

## APPENDIX B: ITEM DISTRACTOR ANALYSES

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**Table B.1. The 2010 Mod-MSA: Reading Grade 3, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213631	1	MC	813	0.73	0.44	13.53	8.36	72.94	5.04	0.12	-0.16	-0.21		-0.12
100000360181	2	MC	813	0.29	0.45	26.94	16.85	28.91	27.18	0.12	-0.11	-0.06		-0.11
100000213633	3	MC	813	0.80	0.40	4.80	5.29	10.21	79.70		-0.21	-0.22	-0.32	
100000213634	4	MC	813	0.38	0.48	25.46	24.23	37.52	12.67	0.12	-0.12	-0.12		-0.18
100000360182	5	MC	813	0.42	0.49	13.41	42.44	13.41	30.75		-0.23		-0.21	-0.01
100000101512	6	MC	813	0.51	0.50	50.68	25.46	23.25	0.62			-0.14	-0.13	-0.13
100000101513	7	MC	813	0.56	0.50	26.57	55.60	17.10	0.74		0.00		-0.31	-0.12
100000101514	8	MC	813	0.62	0.49	27.55	8.73	62.24	1.48		-0.28	-0.13		-0.16
100000360183	9	MC	813	0.58	0.49	57.56	21.16	20.17	0.98	0.12		-0.08	-0.17	-0.14
100000101516	10	MC	813	0.42	0.49	38.38	19.31	41.70	0.62		-0.12	-0.09		-0.13
100000101517	11	MC	813	0.32	0.47	21.03	31.86	43.30	3.81		-0.08		-0.02	-0.28
100000101518	12	MC	813	0.56	0.50	22.02	20.42	56.09	1.35	0.12	-0.18	-0.02		-0.15
100000360184	13	MC	813	0.48	0.50	31.61	47.85	20.17		0.37	-0.21		-0.05	
100000101969	14	MC	813	0.69	0.46	13.28	17.71	68.63		0.37	-0.32	-0.26		
100000101970	15	MC	813	0.50	0.50	50.31	15.13	34.32		0.25		-0.17	-0.24	
100000101971	16	MC	813	0.40	0.49	29.27	40.22	30.26		0.25	-0.02		-0.21	
100000101972	17	MC	813	0.46	0.50	22.39	31.61	45.63		0.37	-0.08	-0.07		
100000101973	18	MC	813	0.37	0.48	36.65	20.17	42.80		0.37		-0.05	-0.12	
100000101974	19	MC	813	0.43	0.50	33.70	43.17	22.88		0.25	-0.16		-0.19	
100000101975	20	MC	813	0.45	0.50	13.41	41.33	44.65		0.62	-0.18	-0.03		
100000101932	21	MC	813	0.59	0.49	58.67	26.32	14.76		0.25		-0.05	-0.29	
100000101934	22	MC	813	0.52	0.50	17.34	30.75	51.66		0.25	-0.19	-0.17		
100000101935	23	MC	813	0.40	0.49	29.77	29.77	39.98		0.49	-0.11	0.05		
100000101933	24	MC	813	0.37	0.48	26.45	36.53	36.41		0.62	-0.22		-0.02	
100000101936	25	MC	813	0.52	0.50	29.27	17.96	52.40		0.37	-0.10	-0.14		
100000101937	26	MC	813	0.63	0.48	63.47	16.36	19.43		0.74		-0.15	-0.29	
100000101938	27	MC	813	0.47	0.50	18.94	47.48	32.84		0.74	-0.21		-0.14	
100000346452	28	MC	813	0.60	0.49	19.43	19.93	60.39		0.25	-0.20	-0.15		
100000346453	29	MC	813	0.59	0.49	59.16	20.42	20.17		0.25		-0.19	-0.25	
100000346444	30	MC	813	0.44	0.50	43.54	25.22	30.87		0.37		-0.09	-0.18	
100000346446	31	MC	813	0.39	0.49	39.48	24.11	36.16		0.25		0.03	-0.10	
100000346450	32	MC	813	0.74	0.44	11.69	14.15	73.92		0.25	-0.23	-0.28		
100000346445	33	MC	813	0.46	0.50	46.00	16.36	37.39		0.25		-0.17	-0.24	
100000346448	34	MC	813	0.49	0.50	12.67	49.20	37.88		0.25	-0.21		-0.12	
100000260458	35	MC	813	0.42	0.49	31.12	26.57	41.57		0.74	-0.06	-0.12		
100000260460	36	MC	813	0.59	0.49	17.59	22.51	59.16		0.74	-0.06	-0.17		
100000260461	37	MC	813	0.56	0.50	14.39	56.33	28.54		0.74	-0.09		-0.24	
100000312661	38	MC	813	0.58	0.49	16.61	24.11	58.30		0.98	-0.22	-0.10		
100000260457	39	MC	813	0.51	0.50	26.08	21.77	51.41		0.74	-0.06	-0.15		

Table B.1. The 2010 Mod-MSA: Reading Grade 3, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000260459	40	MC	813	0.37	0.48	34.07	36.65	28.41		0.86	0.01			-0.19
100000260465	41	MC	813	0.58	0.49	58.30	27.92	12.79		0.98		-0.07		-0.26
100000101905	42	MC	813	0.74	0.44	6.89	18.70	74.05		0.37	-0.29		-0.19	
100000101906	43	MC	813	0.40	0.49	14.76	40.10	44.65		0.49	-0.13			-0.17
100000101907	44	MC	813	0.48	0.50	48.34	33.09	18.20		0.37		-0.10		-0.27
100000101908	45	MC	813	0.71	0.45	9.96	70.85	18.82		0.37	-0.27			-0.32
100000101909	46	MC	813	0.58	0.49	57.93	14.27	27.43		0.37		-0.25		-0.20
100000101910	47	MC	813	0.56	0.50	20.79	22.76	56.09		0.37	0.00		-0.05	
100000101911	48	MC	813	0.70	0.46	9.72	69.99	19.93		0.37	-0.22			-0.25
100000101529	49	MC	813	0.83	0.38	10.46	82.78	6.40		0.37	-0.25			-0.24
100000101530	50	MC	813	0.65	0.48	64.82	19.80	14.88		0.49		-0.26		-0.27
100000101531	51	MC	813	0.24	0.43	24.11	31.49	44.03		0.37		-0.10	0.06	
100000101532	52	MC	813	0.46	0.50	32.72	20.54	46.25		0.49	0.12		-0.27	
100000101527	53	MC	813	0.60	0.49	19.56	60.27	19.68		0.49	-0.21			-0.18
100000101528	54	MC	813	0.53	0.50	52.52	24.60	22.39		0.49		-0.08		-0.31
100000101533	55	MC	813	0.69	0.46	11.44	18.57	69.50		0.49	-0.18		-0.20	
100000260338	56	MC	813	0.65	0.48	16.85	64.58	18.08		0.49	-0.10			-0.15
100000260342	57	MC	813	0.51	0.50	14.27	34.07	51.17		0.49	-0.11		-0.22	
100000260345	58	MC	813	0.32	0.47	31.73	31.73	36.04		0.49	-0.08			-0.04
100000365154	59	MC	813	0.44	0.50	21.28	44.28	33.95		0.49	-0.02			-0.23
100000260349	60	MC	813	0.23	0.42	22.76	46.25	30.63		0.37		0.02		-0.14
100000260339	61	MC	813	0.57	0.50	56.58	13.53	29.27		0.62		-0.30		-0.14
100000300707	62	MC	813	0.40	0.49	29.89	40.34	29.27		0.49	-0.11			-0.08
100000260364	63	MC	813	0.38	0.49	37.88	25.34	36.41		0.37		-0.03	0.00	
100000260368	64	MC	813	0.67	0.47	10.82	67.16	21.65		0.37	-0.16			-0.25
100000260371	65	MC	813	0.51	0.50	16.36	31.86	51.29		0.49	-0.13		-0.05	
100000300557	66	MC	813	0.39	0.49	39.48	27.06	32.84		0.62		-0.16		-0.13
100000260372	67	MC	813	0.74	0.44	73.92	8.86	16.85		0.37		-0.29		-0.27
100000260365	68	MC	813	0.73	0.45	15.01	11.81	72.82		0.37	-0.24		-0.19	
100000300552	69	MC	813	0.65	0.48	11.32	64.70	18.20		5.78	-0.10			-0.30

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.

**Table B.2. The 2010 Mod-MSA: Reading Grade 4, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213644	1	MC	967	0.36	0.48	35.88	26.89	36.19	1.03			-0.06	-0.05	-0.17
100000213645	2	MC	967	0.50	0.50	49.74	27.40	20.68	2.17			-0.02	-0.08	-0.21
100000213646	3	MC	967	0.47	0.50	20.17	32.47	46.74	0.62		-0.07	-0.05		-0.13
100000213647	4	MC	967	0.59	0.49	59.15	26.78	11.79	2.28			-0.15	-0.19	-0.21
100000360190	5	MC	967	0.23	0.42	23.47	22.13	52.64	1.76			0.01	-0.06	-0.20
100000213637	6	MC	967	0.69	0.46	10.24	11.38	68.98	9.41		-0.16	-0.27		-0.16
100000213638	7	MC	967	0.69	0.46	11.58	8.17	68.87	11.38		-0.27	-0.16		-0.14
100000213639	8	MC	967	0.36	0.48	29.47	16.96	17.48	36.09		0.14	-0.16	-0.16	
100000360191	9	MC	967	0.38	0.49	24.10	16.65	38.16	20.79	0.31	-0.03	-0.21		-0.07
100000213641	10	MC	967	0.78	0.42	77.77	6.00	7.45	8.58	0.21		-0.14	-0.24	-0.19
100000213642	11	MC	967	0.66	0.48	8.27	14.06	11.79	65.67	0.21	-0.19	-0.22	-0.19	
100000360192	12	MC	967	0.73	0.45	72.60	4.14	11.48	10.96	0.83		-0.17	-0.27	-0.18
100000357134	13	MC	967	0.67	0.47	67.22	17.06	15.20		0.52		-0.21	-0.20	
100000357132	14	MC	967	0.45	0.50	34.23	45.40	19.96		0.41	-0.02		-0.20	
100000357133	15	MC	967	0.74	0.44	10.86	14.89	73.84		0.41	-0.24	-0.25		
100000357135	16	MC	967	0.45	0.50	33.61	44.57	21.41		0.41	0.08		-0.22	
100000357136	17	MC	967	0.57	0.50	19.34	23.78	56.77		0.10	-0.19	-0.24		
100000357137	18	MC	967	0.56	0.50	56.05	23.58	20.27		0.10		-0.22	-0.21	
100000357138	19	MC	967	0.41	0.49	26.89	41.26	31.54		0.31	-0.15		-0.15	
100000357106	20	MC	967	0.52	0.50	28.85	18.51	52.02		0.62	0.00	-0.19		
100000357104	21	MC	967	0.65	0.48	13.86	64.63	20.99		0.52	-0.23		-0.23	
100000357107	22	MC	967	0.61	0.49	20.89	60.60	17.68		0.83	-0.15		-0.26	
100000357105	23	MC	967	0.63	0.48	62.87	19.03	17.58		0.52		-0.20	-0.18	
100000357108	24	MC	967	0.49	0.50	49.22	31.54	18.61		0.62		-0.07	-0.26	
100000357109	25	MC	967	0.73	0.44	13.75	12.51	73.11		0.62	-0.25	-0.21		
100000357110	26	MC	967	0.59	0.49	21.82	18.92	58.74		0.52	-0.03	-0.18		
100000260487	27	MC	967	0.41	0.49	41.05	33.71	24.61		0.62		0.16	-0.25	
100000260486	28	MC	967	0.25	0.43	25.03	43.23	31.13		0.62		-0.15	-0.08	
100000260483	29	MC	967	0.57	0.50	21.92	56.88	20.48		0.72	-0.09		-0.22	
100000260481	30	MC	967	0.50	0.50	50.36	13.24	35.68		0.72		-0.20	-0.20	
100000260489	31	MC	967	0.64	0.48	13.34	22.03	64.12		0.52	-0.23	-0.09		
100000260488	32	MC	967	0.26	0.44	26.16	23.89	49.43		0.52		-0.08	-0.14	
100000260492	33	MC	967	0.28	0.45	27.51	25.23	46.74		0.52		-0.04	-0.10	
100000269896	34	MC	967	0.55	0.50	16.75	27.71	54.81		0.72	-0.18	-0.17		
100000271197	35	MC	967	0.38	0.49	37.75	27.20	34.33		0.72		-0.10	-0.25	
100000271198	36	MC	967	0.57	0.49	13.86	57.29	28.02		0.83	-0.22		-0.18	
100000269900	37	MC	967	0.33	0.47	33.40	30.71	34.95		0.93		-0.12	-0.02	
100000269897	38	MC	967	0.46	0.50	24.61	28.54	46.12		0.72	-0.08	-0.12		
100000269898	39	MC	967	0.41	0.49	20.68	40.95	37.64		0.72	-0.21		-0.08	
100000269899	40	MC	967	0.42	0.49	42.09	25.85	31.33		0.72		-0.22	-0.05	

Table B.2. The 2010 Mod-MSA: Reading Grade 4, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000357097	41	MC	967	0.27	0.44	56.15	26.89	16.86		0.10	0.06		-0.16	
100000357095	42	MC	967	0.60	0.49	60.29	23.78	15.72		0.21		-0.15	-0.19	
100000357098	43	MC	967	0.33	0.47	23.58	32.78	43.43		0.21	0.06		-0.26	
100000357099	44	MC	967	0.31	0.46	30.82	12.93	55.95		0.31		-0.18	0.13	
100000357100	45	MC	967	0.40	0.49	34.85	25.44	39.50		0.21	0.02	-0.15		
100000357101	46	MC	967	0.59	0.49	59.26	22.96	17.68		0.10		-0.17	-0.14	
100000357096	47	MC	967	0.58	0.49	14.37	27.09	58.12		0.41	-0.19	-0.21		
100000101997	48	MC	967	0.52	0.50	13.44	34.23	52.33			-0.19	-0.09		
100000101996	49	MC	967	0.43	0.50	30.20	26.68	43.12			-0.18	-0.19		
100000101998	50	MC	967	0.44	0.50	26.27	43.74	29.89		0.10	-0.04		-0.18	
100000101999	51	MC	967	0.42	0.49	42.19	40.02	17.79				-0.17	-0.09	
100000102000	52	MC	967	0.52	0.50	22.75	52.12	25.13			-0.07		-0.19	
100000102001	53	MC	967	0.49	0.50	49.02	36.92	14.06				-0.13	-0.24	
100000200070	54	MC	967	0.51	0.50	51.40	22.44	26.16				-0.18	-0.17	
100000102025	55	MC	967	0.30	0.46	30.20	23.58	46.12		0.10		-0.17	0.02	
100000102026	56	MC	967	0.44	0.50	18.92	37.02	43.95		0.10	-0.23	0.03		
100000102027	57	MC	967	0.53	0.50	15.93	53.46	30.51		0.10	-0.21		-0.22	
100000102023	58	MC	967	0.47	0.50	9.93	47.26	42.61		0.21	-0.21		-0.14	
100000102024	59	MC	967	0.69	0.46	16.03	14.79	69.08		0.10	-0.20	-0.06		
100000102028	60	MC	967	0.46	0.50	46.12	16.75	36.92		0.21		-0.28	-0.13	
100000102029	61	MC	967	0.58	0.49	18.61	57.70	23.58		0.10	-0.11		-0.25	
100000301035	62	MC	967	0.67	0.47	67.22	20.37	12.31		0.10		-0.20	-0.30	
100000267470	63	MC	967	0.63	0.48	63.39	12.31	24.20		0.10		-0.22	-0.26	
100000267467	64	MC	967	0.85	0.36	7.14	7.96	84.80		0.10	-0.21	-0.24		
100000301034	65	MC	967	0.69	0.46	17.17	13.34	69.39		0.10	-0.19	-0.21		
100000267473	66	MC	967	0.50	0.50	23.99	50.36	25.44		0.21	-0.12		-0.11	
100000267474	67	MC	967	0.53	0.50	30.82	15.62	53.26		0.31	0.04	-0.13		
100000267472	68	MC	967	0.61	0.49	23.06	12.41	61.01		3.52	-0.09	-0.15		

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.

**Table B.3. The 2010 Mod-MSA: Reading Grade 5, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213650	1	MC	1043	0.67	0.47	66.73	3.55	11.51	18.22			-0.16	-0.09	-0.21
100000213651	2	MC	1043	0.69	0.46	2.59	11.60	16.49	69.32		-0.09	-0.24	-0.14	
100000213652	3	MC	1043	0.68	0.47	15.34	68.36	9.30	7.00		-0.15		-0.19	-0.09
100000213653	4	MC	1043	0.73	0.45	7.96	12.18	7.29	72.58		-0.10	-0.21	-0.27	
100000360196	5	MC	1043	0.38	0.49	38.45	7.09	3.36	51.10			-0.20	-0.17	0.00
100000213655	6	MC	1043	0.73	0.44	5.85	73.06	14.38	6.71		-0.14		-0.16	-0.20
100000213656	7	MC	1043	0.78	0.42	77.85	2.97	9.88	9.30			-0.14	-0.32	-0.17
100000213657	8	MC	1043	0.69	0.46	13.81	10.83	69.32	5.94	0.10	-0.21	-0.16		-0.25
100000213658	9	MC	1043	0.49	0.50	25.98	48.80	14.19	10.93	0.10	0.14		-0.18	-0.11
100000213659	10	MC	1043	0.65	0.48	65.20	10.35	9.01	15.34	0.10		-0.20	-0.12	-0.11
100000360197	11	MC	1043	0.62	0.49	14.38	62.22	8.34	14.86	0.19	-0.07		-0.17	-0.23
100000102095	12	MC	1043	0.51	0.50	22.53	26.37	51.10			-0.22	-0.06		
100000102093	13	MC	1043	0.73	0.44	73.35	12.37	14.29				-0.24	-0.19	
100000102094	14	MC	1043	0.32	0.47	31.93	23.20	44.87				-0.22	-0.03	
100000102096	15	MC	1043	0.50	0.50	10.74	50.24	39.02			-0.19		-0.09	
100000102097	16	MC	1043	0.37	0.48	24.93	38.26	36.82			-0.07	0.01		
100000102098	17	MC	1043	0.37	0.48	32.69	37.01	30.30			-0.04		-0.08	
100000102099	18	MC	1043	0.34	0.47	34.23	21.76	43.82		0.19		-0.12	-0.02	
100000102113	19	MC	1043	0.51	0.50	51.10	32.79	16.11				-0.17	-0.26	
100000102111	20	MC	1043	0.70	0.46	11.70	17.93	70.18		0.19	-0.21	-0.24		
100000102114	21	MC	1043	0.51	0.50	51.20	28.95	19.85				-0.09	-0.27	
100000102115	22	MC	1043	0.34	0.47	30.97	34.90	34.13			-0.11	-0.14		
100000102116	23	MC	1043	0.50	0.50	29.15	50.24	20.61			-0.14		-0.20	
100000102112	24	MC	1043	0.72	0.45	15.63	12.66	71.72			-0.14	-0.22		
100000102117	25	MC	1043	0.35	0.48	36.43	35.09	28.28		0.19	0.02		-0.07	
100000102104	26	MC	1043	0.53	0.50	52.92	16.11	30.78		0.19		-0.20	-0.08	
100000102102	27	MC	1043	0.60	0.49	23.78	15.72	60.31		0.19	-0.21	-0.03		
100000102103	28	MC	1043	0.61	0.49	22.05	61.36	16.40		0.19	-0.06		-0.22	
100000102105	29	MC	1043	0.32	0.47	32.02	41.13	26.65		0.19		0.01	-0.10	
100000102106	30	MC	1043	0.65	0.48	17.07	17.93	64.81		0.19	-0.13	-0.21		
100000102107	31	MC	1043	0.33	0.47	36.24	30.87	32.69		0.19	-0.11	-0.10		
100000102108	32	MC	1043	0.40	0.49	29.15	39.98	30.49		0.38	0.00		-0.21	
100000102086	33	MC	1043	0.37	0.48	24.45	37.30	37.49		0.77	-0.08		0.02	
100000102084	34	MC	1043	0.62	0.49	13.61	23.59	62.22		0.58	-0.10	-0.17		
100000102087	35	MC	1043	0.42	0.49	22.63	42.38	34.32		0.67	-0.13		-0.01	
100000102088	36	MC	1043	0.30	0.46	29.53	46.21	23.59		0.67		0.04	-0.11	
100000102089	37	MC	1043	0.23	0.42	48.71	27.33	23.30		0.67	0.15	-0.13		
100000102085	38	MC	1043	0.55	0.50	29.82	54.94	14.48		0.77	-0.01		-0.19	
100000102090	39	MC	1043	0.38	0.49	38.26	31.26	29.63		0.86		-0.11	-0.13	
100000102046	40	MC	1043	0.78	0.41	7.48	78.43	13.90		0.19	-0.27		-0.27	

Table B.3. The 2010 Mod-MSA: Reading Grade 5, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000102048	41	MC	1043	0.55	0.50	54.94	27.80	17.07		0.19		-0.07	-0.15	
100000102049	42	MC	1043	0.33	0.47	39.21	27.71	32.79		0.29	-0.03	-0.04		
100000102050	43	MC	1043	0.70	0.46	18.22	11.89	69.51		0.38	-0.18	-0.14		
100000102051	44	MC	1043	0.47	0.50	46.98	26.08	26.65		0.29		-0.11	-0.08	
100000102052	45	MC	1043	0.63	0.48	18.02	63.18	18.70		0.10	-0.14		-0.21	
100000102047	46	MC	1043	0.61	0.49	23.68	61.17	15.05		0.10	-0.21		-0.23	
100000102056	47	MC	1043	0.47	0.50	41.99	46.79	11.12		0.10	-0.08		-0.14	
100000102058	48	MC	1043	0.18	0.39	16.78	64.72	18.31		0.19	-0.20	0.19		
100000102059	49	MC	1043	0.60	0.49	59.83	23.11	16.87		0.19		-0.21	-0.10	
100000102060	50	MC	1043	0.36	0.48	38.73	24.64	36.24		0.38	0.01	-0.24		
100000102061	51	MC	1043	0.50	0.50	50.05	34.90	14.77		0.29		-0.09	-0.21	
100000102057	52	MC	1043	0.39	0.49	21.96	38.73	39.12		0.19	-0.14		-0.01	
100000102062	53	MC	1043	0.27	0.44	30.11	27.13	42.28		0.48	0.00		-0.04	
100000102068	54	MC	1043	0.58	0.49	23.01	57.53	19.18		0.29	-0.23		-0.11	
100000102069	55	MC	1043	0.37	0.48	36.82	26.08	36.72		0.38		-0.24	-0.10	
100000102066	56	MC	1043	0.54	0.50	22.63	22.91	54.07		0.38	-0.05	-0.16		
100000102067	57	MC	1043	0.67	0.47	13.04	67.40	19.37		0.19	-0.27		-0.16	
100000102070	58	MC	1043	0.24	0.43	23.97	33.84	41.90		0.29		0.06	0.01	
100000102071	59	MC	1043	0.47	0.50	21.38	31.45	46.79		0.38	-0.12	-0.03		
100000102072	60	MC	1043	0.62	0.49	14.38	23.30	62.13		0.19	-0.15	-0.29		
100000267477	61	MC	1043	0.47	0.50	47.17	31.26	17.74		3.84		-0.04	-0.10	
100000268378	62	MC	1043	0.30	0.46	30.20	13.81	52.06		3.93		-0.12	-0.01	
100000267485	63	MC	1043	0.38	0.48	10.07	37.68	48.32		3.93	-0.12		-0.07	
100000268380	64	MC	1043	0.43	0.50	27.52	43.43	25.12		3.93	0.03		-0.19	
100000267481	65	MC	1043	0.29	0.45	28.57	29.15	38.45		3.84		0.03	-0.03	
100000301339	66	MC	1043	0.47	0.50	18.22	47.17	30.68		3.93	-0.01		-0.07	
100000303033	67	MC	1043	0.59	0.49	20.13	16.87	59.16		3.84	-0.13	-0.17		

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2.

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.

**Table B.4. The 2010 Mod-MSA: Reading Grade 6, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213662	1	MC	975	0.69	0.46	10.36	14.26	6.77	68.51	0.10	-0.30	-0.17	-0.17	
100000213663	2	MC	975	0.76	0.43	7.69	6.26	76.10	9.85	0.10	-0.22	-0.13		-0.36
100000213664	3	MC	975	0.54	0.50	19.49	53.64	18.56	8.31		-0.22		0.00	-0.18
100000213665	4	MC	975	0.65	0.48	11.79	10.15	64.92	13.03	0.10	-0.17	-0.25		-0.18
100000213666	5	MC	975	0.57	0.50	10.15	56.72	13.33	19.79		-0.07		-0.05	-0.12
100000360201	6	MC	975	0.19	0.39	19.08	43.28	18.26	19.38			0.08	-0.27	0.04
100000213668	7	MC	975	0.68	0.47	18.46	6.87	68.21	6.36	0.10	-0.22	-0.09		-0.25
100000213669	8	MC	975	0.25	0.43	23.90	19.38	24.51	32.10	0.10	-0.01	-0.21		0.02
100000213670	9	MC	975	0.77	0.42	8.51	6.05	77.33	8.10		-0.18	-0.25		-0.13
100000213671	10	MC	975	0.52	0.50	23.90	52.10	12.21	11.79		-0.08		-0.20	-0.13
100000360202	11	MC	975	0.69	0.46	4.82	16.92	9.33	68.92		-0.12	-0.19	-0.24	
100000102192	12	MC	975	0.60	0.49	21.33	60.41	18.05		0.21	-0.36		-0.15	
100000102194	13	MC	975	0.54	0.50	53.64	26.15	20.21				-0.04	-0.22	
100000102191	14	MC	975	0.68	0.47	18.15	14.26	67.59			-0.27	-0.23		
100000102195	15	MC	975	0.61	0.49	7.18	61.03	31.69		0.10	-0.25		-0.13	
100000102196	16	MC	975	0.44	0.50	44.41	22.26	33.03		0.31		-0.13	-0.13	
100000102174	17	MC	975	0.51	0.50	15.59	33.23	51.18			-0.23	0.03		
100000102175	18	MC	975	0.33	0.47	53.54	33.44	13.03			-0.05		-0.14	
100000102173	19	MC	975	0.64	0.48	17.03	64.10	18.87			-0.19		-0.22	
100000102176	20	MC	975	0.43	0.50	43.49	27.18	29.23		0.10		-0.10	-0.19	
100000102178	21	MC	975	0.51	0.50	19.79	29.54	50.56		0.10	-0.02	-0.19		
100000269999	22	MC	975	0.86	0.34	8.51	86.26	4.92		0.31	-0.21		-0.32	
100000269997	23	MC	975	0.56	0.50	26.67	56.21	16.82		0.31	-0.12		-0.19	
100000270006	24	MC	975	0.71	0.45	71.08	10.15	18.36		0.41		-0.25	-0.27	
100000269998	25	MC	975	0.44	0.50	12.41	43.79	43.59		0.21	-0.17		-0.05	
100000270000	26	MC	975	0.69	0.46	17.03	68.51	14.15		0.31	-0.30		-0.13	
100000270005	27	MC	975	0.66	0.47	65.95	18.36	15.49		0.21		-0.21	-0.27	
100000270007	28	MC	975	0.45	0.50	44.82	20.10	34.67		0.41		-0.21	-0.08	
100000270016	29	MC	975	0.30	0.46	36.72	30.26	32.72		0.31	-0.02		-0.04	
100000270018	30	MC	975	0.45	0.50	25.95	28.41	45.23		0.41	-0.10	-0.03		
100000270021	31	MC	975	0.39	0.49	38.67	37.95	23.08		0.31		-0.01	-0.17	
100000270022	32	MC	975	0.47	0.50	23.69	29.13	46.77		0.41	-0.02	0.00		
100000270023	33	MC	975	0.41	0.49	24.21	40.62	34.87		0.31	-0.22		0.13	
100000270013	34	MC	975	0.41	0.49	20.31	40.51	38.87		0.31	-0.25		-0.02	
100000270020	35	MC	975	0.44	0.50	43.69	32.41	23.59		0.31		-0.19	-0.12	
100000257087	36	MC	975	0.75	0.43	8.72	75.38	15.69		0.21	-0.21		-0.22	
100000257088	37	MC	975	0.58	0.49	13.74	58.46	27.49		0.31	-0.42		-0.11	
100000257113	38	MC	975	0.36	0.48	18.05	45.33	36.41		0.21	-0.04	-0.02		
100000257114	39	MC	975	0.42	0.49	20.72	36.82	41.95		0.51	-0.24	0.02		
100000257118	40	MC	975	0.67	0.47	66.77	19.49	13.44		0.31		-0.04	-0.37	



Table B.4. The 2010 Mod-MSA: Reading Grade 6, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000257119	41	MC	975	0.62	0.49	61.74	13.85	24.10		0.31		-0.35	-0.12	
100000257120	42	MC	975	0.42	0.49	42.15	26.36	31.28		0.21		-0.16	-0.03	
100000257102	43	MC	975	0.52	0.50	20.62	27.28	52.00		0.10	-0.33	-0.10		
100000257072	44	MC	975	0.34	0.47	33.54	29.64	36.72		0.10		-0.05	-0.03	
100000257103	45	MC	975	0.44	0.50	14.05	42.15	43.69		0.10	-0.21	0.00		
100000257104	46	MC	975	0.50	0.50	49.95	29.85	19.69		0.51		-0.08	-0.16	
100000257071	47	MC	975	0.59	0.49	21.03	58.97	19.90		0.10	-0.06		-0.29	
100000257100	48	MC	975	0.55	0.50	55.49	11.28	33.13		0.10		-0.22	-0.21	
100000257101	49	MC	975	0.30	0.46	30.26	34.77	34.87		0.10		-0.13	0.01	
100000102136	50	MC	975	0.70	0.46	19.38	69.64	10.87		0.10	-0.17		-0.21	
100000102137	51	MC	975	0.54	0.50	26.87	18.56	54.26		0.31	-0.05	-0.16		
100000102139	52	MC	975	0.60	0.49	60.10	18.15	21.54		0.21		-0.02	-0.07	
100000102140	53	MC	975	0.55	0.50	22.46	22.26	55.18		0.10	-0.02	-0.17		
100000257081	54	MC	975	0.74	0.44	73.85	12.72	13.33		0.10		-0.27	-0.18	
100000257110	55	MC	975	0.60	0.49	18.67	20.82	60.41		0.10	-0.22	-0.20		
100000257083	56	MC	975	0.46	0.50	8.41	46.05	39.59		5.95	-0.15		-0.10	
100000257106	57	MC	975	0.59	0.49	59.18	21.64	13.33		5.85		-0.16	-0.10	
100000257107	58	MC	975	0.39	0.49	39.08	23.90	31.18		5.85		-0.05	-0.03	
100000257109	59	MC	975	0.56	0.50	56.10	15.79	22.26		5.85		-0.20	-0.11	
100000257112	60	MC	975	0.83	0.38	5.74	82.56	5.85		5.85	-0.15		-0.21	

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.

**Table B.5. The 2010 Mod-MSA: Reading Grade 7, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213674	1	MC	1158	0.67	0.47	67.44	7.17	15.72	9.50	0.17		-0.13	-0.15	-0.36
100000213675	2	MC	1158	0.78	0.41	7.51	6.82	7.17	78.15	0.35	-0.36	-0.06	-0.10	
100000213676	3	MC	1158	0.35	0.48	34.97	10.62	28.58	25.22	0.60		-0.25	0.01	-0.08
100000360204	4	MC	1158	0.29	0.46	21.50	35.41	29.45	13.21	0.43	-0.14	0.08		-0.16
100000213678	5	MC	1158	0.74	0.44	11.57	74.01	5.70	8.20	0.52	-0.16		-0.13	-0.23
100000213679	6	MC	1158	0.68	0.46	17.36	68.48	4.66	8.81	0.69	-0.25		-0.18	-0.18
100000360205	7	MC	1158	0.35	0.48	35.15	11.31	33.42	19.17	0.95		-0.12	-0.09	-0.19
100000270578	8	MC	1158	0.62	0.48	30.31	62.26	7.08		0.35	-0.20		-0.14	
100000270572	9	MC	1158	0.52	0.50	25.65	22.02	51.90		0.43	0.03	-0.17		
100000270574	10	MC	1158	0.42	0.49	42.23	27.20	30.22		0.35		-0.23	-0.07	
100000322011	11	MC	1158	0.62	0.48	14.08	62.35	23.14		0.43	-0.20		-0.16	
100000270580	12	MC	1158	0.81	0.39	81.26	8.89	9.50		0.35		-0.32	-0.21	
100000270571	13	MC	1158	0.38	0.49	22.02	38.00	39.55		0.43	-0.02		-0.14	
100000270575	14	MC	1158	0.70	0.46	70.47	11.92	17.10		0.52		-0.26	-0.28	
100000270109	15	MC	1158	0.42	0.49	41.71	14.85	42.75		0.69		-0.13	-0.14	
100000270112	16	MC	1158	0.39	0.49	38.77	22.02	38.34		0.86		-0.21	0.08	
100000270113	17	MC	1158	0.52	0.50	26.86	20.29	52.25		0.60	0.00	-0.26		
100000270114	18	MC	1158	0.56	0.50	22.63	56.39	20.38		0.60	-0.11		-0.17	
100000270111	19	MC	1158	0.41	0.49	35.92	22.63	40.67		0.78	0.08	-0.06		
100000270107	20	MC	1158	0.34	0.47	33.77	31.26	34.28		0.69		-0.21	0.16	
100000270121	21	MC	1158	0.56	0.50	13.90	29.53	55.79		0.78	-0.11	-0.23		
100000102276	22	MC	1158	0.48	0.50	21.42	29.45	48.36		0.78	-0.06	-0.19		
100000102277	23	MC	1158	0.34	0.47	34.28	39.72	25.22		0.78		-0.09	-0.09	
100000102274	24	MC	1158	0.41	0.49	23.06	35.49	40.76		0.69	0.03	-0.13		
100000102278	25	MC	1158	0.46	0.50	28.07	46.46	24.78		0.69	0.00		-0.33	
100000102279	26	MC	1158	0.41	0.49	41.02	39.29	18.91		0.78		-0.07	-0.19	
100000102263	27	MC	1158	0.58	0.49	17.18	57.77	24.27		0.78	-0.25		-0.05	
100000102267	28	MC	1158	0.43	0.49	24.87	42.75	31.69		0.69	-0.10		0.03	
100000102268	29	MC	1158	0.50	0.50	50.43	13.73	35.15		0.69		-0.21	-0.20	
100000102269	30	MC	1158	0.42	0.49	41.97	20.64	36.53		0.86		-0.21	-0.02	
100000102266	31	MC	1158	0.33	0.47	32.73	44.30	22.02		0.95		-0.01	-0.13	
100000257181	32	MC	1158	0.65	0.48	12.87	21.85	64.94		0.35	-0.05	-0.11		
100000257182	33	MC	1158	0.79	0.41	78.93	9.76	11.05		0.26		-0.29	-0.14	
100000257216	34	MC	1158	0.69	0.46	68.57	16.41	14.68		0.35		-0.20	-0.23	
100000257218	35	MC	1158	0.76	0.43	14.68	76.08	8.81		0.43	-0.29		-0.20	
100000257219	36	MC	1158	0.47	0.50	8.55	43.96	47.06		0.43	-0.35	0.08		
100000257215	37	MC	1158	0.87	0.33	87.13	8.46	4.06		0.35		-0.16	-0.19	
100000257221	38	MC	1158	0.53	0.50	12.18	53.11	34.37		0.35	-0.12		-0.11	
100000102244	39	MC	1158	0.84	0.37	83.59	9.07	6.99		0.35		-0.33	-0.19	
100000102246	40	MC	1158	0.58	0.49	27.12	14.16	58.38		0.35	-0.07	-0.16		

Table B.5. The 2010 Mod-MSA: Reading Grade 7, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000102247	41	MC	1158	0.75	0.43	13.64	74.87	10.97		0.52	-0.34		-0.26	
100000102248	42	MC	1158	0.51	0.50	25.73	23.06	50.60		0.60	-0.15	0.00		
100000102245	43	MC	1158	0.80	0.40	79.88	10.02	9.33		0.78		-0.33	-0.09	
100000102218	44	MC	1158	0.50	0.50	20.98	28.07	50.09		0.86	-0.23	-0.16		
100000102220	45	MC	1158	0.58	0.49	58.12	22.54	18.57		0.78		-0.20	-0.24	
100000102221	46	MC	1158	0.47	0.50	47.32	27.81	24.09		0.78		-0.13	-0.26	
100000102222	47	MC	1158	0.61	0.49	13.21	60.62	25.65		0.52	-0.24		-0.12	
100000102217	48	MC	1158	0.63	0.48	10.54	25.91	63.04		0.52	-0.30	-0.03		
100000257202	49	MC	1158	0.84	0.37	6.74	83.85	8.98		0.43	-0.21		-0.17	
100000257769	50	MC	1158	0.53	0.50	29.02	53.20	17.27		0.52	0.02		-0.17	
100000257770	51	MC	1158	0.40	0.49	27.12	40.07	32.47		0.35	0.07		-0.20	
100000257773	52	MC	1158	0.73	0.45	72.80	13.56	13.30		0.35		-0.18	-0.29	
100000322795	53	MC	1158	0.52	0.50	24.53	22.80	52.07		0.60	-0.13	-0.10		
100000257767	54	MC	1158	0.66	0.48	65.63	18.05	15.98		0.35		-0.14	-0.17	
100000257772	55	MC	1158	0.51	0.50	20.21	28.76	50.52		0.52	-0.27	-0.13		

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2.

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.

**Table B.6. The 2010 Mod-MSA: Reading Grade 8, Distractor Distribution and Distractor-to- Total Correlation Analysis**

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000213683	1	MC	1268	0.83	0.38	5.76	2.05	9.07	82.97	0.16	-0.06	-0.14	-0.18	
100000213684	2	MC	1268	0.67	0.47	67.27	12.78	8.99	10.88	0.08		-0.12	-0.12	-0.09
100000360208	3	MC	1268	0.43	0.50	5.60	42.98	11.99	39.35	0.08	-0.05		-0.18	0.00
100000213686	4	MC	1268	0.50	0.50	50.39	8.75	20.98	19.72	0.16		-0.21	-0.09	-0.08
100000213687	5	MC	1268	0.60	0.49	11.67	60.25	11.20	16.72	0.16	-0.17		-0.19	0.00
100000213688	6	MC	1268	0.63	0.48	62.62	11.28	19.16	6.86	0.08		-0.16	-0.16	-0.14
100000360209	7	MC	1268	0.53	0.50	10.17	23.82	12.93	52.60	0.47	-0.04	-0.21	-0.08	
100000270136	8	MC	1268	0.44	0.50	36.44	44.32	18.77		0.47	-0.05		-0.07	
100000270132	9	MC	1268	0.80	0.40	5.99	13.72	79.97		0.32	-0.16	-0.18		
100000273591	10	MC	1268	0.55	0.50	23.26	55.13	21.29		0.32	-0.12		-0.21	
100000270131	11	MC	1268	0.38	0.49	35.09	38.49	26.10		0.32	-0.11		-0.11	
100000270135	12	MC	1268	0.52	0.50	30.91	52.44	16.32		0.32	-0.12		-0.15	
100000270137	13	MC	1268	0.57	0.49	20.58	21.77	57.41		0.24	-0.10	-0.10		
100000304610	14	MC	1268	0.37	0.48	30.05	32.81	36.83		0.32	-0.05	-0.11		
100000102331	15	MC	1268	0.86	0.35	5.76	8.04	85.73		0.47	-0.16	-0.19		
100000102329	16	MC	1268	0.56	0.50	29.10	56.07	14.51		0.32	0.05		-0.21	
100000102330	17	MC	1268	0.60	0.49	21.45	59.62	18.69		0.24	-0.14		-0.22	
100000102334	18	MC	1268	0.47	0.50	31.70	21.45	46.61		0.24	0.10	-0.17		
100000102335	19	MC	1268	0.85	0.36	3.94	10.80	84.62		0.63	-0.22	-0.18		
100000270154	20	MC	1268	0.40	0.49	28.47	40.06	31.31		0.16	0.13		-0.14	
100000270155	21	MC	1268	0.43	0.50	12.15	43.30	44.24		0.32	-0.20		0.16	
100000270158	22	MC	1268	0.50	0.50	10.25	39.43	49.92		0.39	-0.21	-0.09		
100000273597	23	MC	1268	0.70	0.46	10.17	70.11	19.40		0.32	-0.27		-0.14	
100000270163	24	MC	1268	0.50	0.50	29.73	50.00	19.79		0.47	-0.15		-0.11	
100000270159	25	MC	1268	0.77	0.42	7.10	15.69	76.97		0.24	-0.13	-0.31		
100000273595	26	MC	1268	0.40	0.49	40.22	41.09	18.14		0.55		0.03	-0.10	
100000102341	27	MC	1268	0.67	0.47	66.88	18.45	14.35		0.32		-0.22	-0.20	
100000102343	28	MC	1268	0.57	0.50	25.47	56.55	17.67		0.32	-0.07		-0.20	
100000102344	29	MC	1268	0.70	0.46	14.12	15.46	70.11		0.32	-0.21	-0.13		
100000102346	30	MC	1268	0.55	0.50	19.95	24.84	54.97		0.24	-0.17	-0.25		
100000102345	31	MC	1268	0.63	0.48	11.04	63.17	25.55		0.24	-0.25		-0.21	
100000257161	32	MC	1268	0.53	0.50	24.05	53.39	22.40		0.16	-0.03		-0.15	
100000302728	33	MC	1268	0.42	0.49	42.03	41.88	15.93		0.16		0.00	-0.13	
100000257787	34	MC	1268	0.37	0.48	29.42	37.46	32.97		0.16	0.07		-0.23	
100000257788	35	MC	1268	0.73	0.44	73.26	8.52	18.14		0.08		-0.22	-0.21	
100000257158	36	MC	1268	0.56	0.50	55.91	26.81	17.11		0.16		-0.21	-0.20	
100000257160	37	MC	1268	0.60	0.49	59.70	18.38	21.77		0.16		-0.19	-0.19	
100000257163	38	MC	1268	0.74	0.44	13.96	11.51	74.37		0.16	-0.16	-0.26		
100000102320	39	MC	1268	0.78	0.41	5.21	78.47	16.17		0.16	-0.18		-0.12	
100000102322	40	MC	1268	0.65	0.48	25.63	9.07	65.14		0.16	0.01	-0.23		

Table B.6. The 2010 Mod-MSA: Reading Grade 8, Distractor Distribution and Distractor-to-Total Correlation Analysis (Continued)

Item CID	Item Seq No.	Item Type	n-Count	Mean	SD	Distractor Distribution					Distractor/Total Correlation <sup>1</sup>			
						1	2	3	4	Omit	1	2	3	4
100000102323	41	MC	1268	0.51	0.50	50.63	20.58	28.71		0.08		-0.12	-0.04	
100000102324	42	MC	1268	0.62	0.49	61.59	27.92	10.25		0.24		-0.24	-0.26	
100000102321	43	MC	1268	0.76	0.42	8.83	76.50	14.51		0.16	-0.24		-0.17	
100000257139	44	MC	1268	0.31	0.46	42.98	31.07	25.79		0.16	-0.07		0.03	
100000257140	45	MC	1268	0.71	0.45	8.83	19.64	71.37		0.16	-0.09	-0.06		
100000257141	46	MC	1268	0.48	0.50	41.88	10.25	47.71		0.16	-0.10	-0.08		
100000257144	47	MC	1268	0.58	0.49	32.02	58.12	9.62		0.24	-0.17		-0.19	
100000257777	48	MC	1268	0.46	0.50	32.49	21.14	46.21		0.16	-0.03	-0.21		
100000302674	49	MC	1268	0.56	0.50	21.69	56.07	22.16		0.08	-0.10		-0.15	
100000302675	50	MC	1268	0.70	0.46	15.54	69.64	14.67		0.16	-0.22		-0.23	
100000102304	51	MC	1268	0.57	0.50	7.89	34.94	57.02		0.16	-0.18	-0.08		
100000102305	52	MC	1268	0.66	0.47	9.94	23.90	66.01		0.16	-0.16	-0.22		
100000102302	53	MC	1268	0.53	0.50	53.00	16.56	30.36		0.08		-0.12	-0.25	
100000102307	54	MC	1268	0.68	0.47	68.14	16.40	15.30		0.16		-0.25	-0.15	
100000102308	55	MC	1268	0.66	0.47	65.77	15.54	18.30		0.39		-0.21	-0.27	

Note: 1. Empty cell indicates the correct answer for the particular item. Point biserial (Item-to-Total Correlation) for the correct answer will be the same as the one shown in item analysis in Section 3.2.

2. Percent distribution by distractors may not add to 100 because of rounding

3. These analyses are based on the equating sample used with the exclusion criteria.