____	Yes
ppvt062	65	57	25	11	8	0	-1.24	0.56	1.07	0.55	0.09	_____	Yes
ppvt063	65	2	91	5	3	0	-3.04	0.52	0.65	0.14	-0.71	__C__	Yes
ppvt064	65	8	5	83	5	0	-2.44	0.54	0.87	0.32	-0.62	__C__	Yes
ppvt065	65	29	5	15	49	2	-1.00	0.57	1.14	0.55	-0.19	_____	Yes
ppvt066	65	26	22	31	22	0	-0.51	0.62	0.99	0.45	0.00	__C__	Yes
ppvt067	65	35	46	14	5	0	-0.91	0.61	1.00	0.40	0.00	__C__	Yes
ppvt068	65	91	2	5	3	0	-3.04	0.50	0.83	0.26	-0.11	__C__	Yes
ppvt069	65	0	0	8	92	0	-3.19	0.49	0.79	0.28	-0.48	__C__	Yes

ppvt070	65	6	91	2	2	0	-3.04	0.49	0.75	1.16	-0.11	___	Yes
ppvt071	65	9	3	85	3	0	-2.54	0.48	1.07	0.92	-1.43	* __D	No
ppvt072	65	97	2	0	2	0	-3.73	0.49	0.64	0.09	-0.34	__C__	Yes
ppvt073	364	1	98	1	0	0	-2.65	0.45	1.07	3.30	0.66	__C__	Yes
ppvt074	364	1	0	0	99	0	-3.35	0.51	0.61	0.06	-0.20	__C__	Yes
ppvt075	364	1	0	98	1	0	-2.77	0.47	0.89	3.35	0.44	__C__	Yes
ppvt076	364	83	3	10	4	0	0.09	0.50	1.45	1.55	1.68	* __CD	No
ppvt077	364	96	1	1	1	0	-2.16	0.50	1.05	0.90	-1.46	* __D	No
ppvt078	364	0	1	98	2	0	-2.54	0.53	0.92	0.20	-0.91	__C__	Yes
ppvt079	364	1	96	3	0	0	-2.00	0.46	1.22	2.96	-0.26	__C__	Yes
ppvt080	364	85	2	10	2	0	-0.17	0.60	1.12	0.75	-0.60	___	Yes
ppvt081	364	8	86	3	3	0	-0.30	0.47	1.50	1.90	0.55	__BC__	No
ppvt082	364	3	10	8	80	0	0.35	0.54	1.43	1.02	0.27	___	Yes
ppvt083	364	1	5	90	4	0	-0.86	0.44	1.52	2.17	0.61	__BC__	No
ppvt084	364	4	4	6	84	1	-0.08	0.44	1.63	1.79	0.08	__BC__	No
ppvt085	441	36	31	15	15	2	3.16	0.52	1.04	1.50	0.06	__C__	Yes
ppvt086	441	14	2	5	79	0	0.83	0.55	1.33	1.12	-0.25	___	Yes
ppvt087	441	63	9	22	6	0	1.90	0.44	1.54	1.55	-0.41	__BC__	No
ppvt088	441	5	5	2	88	0	-0.11	0.54	1.31	1.33	-0.22	___	Yes
ppvt089	441	11	10	61	18	0	1.99	0.39	1.63	1.75	0.07	__BC__	No
ppvt090	441	91	2	2	5	0	-0.62	0.55	1.18	1.17	-0.69	___	Yes
ppvt091	441	19	14	34	28	4	3.26	0.50	1.09	1.29	-0.23	___	Yes
ppvt092	441	17	58	22	3	0	2.12	0.56	1.20	1.11	-0.37	___	Yes
ppvt093	441	34	2	63	0	0	1.88	0.47	1.44	1.41	-0.14	___	Yes
ppvt094	441	19	48	30	2	1	2.58	0.49	1.25	1.64	0.00	__C__	Yes
ppvt095	441	1	3	83	13	0	0.44	0.55	1.36	1.01	0.73	* __D	No
ppvt096	441	95	2	2	1	0	-1.52	0.51	1.11	1.21	0.20	___	Yes
ppvt097	470	1	85	8	5	1	0.69	0.61	1.12	0.96	-0.06	___	Yes
ppvt098	470	22	67	4	5	1	1.95	0.58	1.18	0.94	-0.09	___	Yes
ppvt099	470	2	3	7	87	1	0.44	0.59	1.15	1.38	0.00	___	Yes
ppvt100	470	11	5	70	12	2	1.78	0.51	1.39	1.18	0.46	* __D	No
ppvt101	470	2	3	2	92	1	-0.21	0.55	1.18	1.42	0.21	___	Yes
ppvt102	470	47	5	5	41	1	2.86	0.51	1.17	1.33	-0.31	___	Yes
ppvt103	470	1	3	92	3	1	-0.14	0.67	0.83	0.54	0.45	___	Yes
ppvt104	470	2	1	1	95	1	-0.58	0.67	0.79	0.30	-0.29	__C__	Yes
ppvt105	470	76	14	4	4	1	1.46	0.63	1.07	0.88	0.25	___	Yes
ppvt106	470	7	70	18	3	2	1.83	0.61	1.09	0.99	-0.05	___	Yes

ppvt107	470	87	5	6	1	1	0.49	0.58	1.21	1.36	0.25	___	Yes
ppvt108	470	0	17	81	0	1	1.03	0.49	1.49	1.34	0.96	* __D	No
ppvt109	880	6	5	5	85	0	1.87	0.57	1.19	1.05	-0.76	* __D	No
ppvt110	880	5	93	2	0	0	0.79	0.61	1.09	1.08	-0.18	___	Yes
ppvt111	880	1	9	89	1	1	1.47	0.61	1.11	1.04	0.22	___	Yes
ppvt112	880	0	4	91	4	0	1.10	0.59	1.19	1.11	-0.47	___	Yes
ppvt113	880	30	19	24	25	1	5.23	0.15	1.31	2.70	0.05	__C__	Yes
ppvt114	880	95	1	1	2	0	0.32	0.64	0.92	1.00	0.22	___	Yes
ppvt115	880	28	16	4	52	0	4.11	0.36	1.18	1.59	-0.32	* __CD	No
ppvt116	880	6	84	5	5	0	1.97	0.51	1.36	1.25	0.12	___	Yes
ppvt117	880	86	7	6	1	0	1.81	0.60	1.14	0.97	0.21	___	Yes
ppvt118	880	0	99	1	0	0	-0.74	0.65	0.72	1.29	0.17	___	Yes
ppvt119	880	0	0	0	99	0	-0.78	0.66	0.70	0.59	0.26	___	Yes
ppvt120	880	10	2	85	2	1	1.93	0.61	1.10	0.85	-0.09	___	Yes
ppvt121	881	7	90	2	0	0	1.32	0.55	1.28	1.35	0.49	___	Yes
ppvt122	881	6	4	13	77	1	2.68	0.52	1.18	1.17	-0.17	___	Yes
ppvt123	881	4	3	83	9	0	2.14	0.60	1.05	1.01	0.02	___	Yes
ppvt124	881	20	33	30	15	2	5.15	0.21	1.21	2.10	-0.17	__C__	Yes
ppvt125	881	9	17	61	10	2	3.66	0.45	1.09	1.18	0.16	___	Yes
ppvt126	881	59	22	9	8	2	3.82	0.40	1.19	1.28	-0.15	___	Yes
ppvt127	881	1	95	3	0	0	0.56	0.61	1.00	1.37	0.20	___	Yes
ppvt128	881	78	5	8	9	0	2.62	0.53	1.16	1.16	-0.40	* __D	No
ppvt129	881	1	1	3	95	0	0.60	0.71	0.76	0.78	-0.32	___	Yes
ppvt130	881	87	3	4	6	0	1.76	0.59	1.12	1.25	0.57	* __D	No
ppvt131	881	13	7	8	71	1	3.10	0.48	1.19	1.20	0.19	___	Yes
ppvt132	881	1	1	97	1	0	0.14	0.70	0.77	0.53	0.95	* __D	No
ppvt133	846	4	3	92	2	0	1.64	0.68	0.86	1.03	0.47	* __D	No
ppvt134	846	1	96	2	0	0	1.07	0.72	0.74	0.80	-0.12	___	Yes
ppvt135	846	81	6	8	4	0	2.60	0.60	1.01	0.95	-0.14	___	Yes
ppvt136	846	1	1	1	98	0	0.81	0.75	0.65	0.74	0.00	___	Yes
ppvt137	846	93	5	2	1	0	1.53	0.70	0.80	0.99	0.15	___	Yes
ppvt138	846	80	10	7	3	0	2.70	0.61	0.97	0.92	0.21	___	Yes
ppvt139	846	17	4	7	72	0	3.22	0.49	1.15	1.08	-0.45	* __D	No
ppvt140	846	1	24	22	52	0	4.28	0.37	1.14	1.15	-0.11	___	Yes
ppvt141	846	8	56	23	13	1	4.10	0.37	1.19	1.19	-0.15	___	Yes
ppvt142	846	22	10	66	2	0	3.56	0.50	1.05	0.94	-0.09	___	Yes
ppvt143	846	0	100	0	0	0	0.51	0.81	0.46	0.19	-0.07	__BC__	No

ppvt144	846	1	4	94	1	0	1.43	0.67	0.88	1.04	-0.05	___	Yes
ppvt145	836	0	1	0	99	0	0.92	0.79	0.55	0.40	-0.20	__C__	Yes
ppvt146	836	1	4	92	3	0	1.81	0.72	0.78	0.77	0.00	___	Yes
ppvt147	836	8	87	3	2	1	2.27	0.63	0.95	1.02	-0.52 *	__D	No
ppvt148	836	1	1	92	6	0	1.80	0.69	0.85	0.86	0.00	___	Yes
ppvt149	836	78	16	2	3	0	2.93	0.57	1.02	0.97	0.41 *	__D	No
ppvt150	836	14	12	36	35	4	5.10	0.23	1.22	1.62	-0.34 *	__CD	No
ppvt151	836	1	3	1	95	0	1.47	0.74	0.72	0.71	-0.13	___	Yes
ppvt152	836	78	8	3	11	0	2.91	0.56	1.04	0.99	0.38 *	__D	No
ppvt153	836	3	79	9	9	0	2.85	0.54	1.12	1.09	0.35 *	__D	No
ppvt154	836	1	80	8	11	0	2.81	0.49	1.25	1.31	0.21	___	Yes
ppvt155	836	67	2	1	30	0	3.58	0.50	1.03	0.92	0.29	___	Yes
ppvt156	836	6	1	2	91	0	1.85	0.72	0.78	0.70	-0.47 *	__D	No
ppvt157	822	6	80	11	3	1	2.88	0.65	0.83	0.73	-0.13	___	Yes
ppvt158	822	45	27	9	19	1	4.70	0.41	0.98	0.85	-0.16	___	Yes
ppvt159	822	4	23	29	43	0	4.76	0.38	1.04	0.95	0.28	___	Yes
ppvt160	822	4	4	88	4	0	2.32	0.70	0.80	0.65	-0.37	___	Yes
ppvt161	822	3	8	2	87	0	2.37	0.58	1.07	1.26	0.33	___	Yes
ppvt162	822	49	14	12	25	0	4.50	0.33	1.23	1.25	-0.08	___	Yes
ppvt163	822	12	36	22	28	2	5.10	0.34	1.01	1.02	-0.45 *	__D	No
ppvt164	822	63	16	10	12	0	3.85	0.47	1.06	0.97	-0.27	___	Yes
ppvt165	822	22	8	15	55	0	4.21	0.41	1.08	1.01	0.41 *	__D	No
ppvt166	822	10	85	3	2	0	2.52	0.61	0.98	1.02	-0.10	___	Yes
ppvt167	822	7	2	86	5	0	2.42	0.65	0.89	0.83	0.14	___	Yes
ppvt168	822	20	14	43	22	1	4.76	0.39	0.98	0.89	0.00	___	Yes
ppvt169	757	0	2	2	96	0	2.27	0.77	0.61	0.51	0.06	___	Yes
ppvt170	757	1	95	2	1	0	2.33	0.77	0.61	0.48	0.09	__C__	Yes
ppvt171	757	76	19	4	1	0	3.46	0.57	0.91	0.82	0.33 *	__D	No
ppvt172	757	30	3	57	10	1	4.35	0.47	0.92	0.79	0.12	___	Yes
ppvt173	757	37	22	9	32	1	5.47	0.33	0.99	0.82	0.49 *	__D	No
ppvt174	757	1	89	10	1	0	2.76	0.71	0.72	0.61	0.25	___	Yes
ppvt175	757	0	1	98	1	0	2.08	0.81	0.54	0.35	0.11	__C__	Yes
ppvt176	757	2	86	3	9	0	2.95	0.69	0.72	0.60	-0.25	___	Yes
ppvt177	757	50	3	4	44	0	4.64	0.40	1.02	0.92	-0.43 *	__D	No
ppvt178	757	5	18	64	12	0	4.05	0.52	0.90	0.77	-0.11	___	Yes
ppvt179	757	2	5	4	89	0	2.77	0.72	0.67	0.54	0.20	___	Yes
ppvt180	757	81	1	16	1	0	3.21	0.64	0.80	0.73	0.00	___	Yes

ppvt181	749	4	26	20	49	1	4.72	0.38	1.07	0.92	0.20	___	Yes
ppvt182	749	59	23	13	5	0	4.29	0.50	0.88	0.75	0.54	* ___D	No
ppvt183	749	0	2	97	1	0	2.30	0.78	0.60	0.48	0.00	___C_	Yes
ppvt184	749	0	3	1	97	0	2.30	0.78	0.59	0.48	0.07	___C_	Yes
ppvt185	749	57	16	11	15	1	4.37	0.46	0.97	0.84	0.09	___	Yes
ppvt186	749	2	3	94	1	0	2.49	0.75	0.65	0.55	0.00	___	Yes
ppvt187	749	2	95	2	1	0	2.44	0.77	0.59	0.48	-0.05	___C_	Yes
ppvt188	749	18	20	15	46	1	4.86	0.41	0.96	0.80	-0.15	___	Yes
ppvt189	749	10	75	10	5	0	3.57	0.60	0.81	0.69	-0.51	* ___D	No
ppvt190	749	1	1	93	5	0	2.58	0.74	0.65	0.55	0.02	___	Yes
ppvt191	749	82	4	1	13	0	3.19	0.62	0.85	0.80	0.09	___	Yes
ppvt192	749	27	66	5	2	1	3.96	0.49	1.00	0.90	-0.48	* ___D	No
ppvt193	740	39	14	31	16	0	6.49	0.18	1.11	1.12	0.27	___	Yes
ppvt194	740	5	91	1	2	0	2.73	0.71	0.71	0.66	0.00	___	Yes
ppvt195	740	1	2	95	2	0	2.49	0.75	0.65	0.57	0.05	___	Yes
ppvt196	740	65	11	6	17	1	4.07	0.49	0.97	0.92	0.00	___	Yes
ppvt197	740	59	10	24	7	0	4.30	0.50	0.88	0.74	0.53	* ___D	No
ppvt198	740	1	2	1	96	0	2.41	0.78	0.58	0.45	0.00	___C_	Yes
ppvt199	740	0	4	92	4	0	2.70	0.72	0.69	0.64	0.00	___	Yes
ppvt200	740	80	12	3	4	0	3.36	0.59	0.89	0.80	-0.11	___	Yes
ppvt201	740	5	17	4	74	0	3.66	0.56	0.91	0.83	-0.28	___	Yes
ppvt202	740	16	55	14	14	0	4.46	0.41	1.08	0.94	0.00	___	Yes
ppvt203	740	2	3	92	3	0	2.68	0.73	0.67	0.57	0.16	___	Yes
ppvt204	740	12	84	1	3	0	3.16	0.65	0.78	0.70	-0.38	* ___D	No

* Difference statistically significant at 5%

Note: Percentages in bold indicate the correct answer for the item

1. NR: No Response.

2. Item difficulty according to the Rasch (IRT 1 parameter) model estimation.

3. Difference in difficulty between two groups that are compared, adjusting for total ability (the DIF analysis used the method of Mantel-Haenszel).

4. The criteria for keeping an item are: Item does not have a warning by fit (correlation item-test or infit) or bias by gender; the item had 30 or more observations.

Warnings: A: Item-Test correlation lower than 0.10. B: Infit out of the range 0.5 to 1.5. C: Outfit out of the range 0.5 to 1.5. D: The difference by gender is significant at 5%.

ANNEX 2:

RAW AND RASCH SCORES DISTRIBUTIONS

Cognitive Developmental Test (CDA)

Figure 1. Distribution of the Raw Scores for the CDA test by language – Ethiopia

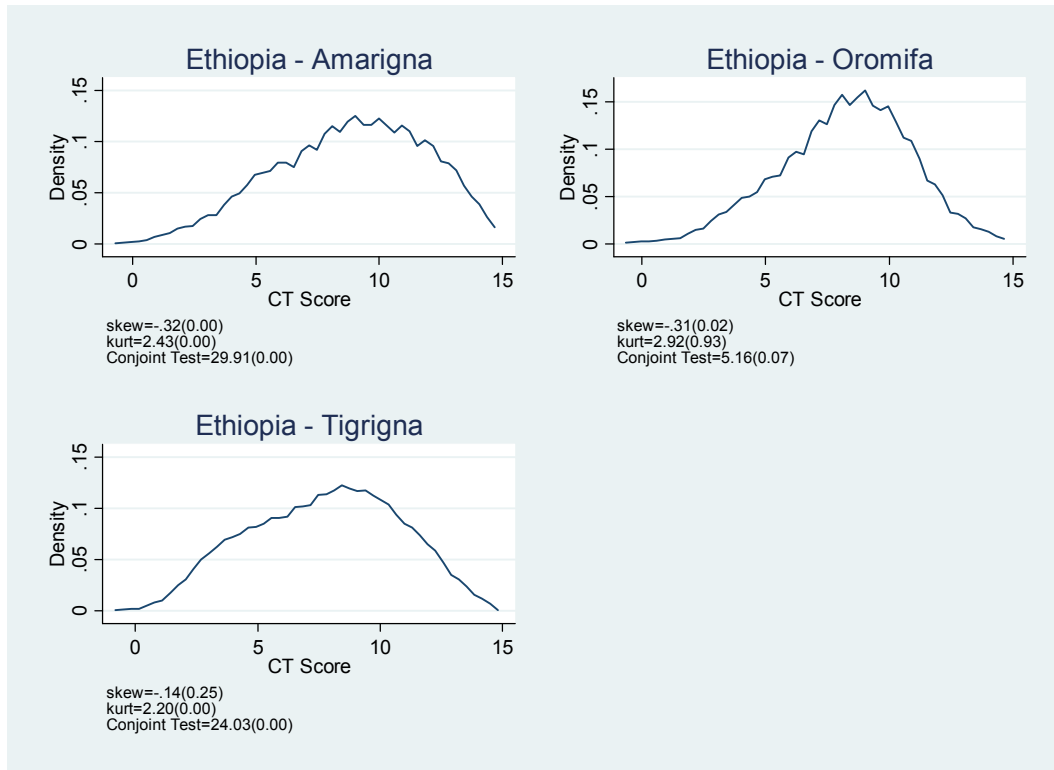


Figure 2. Distribution of the Rasch Scores for the CDA test by language – Ethiopia

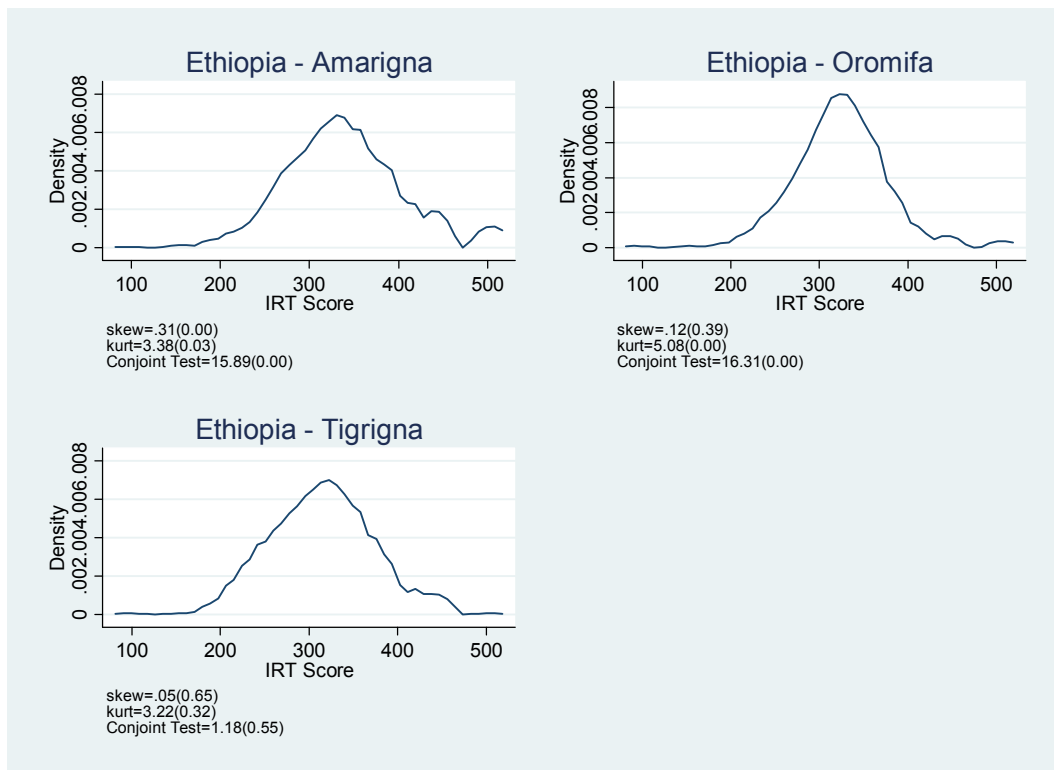


Figure 3. Distribution of the Raw Scores for the CDA test by language – India

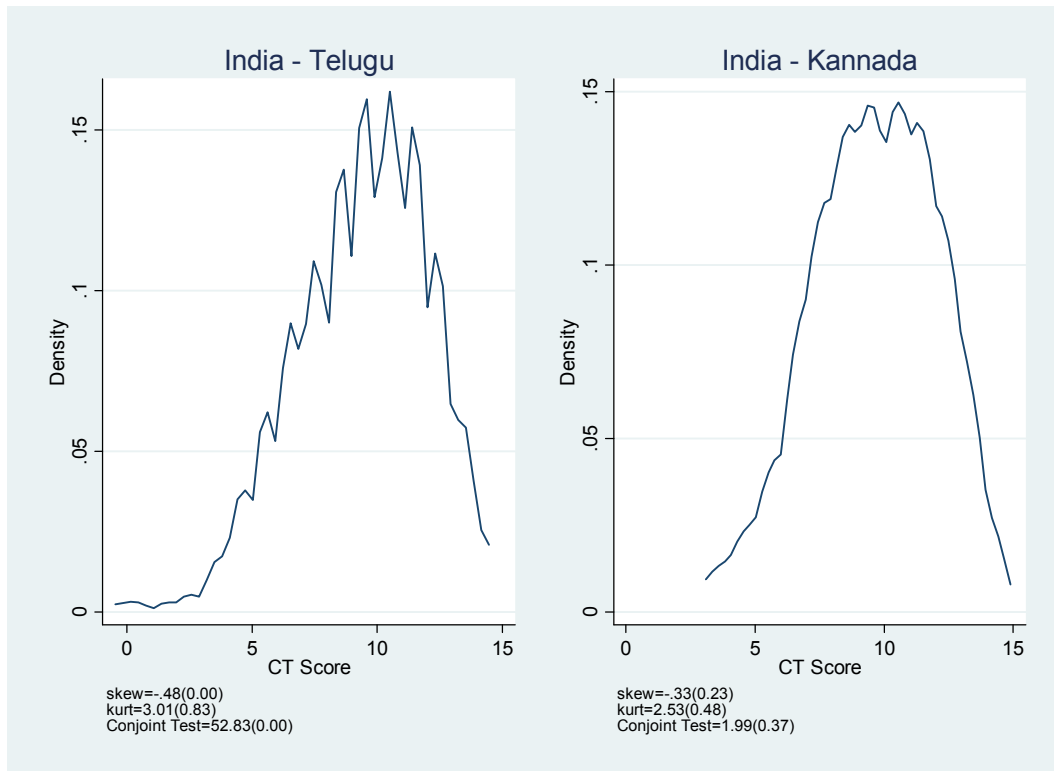


Figure 4. Distribution of the Rasch Scores for the CDA test by language – India

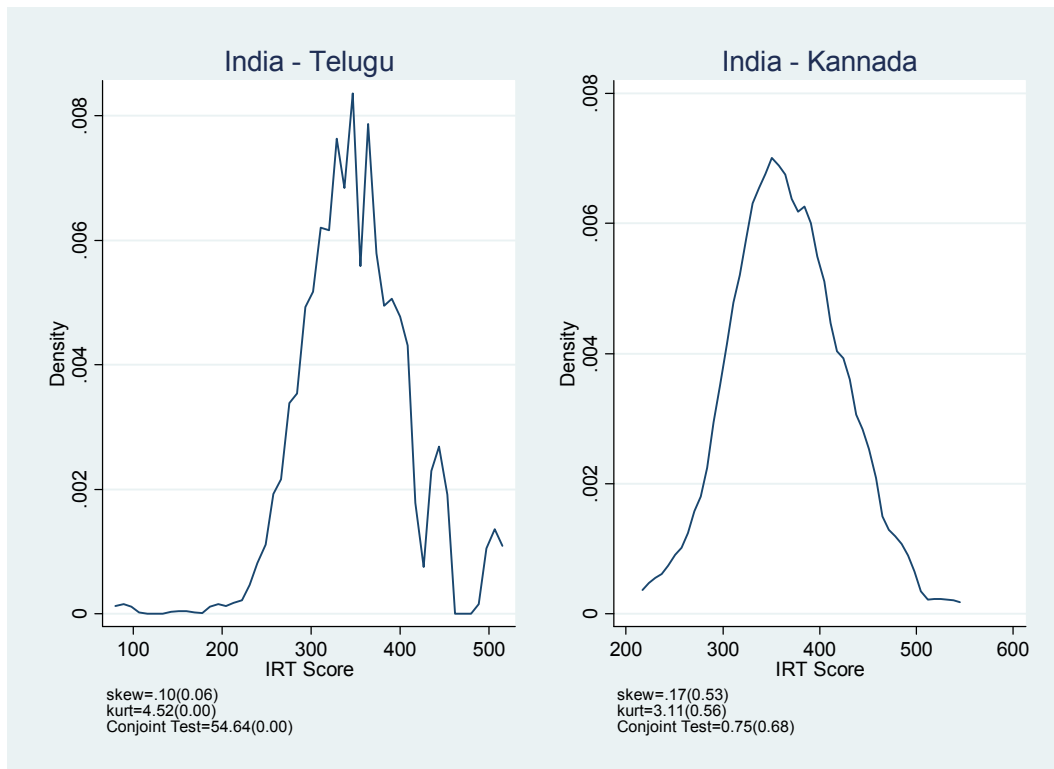


Figure 5. Distribution of the Raw Scores for the CDA test by language – Peru

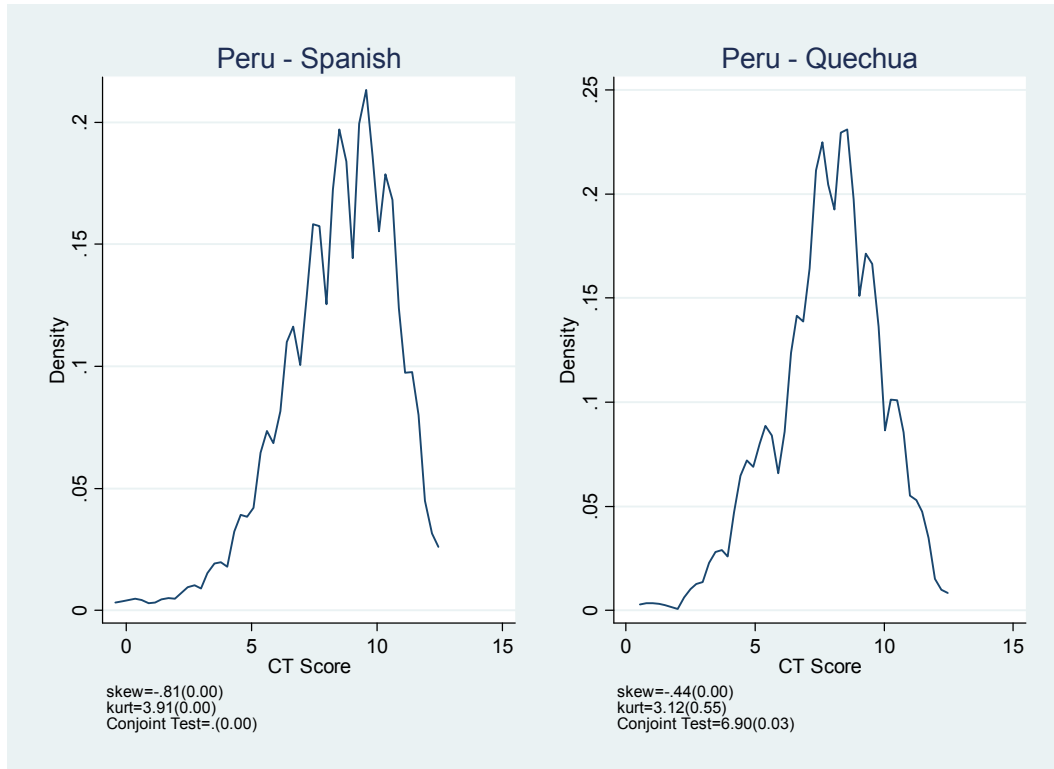


Figure 6. Distribution of the Rasch Scores for the CDA test by language – Peru

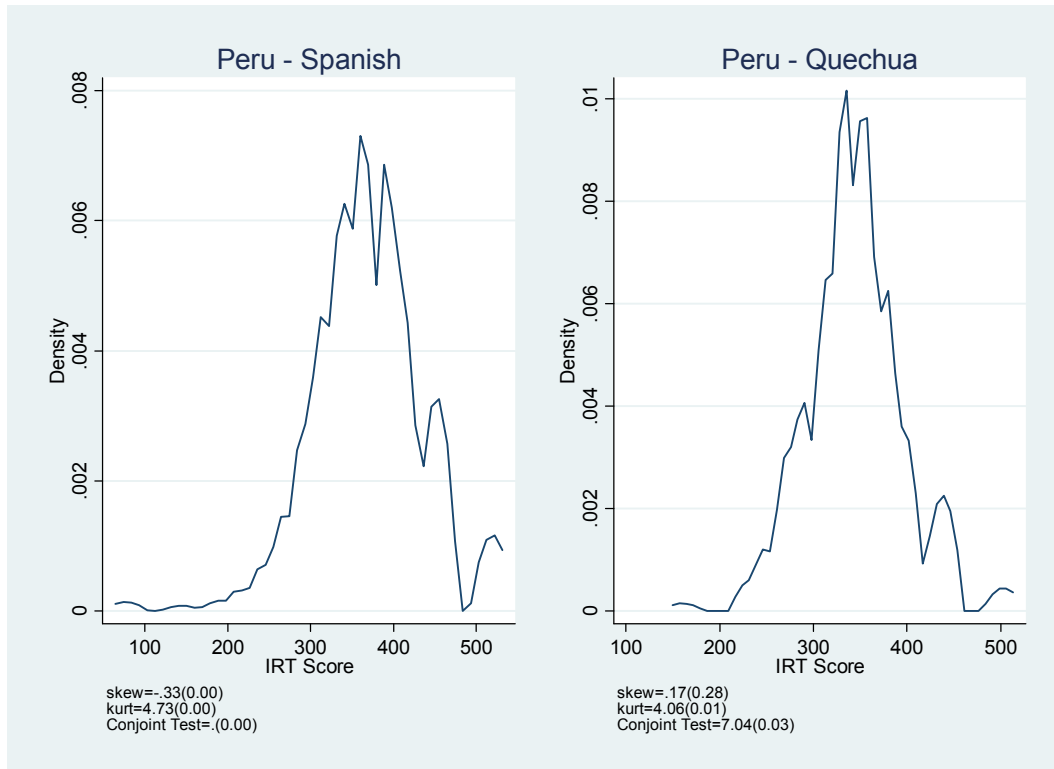


Figure 7. Distribution of the Raw Scores for the CDA test by language – Vietnam

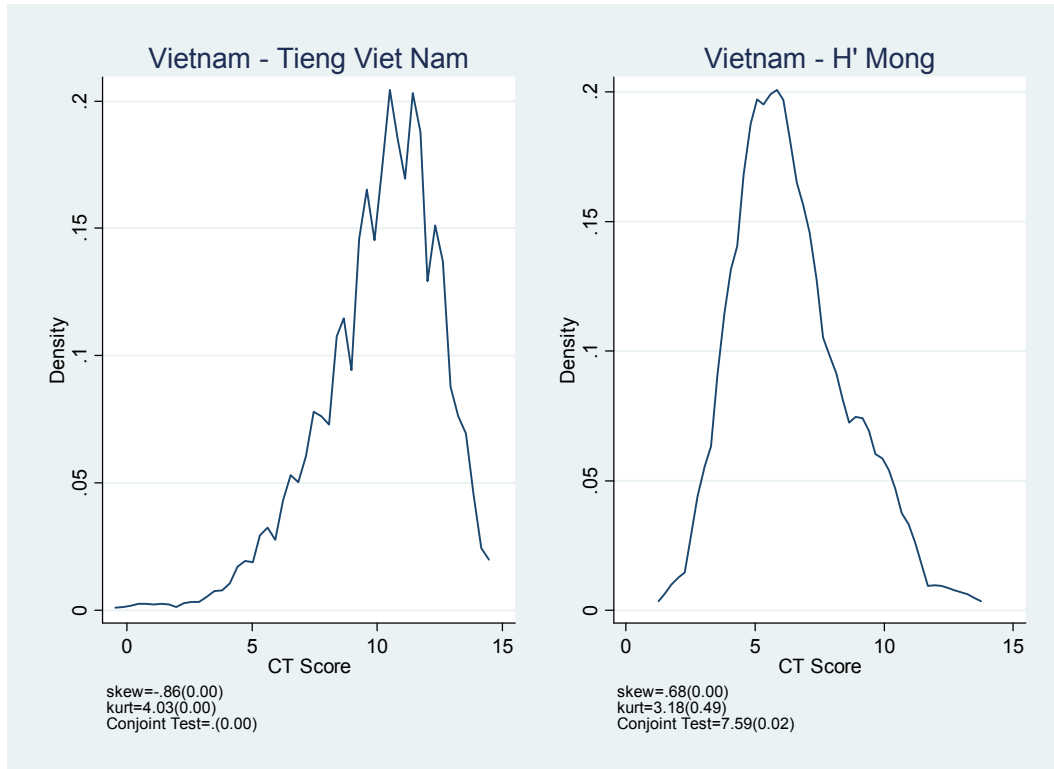
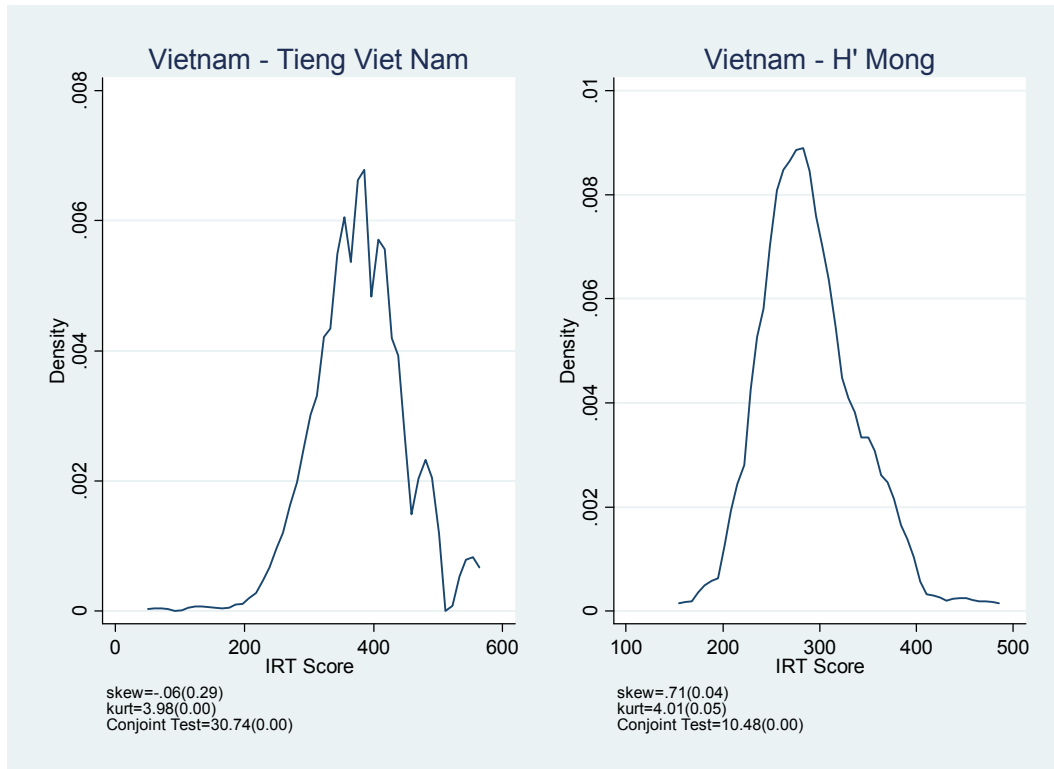


Figure 8. Distribution of the Rasch Scores for the CDA test by language – Vietnam



Mathematics Achievement Test

Figure 9. Distribution of the Raw Scores for the Math test by language – Ethiopia

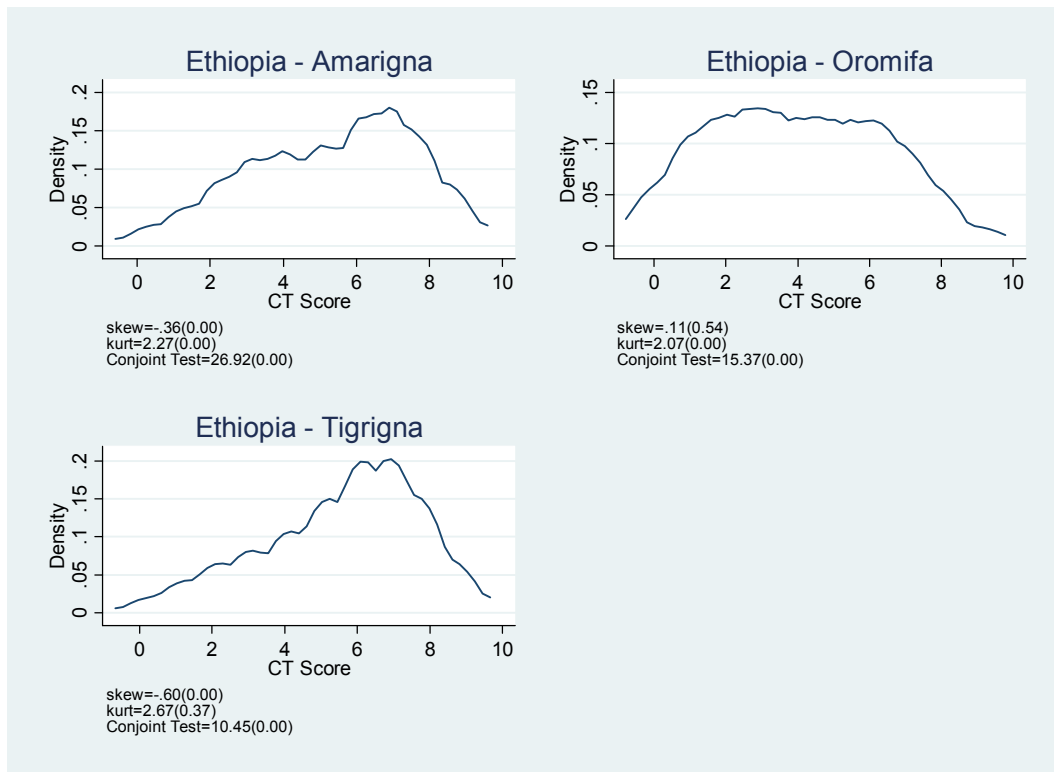


Figure 10. Distribution of the Rasch Scores for the Math test by language – Ethiopia

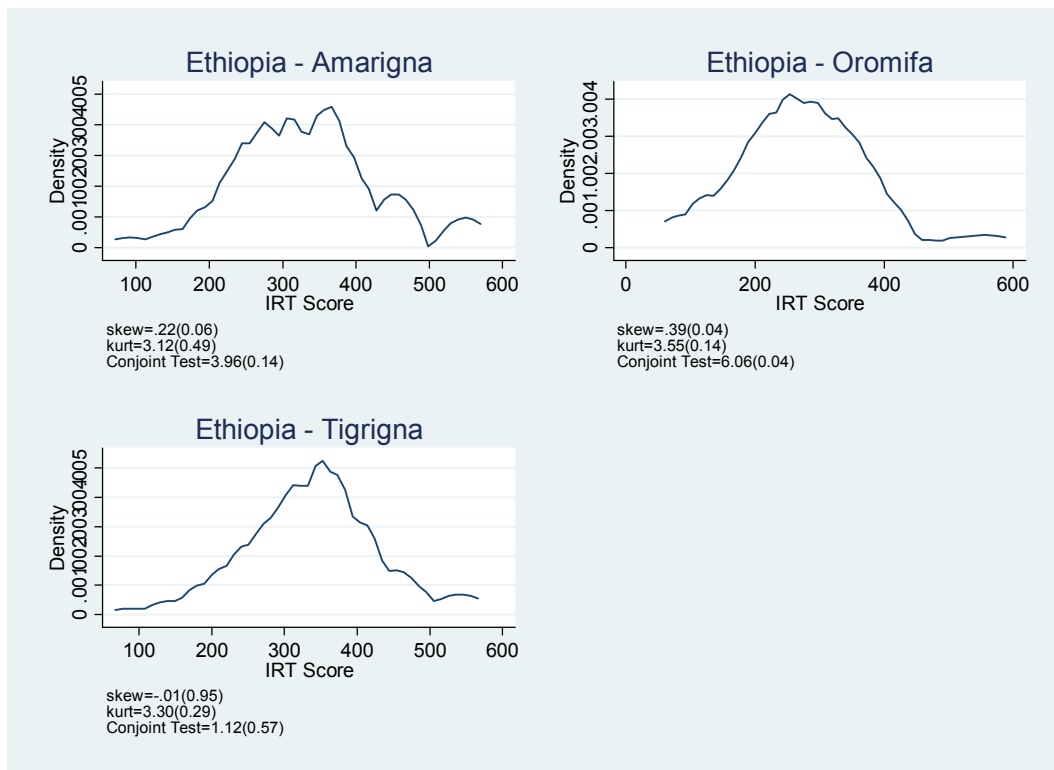


Figure 11. Distribution of the Raw Scores for the Math test by language – India

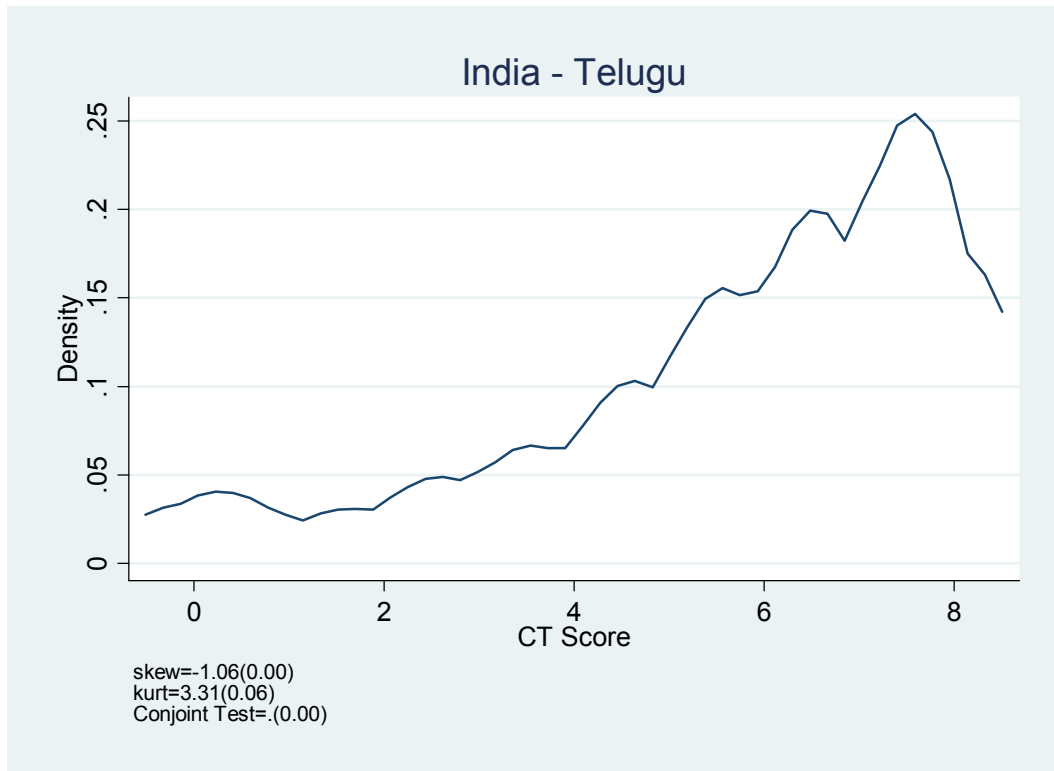


Figure 12. Distribution of the Rasch Scores for the Math test by language – India

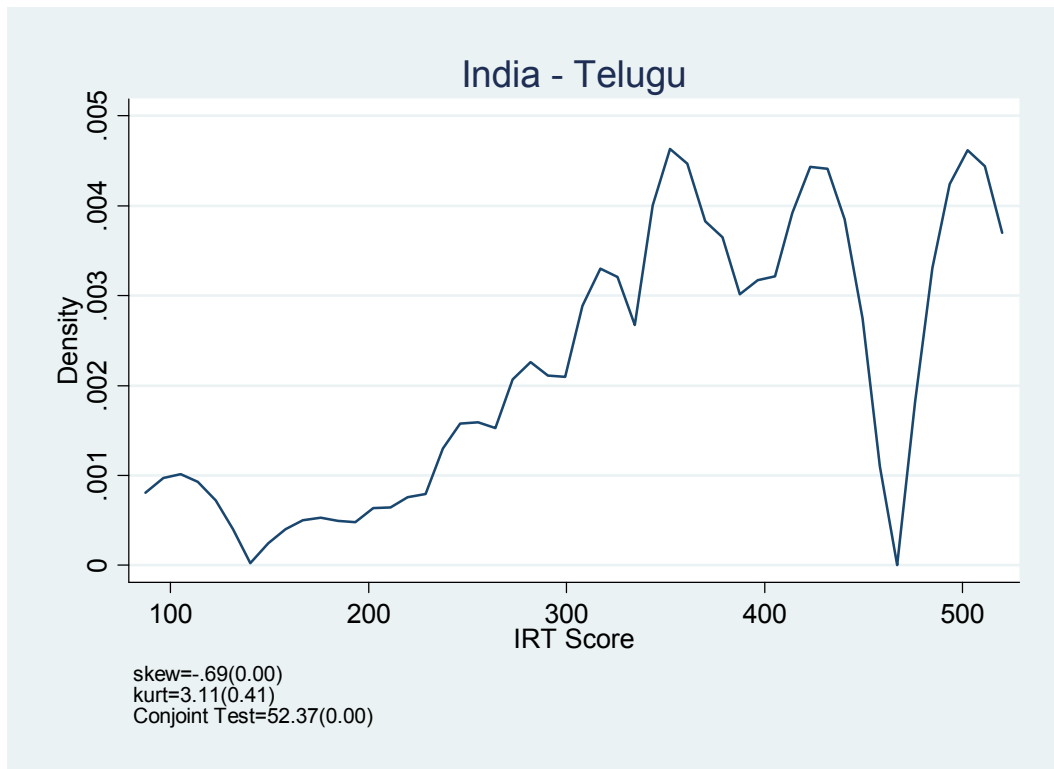


Figure 13. Distribution of the Raw Scores for the Math test by language – Peru

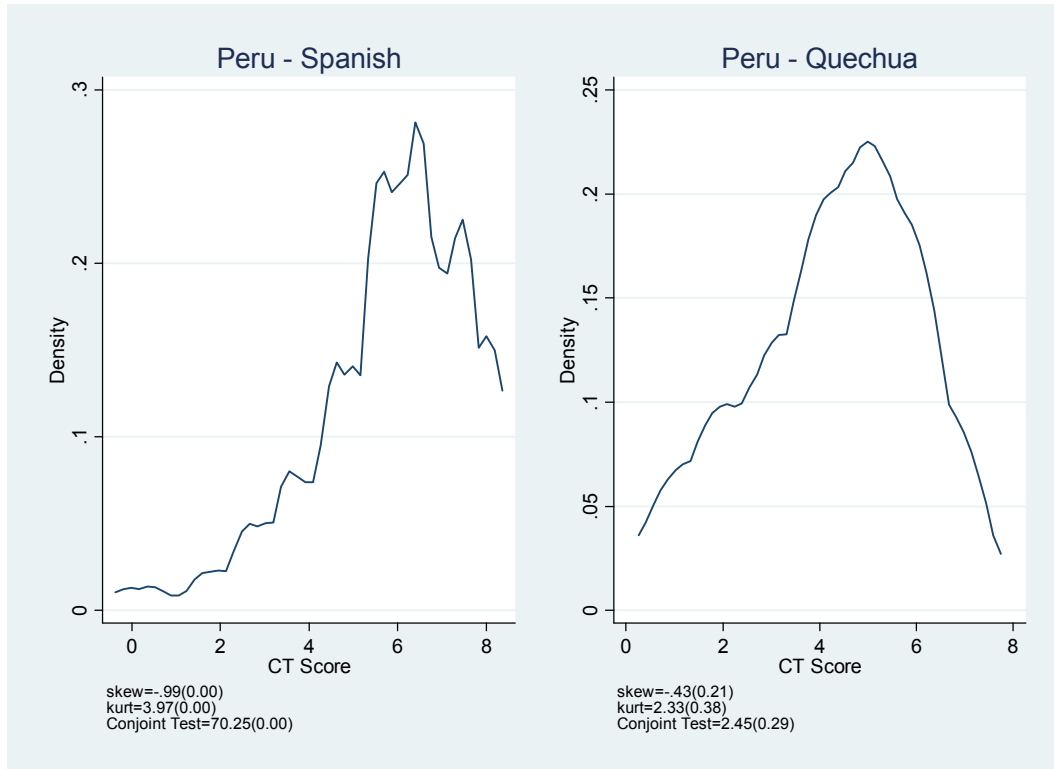


Figure 14. Distribution of the Rasch Scores for the Math test by language – Peru

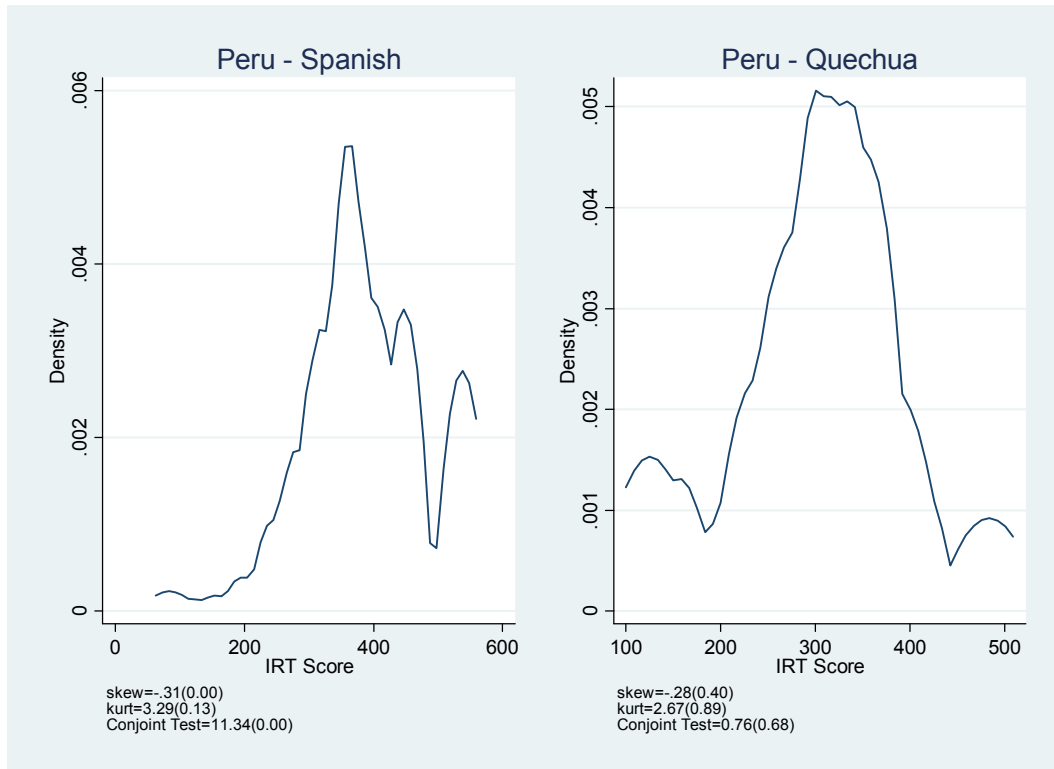


Figure 15. Distribution of the Raw Scores for the Math test by language – Vietnam

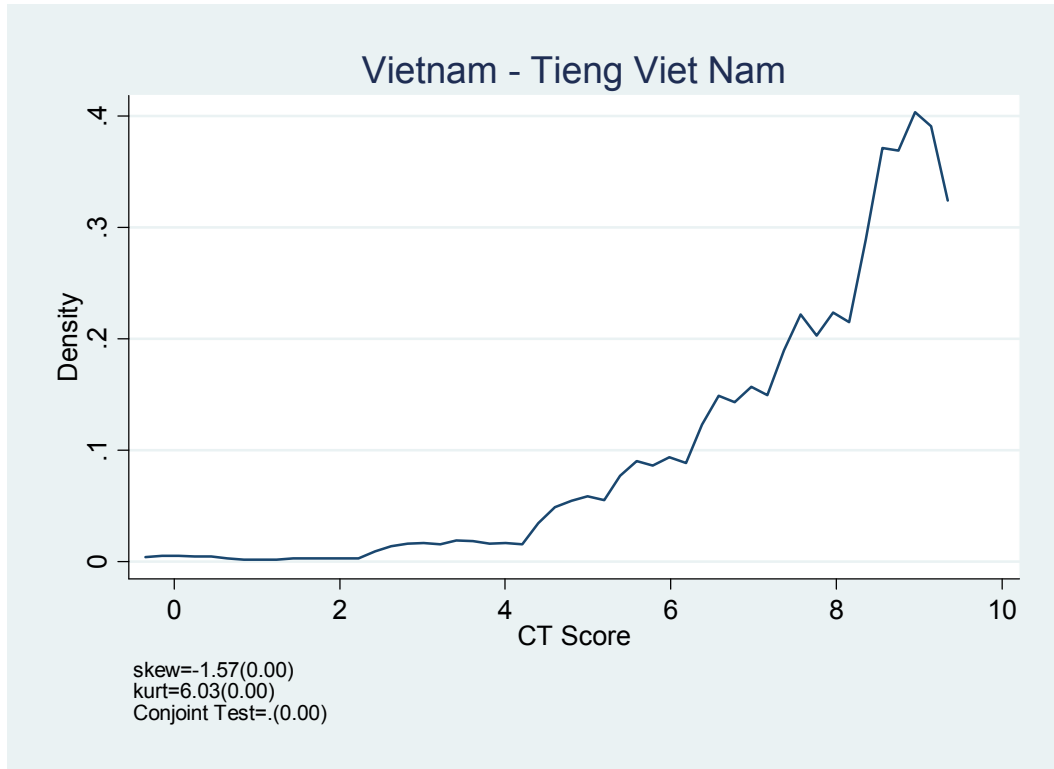
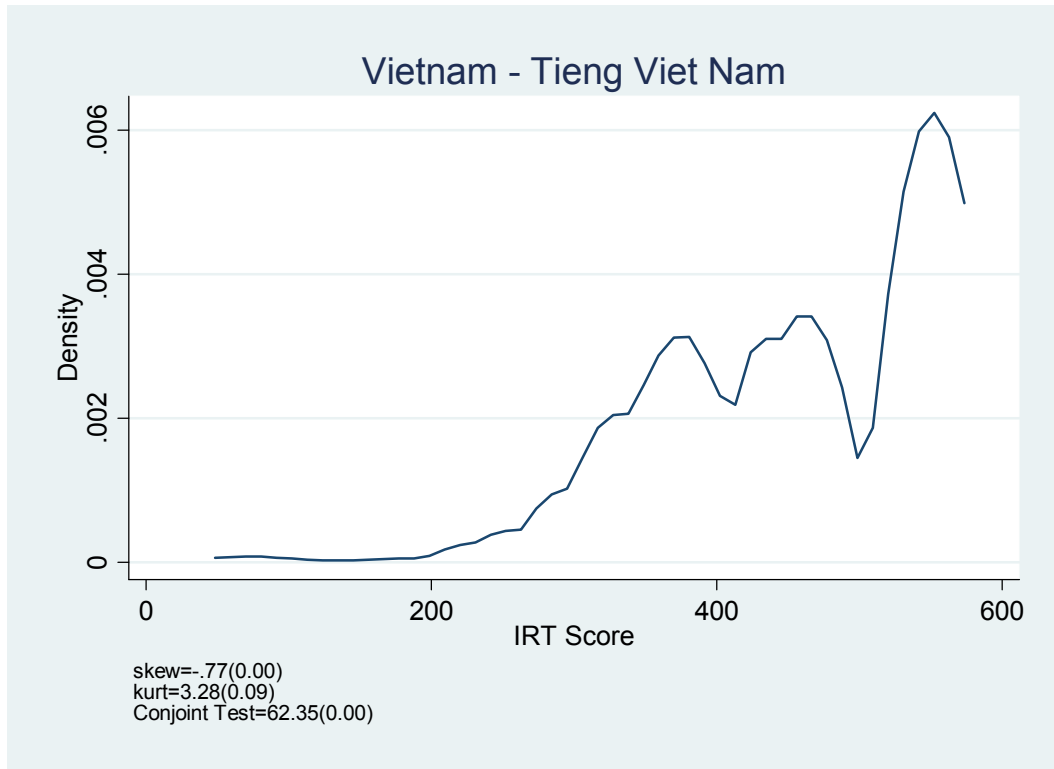


Figure 16. Distribution of the Rasch Scores for the Math test by language – Vietnam



Peabody Picture Vocabulary Test
Younger Cohort

Figure 17. Distribution of the Raw Scores for the Peabody Picture Vocabulary Test by country and predominant language

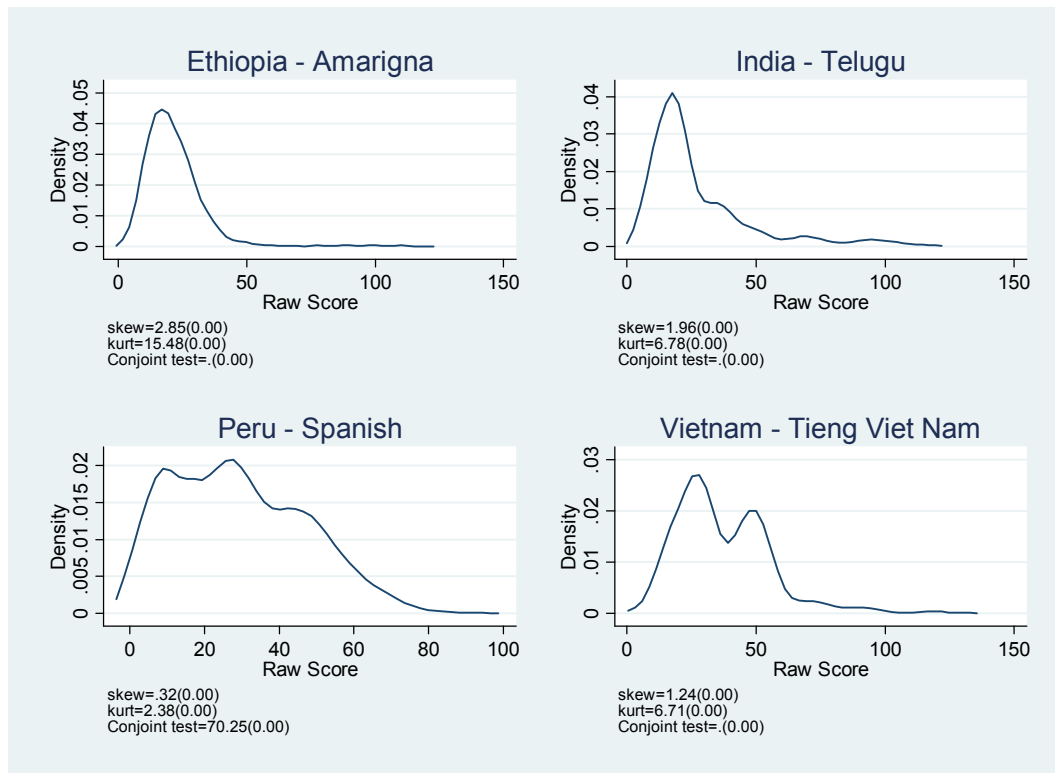
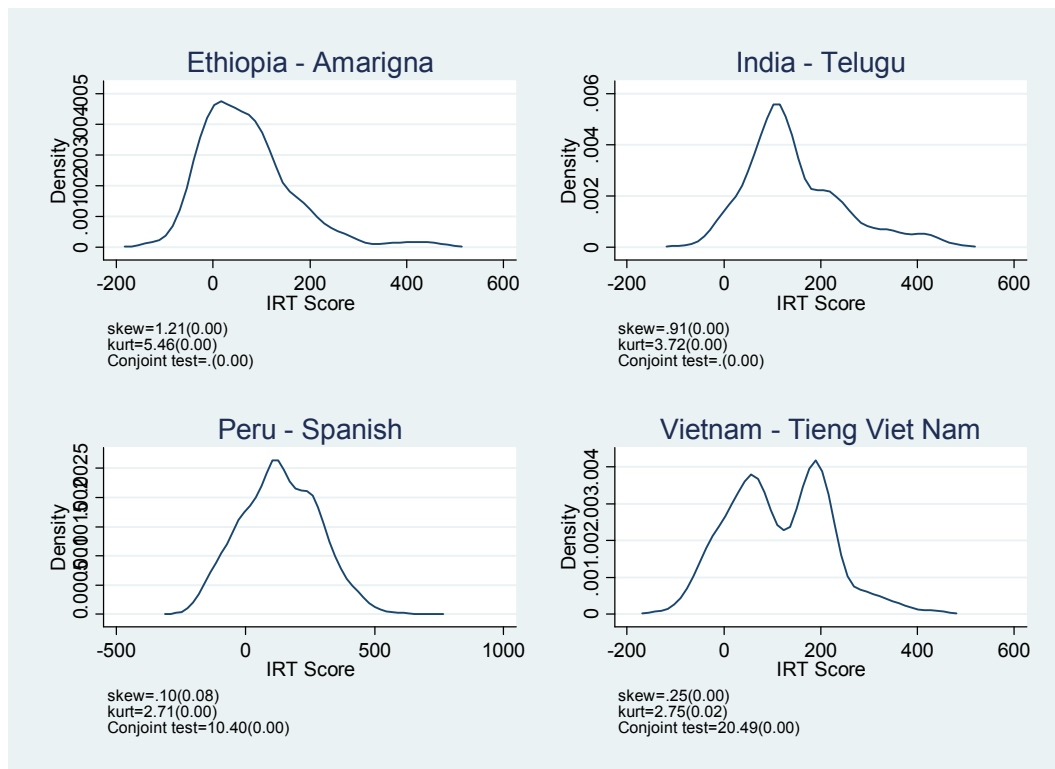


Figure 18. Distribution of the Rasch Scores for the Peabody Picture Vocabulary Test by country and predominant language



Peabody Picture Vocabulary Test
Older Cohort

Figure 19. Distribution of the Raw scores for the PPVT test by country and predominant language

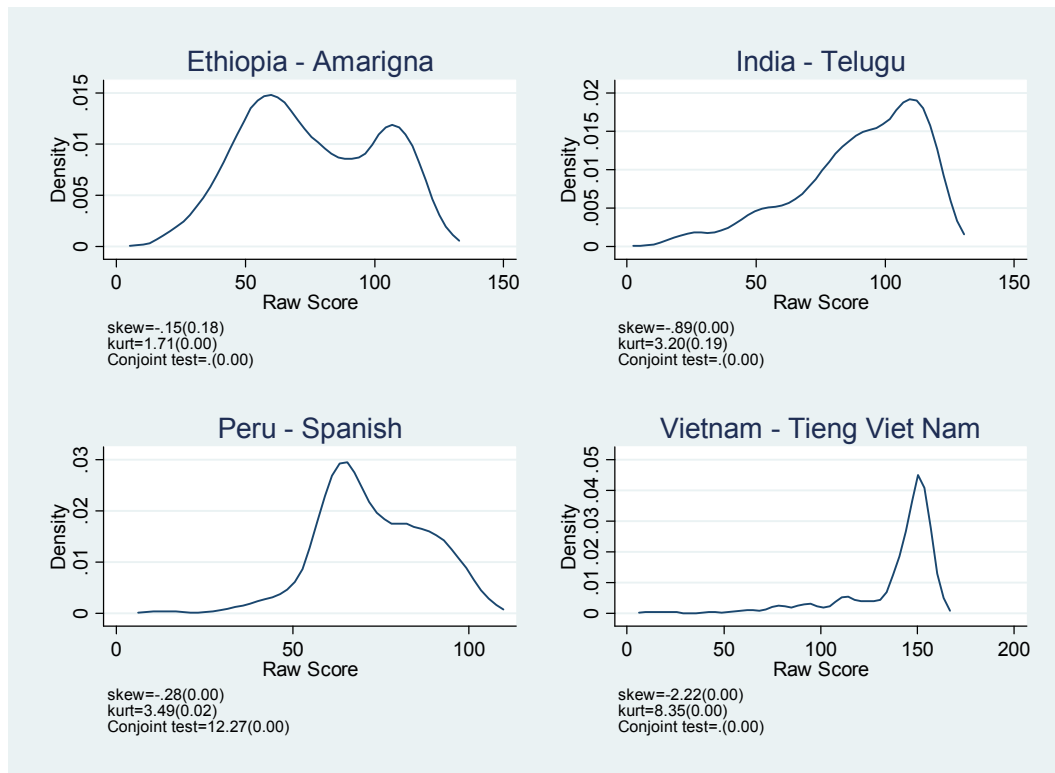
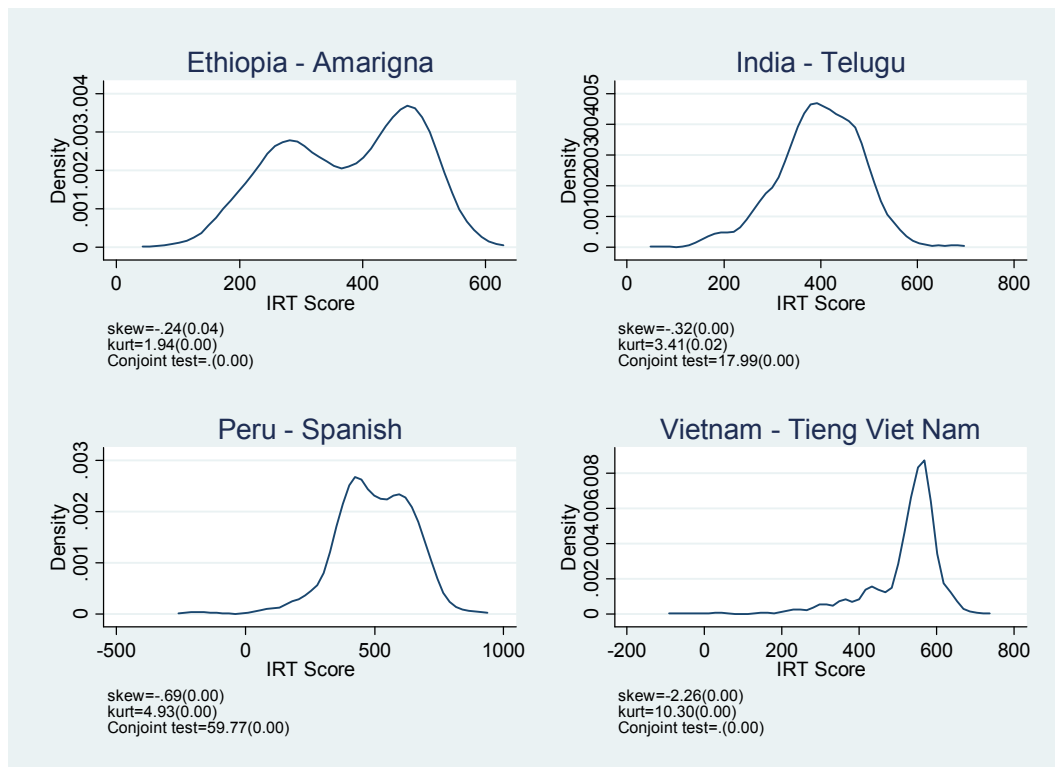


Figure 20. Distribution of the Rasch scores for the PPVT test by country and predominant language



ANNEX 3:

ESTIMATION OF THE STANDARD ERROR OF MEASUREMENT (SEM) ACCORDING TO CTT

Table 1. Estimation of the SEM for the CDA test by country and language

		σ_{test}	$(1-r_{xx})$	$(1-r_{xx})^{1/2}$	$\sigma(1-r_{xx})^{1/2}$
Ethiopia	Amarigna	3.0	0.28	0.53	1.59
	Oromifa	2.6	0.42	0.65	1.66
	Tigrigna	2.9	0.32	0.57	1.67
India	Telugu	2.6	0.37	0.61	1.58
	Kannada	2.3	0.44	0.66	1.54
Peru	Spanish	2.2	0.39	0.62	1.36
	Quechua	2.0	0.57	0.75	1.50
Vietnam	Tiếng Việt Nam	2.3	0.35	0.59	1.37
	H' Mong	2.1	0.52	0.72	1.52

Table 2. Estimation of the SEM for the Math test by country and language

		σ_{test}	$(1-r_{xx})$	$(1-r_{xx})^{1/2}$	$\sigma(1-r_{xx})^{1/2}$
Ethiopia	Amarigna	2.3	0.27	0.52	1.18
	Oromifa	2.4	0.25	0.50	1.20
	Tigrigna	2.1	0.30	0.55	1.17
India	Telugu	2.3	0.18	0.42	0.96
Peru	Spanish	1.7	0.34	0.58	1.01
	Quechua	1.7	0.41	0.64	1.10
Vietnam	Tiếng Việt Nam	1.6	0.30	0.55	0.89

Table 3. Estimation of the SEM for the PPVT test by cohort and country

		σ_{test}	$(1-r_{xx})$	$(1-r_{xx})^{1/2}$	$\sigma(1-r_{xx})^{1/2}$
<i>Younger Cohort</i>					
Ethiopia (Amarigna)		14.7	0.10	0.32	4.6
India (Telugu)		21.5	0.03	0.17	3.7
Peru (Spanish)		18.0	0.05	0.22	4.0
Vietnam (Tieng Viet Nam)		17.9	0.04	0.20	3.6
<i>Older Cohort</i>					
Ethiopia (Amarigna)		26.4	0.02	0.14	3.7
India (Telugu)		24.3	0.03	0.17	4.2
Peru (Spanish)		15.5	0.05	0.22	3.5
Vietnam (Tieng Viet Nam)		25.8	0.02	0.14	3.6

ANNEX 4:

**ESTIMATION OF THE STANDARD ERROR OF
MEASUREMENT (SEM) ACCORDING TO IRT**

Table 1. Score table and standard error of measurement (SEM) in CDA by language in Ethiopia

Score	Amarigna		Oromifa		Tigrigna	
	Measure	SEM	Measure	SEM	Measure	SEM
0	62.78E	92.9	70.51E	92.9	80.61E	92.8
1	127.1	52.9	134.9	53.0	144.8	52.8
2	167.9	39.6	175.8	39.7	185.4	39.5
3	194.7	34.2	202.8	34.3	212.0	34.1
4	216.0	31.4	224.3	31.6	233.2	31.3
5	234.6	29.8	243.2	30.0	251.7	29.7
6	251.8	28.9	260.8	29.3	268.8	28.9
7	268.3	28.6	277.7	29.0	285.4	28.7
8	284.7	28.8	294.7	29.3	301.9	28.9
9	301.7	29.6	312.3	30.1	319.0	29.7
10	320.0	31.1	331.3	31.7	337.5	31.3
11	341.0	33.9	353.0	34.5	358.6	34.1
12	367.4	39.3	380.1	39.8	385.2	39.4
13	407.8	52.7	421.2	53.0	425.7	52.8
14	471.84E	92.7	485.67E	92.9	489.79E	92.8

Table 2. Score table and standard error of measurement (SEM) in CDA by language in India

Score	Telugu		Kannada	
	Measure	SEM	Measure	SEM
0	42.90E	93.3	-12.70E	94.8
1	108.3	53.6	57.18	56.8
2	150.6	40.5	107.31	45.4
3	178.8	35.1	144.24	40.9
4	201.2	32.2	175.04	37.7
5	220.7	30.5	201.42	35.0
6	238.6	29.5	224.49	33.0
7	255.8	29.1	245.37	31.7
8	272.7	29.2	265.04	31.1
9	290.1	29.9	284.42	31.3
10	308.8	31.4	304.52	32.3
11	330.2	34.2	326.81	34.7
12	356.8	39.5	354.17	39.8
13	397.5	52.8	395.23	53.0
14	461.63E	92.8	459.57E	92.8

Table 3. Score table and standard error of measurement (SEM) in CDA by language in Peru

Score	Spanish		Quechua	
	Measure	SEM	Measure	SEM
0	13.26E	94.3	51.24E	93.6
1	81.63	55.7	117.44	54.2
2	128.75	43.5	161.16	41.5
3	162.15	38.8	191.1	36.5
4	190.09	36.2	215.76	34.0
5	215.17	34.8	237.87	32.7
6	238.77	34.1	258.78	32.1
7	261.98	34.2	279.45	32.3
8	285.94	35.2	300.9	33.4
9	312.24	37.6	324.57	35.7
10	343.8	42.5	353.32	40.7
11	389.27	55.0	395.77	53.6
12	456.77E	94.1	461.08E	93.2

Table 4. Score table and standard error of measurement (SEM) in CDA by language in Vietnam

Score	Tiếng Việt Nam		H'Mong	
	Measure	SEM	Measure	SEM
0	-10.16E	93.6	60.28E	95.4
1	56.19	54.3	131.15	57.1
2	100.27	41.7	180.91	44.7
3	130.75	36.9	215.89	39.5
4	156.12	34.6	244.54	36.4
5	179.07	33.3	269.58	34.5
6	200.86	32.8	292.4	33.2
7	222.35	32.8	313.97	32.6
8	244.22	33.4	335.06	32.5
9	267.28	34.6	356.42	33.0
10	292.51	36.6	378.93	34.2
11	321.4	39.7	403.91	36.7
12	356.74	44.9	434.14	41.6
13	406.77	57.2	478.15	54.3
14	477.56E	95.3	544.55E	93.6

Table 5. Score table and standard error of measurement (SEM) in Math by language in Ethiopia

Score	Amarigna		Oromifa		Tigrigna	
	Measure	SEM	Measure	SEM	Measure	SEM
0	71.03E	94.8	112.07E	95.0	60.88E	95.0
1	140.75	56.6	181.92	56.5	130.95	56.7
2	189.82	44.6	230.38	44.1	180.14	44.6
3	225.22	40.1	264.94	39.7	215.66	40.3
4	255.82	38.4	295.08	38.4	246.67	38.9
5	285.43	38.9	324.94	39.3	277.09	39.5
6	317.74	42.1	358.46	43.1	310.44	42.7
7	359.66	50.7	402.82	52.3	352.92	50.5
8	432.29	71.3	479.2	72.6	421.41	68.0
9	528.73E	103.2	577.25E	103.4	511.91E	101.8

Table 6. Score table and standard error of measurement (SEM) in Math by language in India

Score	Telugu	
	Measure	SEM
0	53.54E	95.8
1	125.67	57.9
2	177.43	45.9
3	215.13	41.6
4	248.45	40.5
5	282.17	42.1
6	321.51	47.3
7	377.57	60.5
8	454.45E	97.7

Table 7. Score table and standard error of measurement (SEM) in Math by language in Peru

Score	Spanish		Quechua	
	Measure	SEM	Measure	SEM
0	19.95E	96.6	22.06E	103.9
1	94.89	60.0	122.72	74.3
2	152.47	49.1	203.63	54.2
3	195.73	44.4	252.83	46.3
4	233.08	42.6	293.3	44.4
5	270.04	44.1	333.92	46.5
6	314.13	51.0	384.42	55.8
7	383.59	68.4	482.85	87.3
8	474.84E	102.0	603.24E	106.6

Table 8. Score table and standard error of measurement (SEM) in Math by language in Vietnam

Score	Tiếng Việt Nam	
	Measure	SEM
0	-23.11E	96.2
1	51.04	59.7
2	107.97	48.9
3	150.49	43.8
4	186.14	41.1
5	219.36	40.9
6	254.43	43.4
7	297.94	50.9
8	367.03	68.2
9	457.73E	101.8

Table 9. Score table and standard error of measurement (SEM) in PPVT by country in the younger cohort

Score	Ethiopia (Amarigna)		India (Telugu)		Peru (Spanish)		Vietnam (Tieng Viet Nam)	
	Measure (ability)	SEM	Measure (ability)	SEM	Measure (ability)	SEM	Measure (ability)	SEM
0	-40.64E	93.19	-98.72E	95.02	-115.79E	94.21	-125.74E	92.83
1	24.40	53.30	-28.78	56.53	-48.00	55.13	-61.64	52.67
2	65.70	39.68	19.73	44.05	-2.79	41.98	-21.64	38.86
3	92.30	33.79	53.81	39.03	27.32	36.10	3.71	32.88
4	112.70	30.31	81.92	36.12	50.67	32.44	22.93	29.35
5	129.59	27.94	106.34	33.79	69.98	29.82	38.73	26.97
6	144.21	26.20	127.69	31.55	86.56	27.83	52.33	25.25
7	157.22	24.86	146.27	29.42	101.17	26.27	64.40	23.94
8	169.04	23.80	162.46	27.51	114.30	25.02	75.36	22.92
9	179.94	22.94	176.69	25.88	126.30	24.00	85.49	22.12
10	190.15	22.25	189.38	24.52	137.42	23.17	94.98	21.48
11	199.80	21.69	200.83	23.39	147.83	22.48	103.99	20.98
12	209.00	21.23	211.32	22.44	157.68	21.91	112.62	20.58
13	217.85	20.86	221.04	21.66	167.07	21.44	120.95	20.28
14	226.43	20.57	230.13	20.99	176.09	21.04	129.08	20.05
15	234.80	20.35	238.70	20.43	184.81	20.71	137.06	19.89
16	243.02	20.19	246.85	19.95	193.27	20.44	144.93	19.80
17	251.12	20.08	254.64	19.53	201.53	20.22	152.75	19.75
18	259.15	20.02	262.13	19.17	209.63	20.03	160.55	19.76
19	267.16	20.00	269.36	18.86	217.60	19.89	168.37	19.80
20	275.16	20.02	276.36	18.57	225.46	19.78	176.24	19.88
21	283.19	20.07	283.16	18.32	233.25	19.69	184.19	19.99
22	291.28	20.15	289.79	18.08	240.98	19.63	192.23	20.11
23	299.45	20.26	296.24	17.86	248.68	19.60	200.36	20.23
24	307.70	20.37	302.55	17.65	256.35	19.58	208.60	20.34
25	316.05	20.50	308.70	17.45	264.02	19.57	216.91	20.43
26	324.50	20.61	314.73	17.25	271.68	19.58	225.29	20.48
27	333.05	20.72	320.61	17.06	279.34	19.58	233.68	20.47
28	341.66	20.80	326.37	16.87	287.01	19.59	242.03	20.40

29	350.33	20.84	332.00	16.68	294.69	19.58	250.30	20.26
30	359.03	20.84	337.50	16.50	302.35	19.57	258.43	20.06
31	367.70	20.80	342.88	16.32	310.00	19.54	266.38	19.80
32	376.32	20.72	348.15	16.14	317.62	19.51	274.11	19.51
33	384.86	20.59	353.30	15.96	325.22	19.46	281.60	19.19
34	393.28	20.43	358.34	15.79	332.76	19.40	288.85	18.87
35	401.55	20.25	363.28	15.62	340.26	19.33	295.84	18.54
36	409.67	20.04	368.11	15.46	347.70	19.26	302.60	18.22
37	417.61	19.81	372.84	15.30	355.10	19.19	309.14	17.92
38	425.37	19.58	377.47	15.15	362.44	19.13	315.46	17.64
39	432.94	19.33	382.01	15.00	369.73	19.07	321.59	17.38
40	440.32	19.08	386.47	14.85	376.99	19.03	327.54	17.13
41	447.50	18.83	390.84	14.71	384.22	19.00	333.33	16.91
42	454.50	18.57	395.13	14.58	391.43	18.98	338.98	16.71
43	461.30	18.31	399.34	14.44	398.63	18.98	344.50	16.52
44	467.91	18.04	403.47	14.32	405.85	19.00	349.91	16.35
45	474.32	17.78	407.54	14.19	413.08	19.04	355.20	16.20
46	480.54	17.50	411.53	14.08	420.35	19.09	360.41	16.06
47	486.58	17.23	415.46	13.96	427.67	19.16	365.52	15.93
48	492.42	16.96	419.33	13.85	435.05	19.25	370.56	15.81
49	498.08	16.68	423.13	13.74	442.49	19.34	375.52	15.70
50	503.56	16.41	426.88	13.63	450.02	19.45	380.41	15.59
51	508.85	16.14	430.57	13.53	457.63	19.57	385.24	15.49
52	513.98	15.87	434.21	13.43	465.35	19.70	390.01	15.39
53	518.93	15.61	437.79	13.34	473.16	19.83	394.72	15.30
54	523.73	15.36	441.32	13.25	481.08	19.97	399.38	15.21
55	528.37	15.11	444.81	13.16	489.11	20.10	403.98	15.12
56	532.87	14.88	448.25	13.07	497.23	20.22	408.53	15.03
57	537.23	14.65	451.64	12.98	505.46	20.34	413.02	14.94
58	541.45	14.42	454.99	12.90	513.78	20.44	417.46	14.86
59	545.55	14.21	458.30	12.82	522.18	20.54	421.85	14.77
60	549.54	14.01	461.57	12.75	530.64	20.61	426.19	14.68
61	553.41	13.82	464.80	12.67	539.17	20.68	430.47	14.59
62	557.17	13.63	467.99	12.60	547.74	20.72	434.70	14.50
63	560.84	13.46	471.15	12.53	556.34	20.76	438.89	14.41
64	564.42	13.29	474.28	12.47	564.97	20.79	443.01	14.33
65	567.91	13.13	477.37	12.41	573.62	20.81	447.09	14.24
66	571.32	12.98	480.44	12.35	582.29	20.83	451.12	14.15
67	574.66	12.84	483.47	12.29	590.98	20.85	455.10	14.06
68	577.92	12.71	486.48	12.24	599.69	20.89	459.03	13.97
69	581.12	12.58	489.46	12.19	608.43	20.93	462.90	13.88
70	584.25	12.46	492.43	12.14	617.22	21.00	466.73	13.79
71	587.33	12.35	495.36	12.10	626.08	21.09	470.51	13.70
72	590.35	12.24	498.28	12.06	635.02	21.20	474.24	13.62
73	593.33	12.14	501.18	12.02	644.07	21.34	477.93	13.53
74	596.25	12.05	504.06	11.98	653.25	21.51	481.57	13.45
75	599.13	11.96	506.92	11.95	662.58	21.70	485.16	13.36
76	601.97	11.88	509.77	11.92	672.10	21.92	488.71	13.28
77	604.78	11.80	512.61	11.90	681.81	22.16	492.22	13.20
78	607.55	11.73	515.44	11.88	691.75	22.43	495.68	13.12
79	610.28	11.66	518.26	11.86	701.94	22.70	499.10	13.04
80	612.99	11.60	521.07	11.84	712.38	22.99	502.49	12.96

81	615.67	11.54	523.87	11.83	723.08	23.29	505.83	12.89
82	618.32	11.49	526.67	11.83	734.07	23.58	509.13	12.81
83	620.95	11.45	529.46	11.82	745.32	23.87	512.39	12.74
84	623.56	11.40	532.26	11.82	756.85	24.14	515.62	12.67
85	626.15	11.36	535.05	11.82	768.63	24.40	518.81	12.60
86	628.73	11.33	537.85	11.83	780.65	24.63	521.97	12.53
87	631.28	11.30	540.65	11.84	792.89	24.85	525.09	12.46
88	633.83	11.27	543.46	11.86	805.34	25.05	528.18	12.40
89	636.37	11.25	546.28	11.88	817.99	25.24	531.24	12.33
90	638.90	11.24	549.10	11.90	830.84	25.47	534.26	12.27
91	641.42	11.22	551.94	11.93	843.95	25.75	537.26	12.21
92	643.94	11.22	554.80	11.96	857.39	26.13	540.22	12.15
93	646.45	11.21	557.67	12.00	871.31	26.67	543.16	12.09
94	648.97	11.21	560.56	12.05	885.94	27.46	546.07	12.04
95	651.49	11.22	563.48	12.10	901.64	28.65	548.96	11.99
96	654.00	11.23	566.42	12.15	919.04	30.47	551.82	11.93
97	656.53	11.24	569.39	12.21	939.33	33.47	554.66	11.88
98	659.06	11.26	572.38	12.28	965.17	38.99	557.47	11.84
99	661.60	11.28	575.42	12.36	1005.08	52.48	560.26	11.79
100	664.15	11.31	578.49	12.44	1068.76E	92.61	563.03	11.75
101	666.72	11.34	581.61	12.53			565.78	11.70
102	669.30	11.38	584.77	12.63			568.51	11.66
103	671.90	11.43	587.99	12.73			571.22	11.62
104	674.52	11.48	591.26	12.85			573.91	11.59
105	677.17	11.53	594.59	12.98			576.59	11.55
106	679.84	11.60	597.99	13.12			579.25	11.52
107	682.55	11.66	601.47	13.27			581.90	11.49
108	685.29	11.74	605.04	13.43			584.53	11.46
109	688.06	11.82	608.70	13.61			587.15	11.43
110	690.88	11.92	612.46	13.81			589.76	11.40
111	693.75	12.02	616.33	14.03			592.35	11.38
112	696.66	12.13	620.33	14.27			594.94	11.36
113	699.63	12.25	624.48	14.53			597.51	11.34
114	702.67	12.38	628.78	14.82			600.08	11.32
115	705.77	12.53	633.26	15.14			602.64	11.30
116	708.94	12.68	637.95	15.49			605.19	11.29
117	712.20	12.85	642.87	15.89			607.74	11.28
118	715.56	13.04	648.06	16.34			610.28	11.27
119	719.01	13.25	653.57	16.84			612.82	11.26
120	722.58	13.48	659.44	17.43			615.35	11.25
121	726.28	13.73	665.74	18.10			617.88	11.25
122	730.13	14.01	672.57	18.88			620.42	11.25
123	734.14	14.32	680.05	19.82			622.95	11.25
124	738.34	14.66	688.34	20.95			625.48	11.25
125	742.75	15.05	697.71	22.37			628.01	11.26
126	747.41	15.49	708.52	24.20			630.55	11.27
127	752.36	15.98	721.41	26.70			633.09	11.28
128	757.64	16.55	737.59	30.40			635.64	11.29
129	763.34	17.22	759.71	36.65			638.19	11.31
130	769.53	18.00	796.26	50.96			640.75	11.33
131	776.34	18.93	857.83E	91.82			643.32	11.35
132	783.93	20.06					645.90	11.37

Table 10. Score table and standard error of measurement (SEM) in PPVT by country in the older cohort

Score	Ethiopia (Amarigna)		India (Telugu)		Peru (Spanish)		Vietnam (Tieng Viet Nam)	
	Measure (ability)	SEM	Measure (ability)	SEM	Measure (ability)	SEM	Measure (ability)	SEM
0	-270.17E	92.37	-235.84E	92.83	-584.26E	92.72	-484.80E	92.60
1	-207.18	51.97	-171.62	52.81	-520.33	52.63	-421.21	52.36
2	-168.49	38.11	-131.15	39.26	-480.17	39.11	-381.73	38.62
3	-144.15	32.21	-105.06	33.51	-454.23	33.49	-356.63	32.78
4	-125.68	28.80	-84.93	30.16	-434.00	30.34	-337.41	29.45
5	-110.44	26.53	-68.16	27.86	-416.85	28.35	-321.40	27.26
6	-97.25	24.90	-53.61	26.14	-401.59	26.98	-307.41	25.70
7	-85.49	23.65	-40.67	24.76	-387.57	26.02	-294.82	24.52
8	-74.78	22.65	-28.98	23.62	-374.40	25.33	-283.27	23.58
9	-64.90	21.83	-18.29	22.64	-361.82	24.84	-272.51	22.81
10	-55.67	21.15	-8.43	21.79	-349.66	24.50	-262.41	22.16
11	-46.97	20.56	0.73	21.03	-337.77	24.28	-252.85	21.59
12	-38.73	20.06	9.29	20.36	-326.05	24.14	-243.74	21.08
13	-30.86	19.61	17.33	19.75	-314.43	24.08	-235.05	20.62
14	-23.32	19.22	24.91	19.19	-302.84	24.07	-226.72	20.21
15	-16.07	18.88	32.08	18.68	-291.24	24.10	-218.71	19.82
16	-9.06	18.57	38.88	18.21	-279.60	24.17	-210.99	19.47
17	-2.26	18.30	45.35	17.77	-267.87	24.27	-203.54	19.14
18	4.34	18.05	51.52	17.37	-256.01	24.42	-196.33	18.83
19	10.78	17.83	57.43	17.00	-244.00	24.60	-189.34	18.55
20	17.06	17.63	63.08	16.65	-231.79	24.83	-182.56	18.29
21	23.21	17.45	68.52	16.32	-219.33	25.11	-175.96	18.04
22	29.24	17.29	73.75	16.02	-206.56	25.44	-169.53	17.81
23	35.17	17.14	78.79	15.74	-193.44	25.80	-163.27	17.60
24	40.99	17.00	83.67	15.48	-179.94	26.16	-157.15	17.39
25	46.74	16.88	88.38	15.23	-166.08	26.48	-151.16	17.21
26	52.40	16.77	92.95	15.00	-151.93	26.69	-145.30	17.03
27	57.99	16.67	97.38	14.78	-137.64	26.75	-139.56	16.86
28	63.51	16.57	101.69	14.58	-123.37	26.64	-133.92	16.71
29	68.97	16.48	105.88	14.38	-109.32	26.35	-128.39	16.56
30	74.38	16.40	109.96	14.20	-95.64	25.94	-122.95	16.42
31	79.73	16.33	113.95	14.03	-82.44	25.44	-117.60	16.29
32	85.04	16.26	117.84	13.87	-69.76	24.92	-112.34	16.16
33	90.30	16.19	121.65	13.72	-57.60	24.40	-107.16	16.04
34	95.53	16.13	125.37	13.58	-45.92	23.92	-102.04	15.93
35	100.71	16.07	129.03	13.44	-34.69	23.48	-97.00	15.82
36	105.86	16.02	132.61	13.32	-23.85	23.10	-92.03	15.72
37	110.97	15.97	136.12	13.20	-13.34	22.78	-87.11	15.63
38	116.06	15.92	139.57	13.08	-3.08	22.52	-82.25	15.54
39	121.11	15.88	142.97	12.97	6.97	22.33	-77.45	15.45
40	126.14	15.84	146.31	12.87	16.88	22.20	-72.70	15.38
41	131.15	15.80	149.60	12.78	26.70	22.13	-67.99	15.30
42	136.13	15.76	152.84	12.69	36.49	22.12	-63.33	15.23
43	141.09	15.73	156.04	12.60	46.29	22.16	-58.71	15.17
44	146.03	15.70	159.19	12.52	56.15	22.25	-54.13	15.11
45	150.95	15.68	162.30	12.44	66.10	22.37	-49.57	15.06
46	155.86	15.65	165.38	12.37	76.17	22.52	-45.05	15.01

47	160.75	15.62	168.43	12.30	86.40	22.70	-40.56	14.97
48	165.62	15.60	171.44	12.24	96.79	22.89	-36.09	14.93
49	170.48	15.58	174.42	12.18	107.35	23.08	-31.65	14.89
50	175.33	15.55	177.37	12.12	118.09	23.27	-27.22	14.86
51	180.16	15.53	180.29	12.07	129.00	23.46	-22.81	14.84
52	184.97	15.50	183.19	12.02	140.10	23.64	-18.41	14.81
53	189.77	15.47	186.07	11.97	151.37	23.83	-14.03	14.80
54	194.55	15.44	188.92	11.93	162.80	24.00	-9.66	14.78
55	199.31	15.41	191.76	11.89	174.40	24.15	-5.29	14.77
56	204.04	15.37	194.57	11.85	186.13	24.27	-0.93	14.76
57	208.75	15.33	197.37	11.81	197.95	24.34	3.42	14.75
58	213.44	15.28	200.16	11.78	209.80	24.34	7.77	14.74
59	218.10	15.23	202.92	11.75	221.62	24.26	12.11	14.74
60	222.72	15.17	205.68	11.73	233.31	24.08	16.45	14.73
61	227.31	15.11	208.42	11.70	244.79	23.82	20.79	14.73
62	231.85	15.05	211.16	11.68	255.99	23.50	25.13	14.72
63	236.36	14.98	213.88	11.67	266.87	23.13	29.46	14.72
64	240.83	14.90	216.61	11.65	277.39	22.74	33.79	14.71
65	245.24	14.82	219.32	11.64	287.55	22.34	38.11	14.70
66	249.62	14.74	222.02	11.63	297.37	21.96	42.44	14.69
67	253.94	14.66	224.72	11.62	306.84	21.59	46.75	14.68
68	258.21	14.57	227.42	11.61	316.01	21.24	51.06	14.66
69	262.43	14.48	230.12	11.61	324.90	20.92	55.35	14.65
70	266.60	14.39	232.82	11.61	333.52	20.62	59.64	14.62
71	270.71	14.30	235.51	11.61	341.92	20.36	63.91	14.60
72	274.78	14.21	238.21	11.62	350.11	20.12	68.16	14.57
73	278.80	14.13	240.92	11.63	358.11	19.90	72.39	14.54
74	282.76	14.04	243.62	11.64	365.96	19.72	76.61	14.50
75	286.68	13.96	246.33	11.65	373.67	19.55	80.80	14.46
76	290.56	13.87	249.05	11.67	381.26	19.42	84.97	14.41
77	294.38	13.80	251.78	11.69	388.75	19.31	89.11	14.36
78	298.17	13.72	254.52	11.71	396.18	19.22	93.22	14.31
79	301.91	13.65	257.26	11.73	403.54	19.16	97.30	14.25
80	305.62	13.58	260.02	11.76	410.87	19.12	101.34	14.19
81	309.29	13.52	262.80	11.79	418.17	19.11	105.35	14.13
82	312.93	13.46	265.59	11.83	425.48	19.12	109.33	14.06
83	316.55	13.41	268.40	11.87	432.80	19.16	113.26	14.00
84	320.13	13.36	271.22	11.91	440.16	19.23	117.16	13.93
85	323.69	13.32	274.07	11.95	447.59	19.33	121.02	13.85
86	327.22	13.28	276.94	12.00	455.11	19.46	124.84	13.78
87	330.74	13.25	279.83	12.05	462.76	19.64	128.62	13.71
88	334.24	13.22	282.75	12.11	470.56	19.87	132.35	13.64
89	337.74	13.20	285.70	12.17	478.56	20.15	136.05	13.56
90	341.22	13.19	288.68	12.24	486.82	20.51	139.72	13.49
91	344.70	13.18	291.69	12.31	495.41	20.95	143.34	13.42
92	348.17	13.18	294.74	12.39	504.42	21.51	146.92	13.35
93	351.64	13.18	297.83	12.47	513.96	22.21	150.46	13.28
94	355.12	13.19	300.96	12.56	524.21	23.11	153.97	13.21
95	358.61	13.21	304.15	12.66	535.42	24.29	157.44	13.14
96	362.11	13.24	307.38	12.76	547.97	25.88	160.87	13.07
97	365.62	13.27	310.66	12.87	562.48	28.13	164.27	13.01
98	369.15	13.32	314.01	12.99	580.16	31.56	167.64	12.95

ANNEX 5:

ITEMS DELETED IN THE PPVT

Table 9. Items deleted in the PPVT datasets for the Rasch Analysis by country and cohort of study

Ethiopia (Amarigna)		India (Telugu)		Peru (Spanish)		Vietnam (Tieng Viet Nam)	
<i>Cohort 5</i>	<i>Cohort 12</i>	<i>Cohort 5</i>	<i>Cohort 12</i>	<i>Cohort 5</i>	<i>Cohort 12</i>	<i>Cohort 5</i>	<i>Cohort 12</i>
2	13	9	4	34	32	2	34
10	15	11	7		34	3	45
18	16	13	9		39	13	46
19	18	14	12		45	16	47
20	20	16	14		46	23	71
21	22	18	22		47	25	76
29	24	19	29		52	30	77
33	25	21	30		56	34	81
34	27	24	34		67	35	83
35	28	35	35		69	36	84
37	30	37	44		74	37	87
40	32	38	48		78	39	89
42	34	40	53		79	40	95
43	36	41	57		80	41	100
44	37	42	60		86	43	108
45	42	44	62		87	46	109
48	44	48	67		112	48	115
51	48	49	69		113	56	128
53	53	52	73		125	57	130
54	54	53	76			59	132
56	55	54	77			60	133
57	56	56	79			73	139
58	58	57	81			76	143
59	61	58	84			83	147
61	62	59	85			94	149
62	65	60	86			154	150
63	66	66	87			164	152
65	70	69	89				153
66	72	73	97				156
67	73	75	98				163
68	76	79	101				165
69	78	81	102				171
73	80	83	104				173
76	81	87	106				177
77	83	91	108				182
79	84	92	110				189
82	85	93	112				192
84	86	96	113				197
87	87	97	117				204
88	88	100	118				
89	89	107	120				
90	91	113	125				
92	92	115	132				
93	93	116	135				
94	95	117	136				
95	96	118	137				
96	97	119	139				

100	98	124	140				
103	102	125	141				
107	106	127	143				
108	108	128	147				
109	110	129	151				
112	111	134	153				
113	113	137	159				
114	118	141	162				
118	120	143	164				
119	121	145	166				
120	123	147	167				
121	125	152	169				
122	126	154	171				
123	127	156	173				
127	131	158	174				
130	135	159	175				
131	139	161	177				
132	153	166	179				
	155	167	182				
	160	172	183				
	164	179	186				
	168	184	187				
	169	185	188				
	171	197	189				
	196	201	193				
		203	194				
			197				
			198				
			200				
			201				
			202				
			204				

ANNEX 6:
**TEST SCORES, AGE AND EDUCATION OF THE
CHILDREN**

Table 1. Mean raw and Rasch score for the PPVT and CDA by educational attainment and age in the younger cohort

Ethiopia				Mean age (months)	CDA raw score	CDA Rasch score	PPVT raw score	PPVT Rasch score
	School level	N	%					
Amarigna n=842	Without pre-school	430	51.1	63.3	7.4	276.6	17.0	273.5
	Currently in pre-school	411	48.8	63.4	10.3	324.6	30.8	327.1
	Currently in first grade	1	0.1	N.A	N.A	N.A	N.A	N.A
Oromifa n=308	Without pre-school	275	89.3	63.3	8.0	296.6	N.A	N.A
	Currently in pre-school	33	10.7	62.4	9.7	328.4	N.A	N.A
	Currently in first grade	0	0	N.A	N.A	N.A	N.A	N.A
Tigrigna n=378	Without pre-school	369	97.6	62.8	7.6	298.2	N.A	N.A
	Currently in pre-school	9	2.4	68.1	11.6	372.4	N.A	N.A
	Currently in first grade	0	0	N.A	N.A	N.A	N.A	N.A
India								
	School level	N	%	Mean age (months)	CDA raw score	CDA Rasch score	PPVT raw score	PPVT Rasch score
Telugu n=1778	Without pre-school	193	10.9	65.3	8.8	289.6	22.5	287.2
	Currently in pre-school	1376	77.4	65.4	9.3	299.3	26.2	297.2
	Currently in first grade	209	11.8	67.5	10.1	314.2	41.3	330.6
Peru								
	School level	N	%	Mean age (months)	CDA raw score	CDA Rasch score	PPVT raw score	PPVT Rasch score
Spanish n=1732	Without pre-school	251	14.5	62.3	7.1	270.0	17.6	262.3
	Currently in pre-school	1455	84.0	65.8	8.7	304.9	32.8	306.0
	Currently in first grade	26	1.5	65.6	9.0	313.0	33.0	306.9
Quechua n=215	Without pre-school	57	26.5	61.9	7.5	291.8	N.A	N.A
	Currently in pre-school	156	72.6	61.9	7.9	302.7	N.A	N.A
	Currently in first grade	2	0.9	N.A	N.A	N.A	N.A	N.A
Vietnam								
	School level	N	%	Mean age (months)	CDA raw score	CDA Rasch score	PPVT raw score	PPVT Rasch score
Tieng Viet Nam n=1715	Without pre-school	114	6.7	61.1	8.2	263.8	26.0	259.3
	Currently in pre-school	1597	93.1	65.0	10.2	302.7	39.3	302.7
	Currently in first grade	4	0.2	N.A	N.A	N.A	N.A	N.A
H'Mong n=105	Without pre-school	40	38.1	61.5	5.7	283.4	N.A	N.A
	Currently in pre-school	65	61.9	61.9	6.8	310.2	N.A	N.A
	Currently in first grade	0	0	N.A	N.A	N.A	N.A	N.A

N.A.: Not applicable

Table 2. Mean raw and Rasch score for the PPVT and Math by educational attainment and age in the older cohort

<i>Ethiopia</i>				Mean age (months)	Math raw score	Math Rasch score	PPVT raw score	PPVT Rasch score
	School level	N	%					
Amarigna n=436	Without school	8	1.8	151.8	4.1	271.5	58.7	255.6
	Below 4th grade	72	16.5	146.8	3.9	270.1	65.3	267.6
	4th grade	97	22.3	147.1	4.7	288.0	78.0	292.8
	5th grade	109	25.0	146.9	5.4	302.0	86.9	309.2
	6th grade	105	24.1	147.6	6.4	321.7	90.8	316.6
	Over 6th grade	45	10.3	148.7	6.4	323.5	97.1	328.4
Oromifa n=159	Without school	9	5.7	148.2	2.5	263.1	N.A	N.A
	Below 4th grade	67	42.1	148.4	2.7	276.6	N.A	N.A
	4th grade	33	20.8	147.0	4.8	316.4	N.A	N.A
	5th grade	31	19.5	146.6	4.5	310.7	N.A	N.A
	6th grade	12	7.6	147.1	6.5	351.2	N.A	N.A
	Over 6th grade	7	4.4	146.7	6.9	358.4	N.A	N.A
Tigrigna n=198	Without school	6	3.0	146.3	2.2	221.3	N.A	N.A
	Below 4th grade	58	29.3	146.9	4.6	277.0	N.A	N.A
	4th grade	43	21.7	146.3	6.1	310.7	N.A	N.A
	5th grade	54	27.3	145.6	5.6	301.1	N.A	N.A
	6th grade	32	16.2	147.1	6.9	335.4	N.A	N.A
	Over 6th grade	5	2.5	146.2	7.0	331.0	N.A	N.A
India								
	School level	N	%	Mean age (months)	Math raw score	Math Rasch score	PPVT raw score	PPVT Rasch score
Telugu n=946	Without school	95	10.0	151.9	2.5	229.3	66.3	252.8
	Below 5th grade	27	2.9	148.8	5.0	286.0	83.8	286.8
	5th grade	69	7.3	150.6	5.3	290.2	78.8	277.1
	6th grade	194	20.5	149.4	6.1	308.8	89.8	298.9
	7th grade	388	41.0	149.5	6.2	308.4	94.5	307.8
	Over 7th grade	173	18.3	153.1	6.4	316.1	100.2	321.8
Peru								
	School level	N	%	Mean age (months)	Math raw score	Math Rasch score	PPVT raw score	PPVT Rasch score
Spanish n=640	Without school	7	1.1	152.9	3.7	241.6	53.9	234.9
	Below 5th grade	52	8.1	148.5	3.5	237.9	55.8	241.1
	5th grade	101	15.8	147.3	5.2	279.9	66.0	278.2
	6th grade	274	42.8	148.8	6.1	306.7	74.0	303.4
	7th grade	196	30.6	154.2	6.5	318.9	81.3	325.1
	Over 7th grade	10	1.6	155.7	6.3	313.4	81.2	323.7
Vietnam								
	School level	N	%	Mean age (months)	Math raw score	Math Rasch score	PPVT raw score	PPVT Rasch score
Tieng Viet Nam n=921	Without school	24	2.6	151.0	4.1	205.6	104.1	235.6
	Below 5th grade	10	1.1	148.3	4.4	213.4	70.6	166.9
	5th grade	24	2.6	146.4	6.1	257.0	103.9	236.3
	6th grade	224	24.3	146.4	7.5	294.2	132.2	288.8
	7th grade	630	68.4	150.9	7.9	308.5	145.2	314.3
	Over 7th grade	9	1.0	151.7	8.0	313.1	120.2	267.6

N.A.: Not applicable

ANNEX 7:

**COMPARISON OF COMMON ITEMS FROM ROUNDS 1
AND 2**

Table 1. Reading performance in the first and second round by country and gender - Older Cohort

	First Round			Second Round		
	Female	Male	Total	Female	Male	Total
Ethiopia						
Can't read anything (%)	55	49	53	8	9	8
Reads the letters (%)	16	24	20	13	16	14
Reads the words (%)	6	5	5	13	16	15
Reads the sentence (%)	22	21	21	65	59	62
Not respond	1	1	1	1	0	1
India						
Can't read anything (%)	8	7	7	4	6	5
Reads the letters (%)	30	24	27	6	4	5
Reads the words (%)	15	12	14	9	7	8
Reads the sentence (%)	46	56	51	80	82	81
Not respond	1	1	1	1	1	1
Peru						
Can't read anything (%)	8	10	9	1	1	1
Reads the letters (%)	7	4	5	1	1	1
Reads the words (%)	1	3	2	1	2	1
Reads the sentence (%)	81	80	81	97	96	97
Not respond	3	3	3	0	0	0
Vietnam						
Can't read anything (%)	5	4	4	1	1	1
Reads the letters (%)	2	5	3	1	1	1
Reads the words (%)	4	5	5	1	1	1
Reads the sentence (%)	88	86	87	96	96	96
Not respond	1	0	1	1	1	1

Table 2. Writing performance in the first and second round by country and gender - Older Cohort

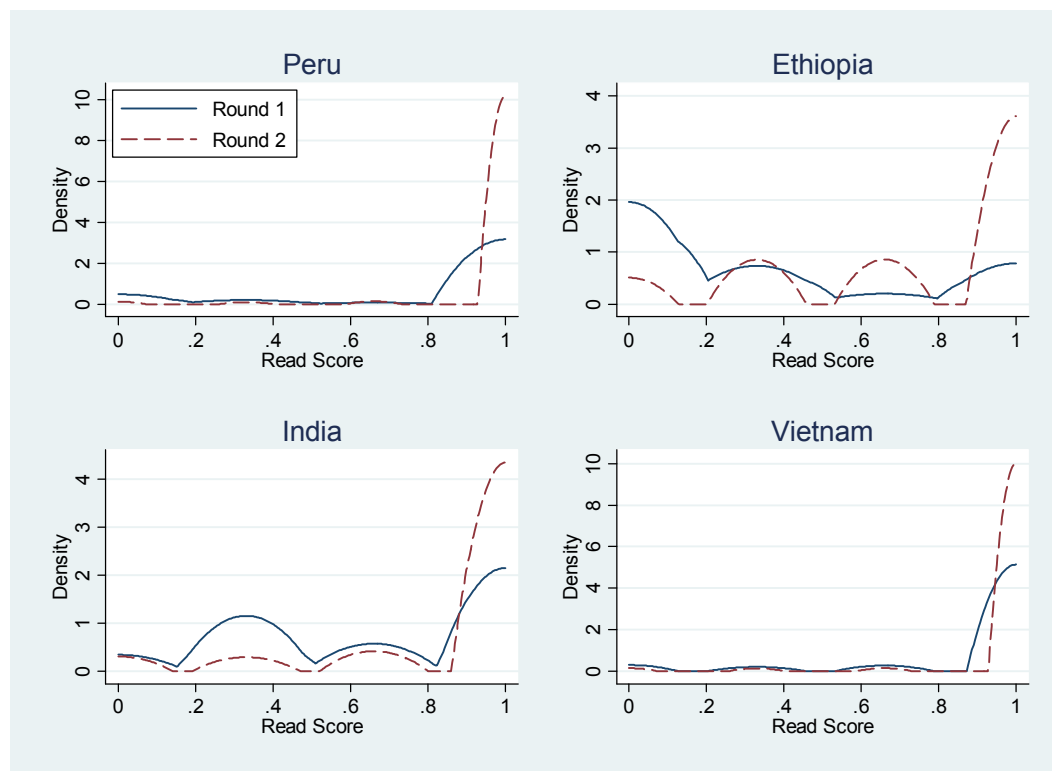
	First Round			Second Round		
	Female	Male	Total	Female	Male	Total
Ethiopia						
Can't write anything (%)	57	53	55	9	11	10
Write with difficulty / errors (%)	18	23	21	34	30	32
Write without difficulty / errors (%)	24	23	23	55	58	56
Not respond	1	1	1	2	1	2
India						
Can't write anything (%)	21	15	18	5	6	5
Write with difficulty / errors (%)	22	33	28	24	24	24
Write without difficulty / errors (%)	54	49	51	69	69	69
Not respond	3	3	3	2	1	2
Peru						
Can't write anything (%)	10	14	13	1	1	1
Write with difficulty / errors (%)	30	34	32	10	15	13
Write without difficulty / errors (%)	58	51	54	89	83	85
Not respond	2	1	1	0	1	1
Vietnam						
Can't write anything (%)	8	9	8	2	1	2
Write with difficulty / errors (%)	15	19	17	3	6	4
Write without difficulty / errors (%)	76	71	74	94	92	93
Not respond	1	1	1	1	1	1

Table 3. Numeracy performance in the first and second round by country and gender - Older Cohort

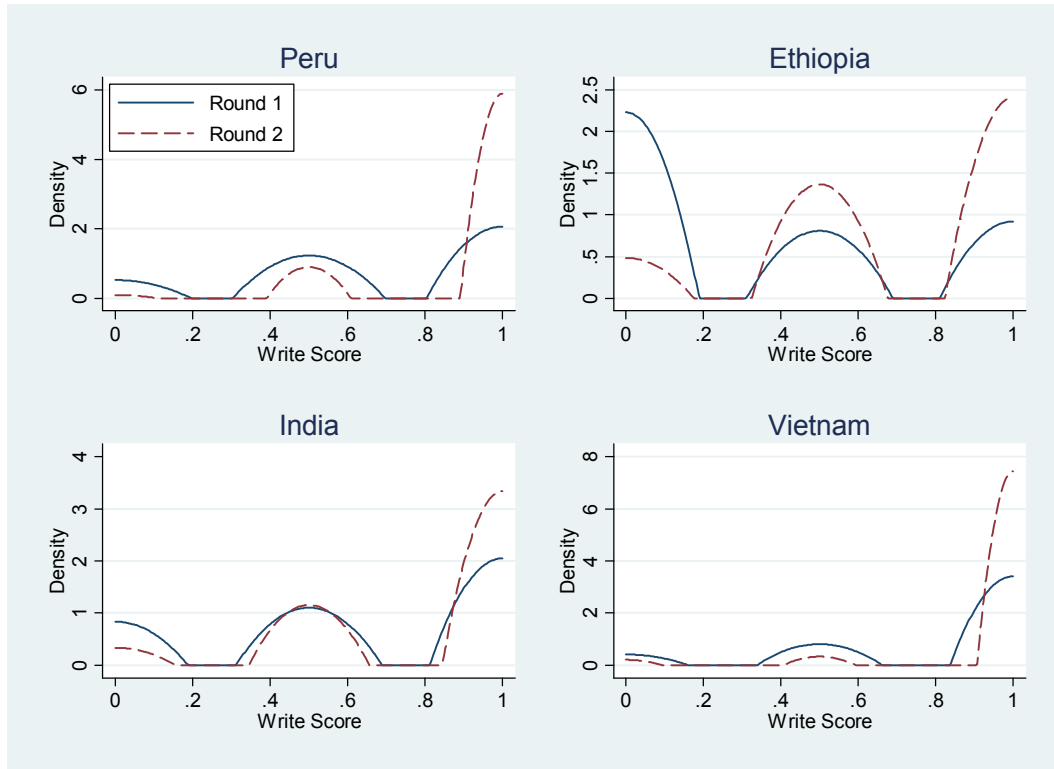
	First Round			Second Round		
	Female	Male	Total	Female	Male	Total
Ethiopia						
Correct	29	38	34	81	81	81
Incorrect	44	40	42	15	14	14
Not respond	27	22	24	4	5	5
India*						
Correct	85	90	87	89	89	89
Incorrect	11	7	9	7	9	8
Not respond	4	3	4	4	2	3
Peru						
Correct	52	58	55	94	95	95
Incorrect	18	19	19	4	3	3
Not respond	30	23	26	2	2	2
Vietnam						
Correct	66	66	66	96	97	97
Incorrect	9	12	11	2	2	2
Not respond	25	22	23	2	1	1

* In the case of India, the results from Round 1 and Round 2 are not strictly comparable since the item was changed from 2 times 4 to 2 times 7.

Graph 1. Reading item score in the first and second round by country



Graph 2. Writing item score in the first and second round by country



Graph 3. Numeracy item score in the first and second round by country

