Instructions for Scoring MPQ Items from ESCS Data File

This document explains different scoring schemes for the 276-item Multidimensional Personality Questionnaire (MPQ), with a focus on MPQ data collected for the Eugene-Springfield Community Sample (ESCS) by researchers at the Oregon Research Institute (ORI). This data file is currently archived at the Harvard Dataverse as MPQ_items_scales.tab, https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/QGEBUB .

MPQ_items_scales.tab is based on an archived copy of the data held at the Oregon Research Institute. It contains both item responses and scale scores. It is designed to replace the separate files containing item responses and scale scores that were originally archived at the Harvard Dataverse because the original files appeared to contain problems. The central problem was that applying a scoring key to the items in the item response file did not generate the corresponding scores in the scale score file. Also, applying a scoring key to the items in the item response file generated scores that did not show expected levels of Cronbach alpha reliability. Study of these problems revealed the following issues.

First, the order of items in the version of the MPQ that was administered to the Eugene-Springfield Community Sample by researchers at ORI differed from the standard order of items in the published MPQ. The table below shows the difference in item order (reverse-scored item numbers appear in red font):

ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	ORI Item Order
M001	1	SP	M026	30	AB	M051	56	TR	M076	89	TR
M002	2	CO	M027	31	HA	M052	57	CO	M077	90	AB
M003	3	SR	M028	32	WB	M053	59	AG	M078	91	AL
M004	4	SC	M029	33	SP	M054	60	AB	M079	92	CO
M005	5	AB	M030	34	AC	M055	61	WB	M080	93	SP
M006	6	UV	M031	35	AG	M056	62	UV	M081	95	SR
M007	7	AG	M032	36	SR	M057	63	SP	M082	96	WB
M008	8	WB	M033	37	AB	M058	64	SR	M083	97	TR
M009	9	TR	M034	38	CO	M059	66	AL	M084	98	AC
M010	10	AC	M035	39	AL	M060	67	SC	M085	53	AB
M011	11	AL	M036	40	TR	M061	68	AB	M086	100	AG
M012	12	CO	M037	41	SC	M062	69	HA	M087	101	SC
M013	13	AB	M038	42	WB	M063	70	CO	M088	102	UV
M014	14	SR	M039	43	SP	M064	195	AC	M089	103	CO
M015	15	SP	M040	44	SR	M065	72	AG	M090	104	AL
M016	18	TR	M041	45	AB	M066	73	AB	M091	105	SP
M017	20	AG	M042	46	UV	M067	74	SR	M092	106	SR
M018	21	AB	M043	47	CO	M068	75	SC	M093	108	AB
M019	22	AC	M044	48	TR	M069	82	WB	M094	109	TR
M020	23	SP	M045	50	AC	M070	83	SP	M095	110	WB
M021	24	CO	M046	51	WB	M071	84	SR	M096	111	AC
M022	25	SR	M047	52	AL	M072	85	HA	M097	112	CO
M023	26	UV	M048	99	AB	M073	86	AG	M098	113	AG
M024	27	AL	M049	54	SP	M074	87	AC	M099	114	HA
M025	28	TR	M050	55	SC	M075	88	SC	M100	115	SP

ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale
M101	116	AB	M126	142	UV	M151	171	SR	M176	199	SP
M102	117	SR	M127	143	AG	M152	172	CO	M177	200	UV
M103	118	TR	M128	144	WB	M153	173	AB	M178	201	TR
M104	119	AL	M129	146	AL	M154	174	AL	M179	202	SC
M105	120	WB	M130	147	CO	M155	176	WB	M180	203	SR
M106	121	UV	M131	148	SP	M156	177	SC	M181	204	AC
M107	122	AC	M132	149	AB	M157	178	AC	M182	205	WB
M108	123	AB	M133	150	AC	M158	179	SP	M183	207	AL
M109	124	CO	M134	151	TR	M159	180	SR	M184	208	AB
M110	126	SC	M135	152	SC	M160	181	TR	M185	209	CO
M111	127	SR	M136	153	WB	M161	182	AB	M186	210	TR
M112	128	SP	M137	154	HA	M162	183	UV	M187	211	WB
M113	129	AG	M138	155	AG	M163	184	AG	M188	212	AG
M114	130	TR	M139	156	AB	M164	185	CO	M189	213	SP
M115	131	AB	M140	157	SP	M165	186	HA	M190	214	SR
M116	132	AL	M141	158	SR	M166	187	AL	M191	215	AB
M117	133	WB	M142	159	CO	M167	188	SP	M192	216	SC
M118	134	HA	M143	160	TR	M168	189	AB	M193	217	HA
M119	135	SP	M144	161	AL	M169	190	SC	M194	218	AL
M120	136	CO	M145	162	UV	M170	191	WB	M195	219	CO
M121	137	SC	M146	163	AC	M171	193	SR	M196	220	AC
M122	138	AC	M147	165	AB	M172	194	AC	M197	221	UV
M123	139	SR	M148	167	WB	M173	71	CO	M198	223	AB
M124	140	TR	M149	168	AG	M174	197	AB	M199	224	SP
M125	141	AB	M150	170	SP	M175	198	AG	M200	225	SR

ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale	ORI Item Order	Original Item Order	Scale
M201	226	AG	M226	253	SC	M251	16	SC
M202	227	WB	M227	254	AG	M252	17	WB
M203	229	SC	M228	255	SP	M253	58	HA
M204	230	AL	M229	257	AB	M254	49	HA
M205	231	AB	M230	258	SR	M255	107	HA
M206	232	AC	M231	259	AC	M256	94	HA
M207	233	TR	M232	260	AL	M257	19	HA
M208	234	CO	M233	261	WB	M258	76	HA
M209	235	WB	M234	262	TR	M259	206	HA
M210	236	SP	M235	263	UV	M260	228	HA
M211	238	AB	M236	264	SP	M261	237	HA
M212	239	AG	M237	265	AB	M262	256	HA
M213	240	TR	M238	266	CO	M263	267	HA
M214	241	SC	M239	268	SC	M264	276	HA
M215	242	UV	M240	269	SR	M265	145	HA
M216	243	CO	M241	270	AG	M266	125	HA
M217	244	SP	M242	271	AC	M267	196	HA
M218	245	AC	M243	272	WB	M268	175	HA
M219	246	AL	M244	273	AB	M269	166	HA
M220	247	HA	M245	274	AL	M270	65	TR
M221	248	SR	M246	275	TR	M271	169	TR
M222	249	AB	M247	79	CO	M272	192	TR
M223	250	WB	M248	80	UV	M273	222	TR
M224	251	CO	M249	81	AB	M274	29	SC
M225	252	TR	M250	77	AL	M275	78	TR
						M276	164	SC

The scoring key for the MPQ_items_scales.tab data file, listed below, refers to items in the order in which they were administered by ORI to the Eugene-Springfield Community Sample. Researchers who possess an official, published version of the MPQ items will have to use the table above to match items from the published version to the version administered by the Oregon Research Institute. Numbers next to the scale labels refer to the number of forward-scored (True response = 1 point) and reverse-scored (False response = 1 point) items in the scale. Reverse-scored items appear in red font.

Wellbeing (WB, 23 items) 22/1
m8, m28, m38, m46, m55, m69, m82, m95, m105, m117, m128, m136, m148, m155, m170, m182, m187, m202, m209, m223, m233, m243, m252

Social Potency (SP, 25 items) 17/8
m1, m15, m20, m29, m39, m49, m57, m70, m80, m91, m100, m112, m119, m131, m140, m150, m158, m167, m176, m189, m199, m210, m217, m228, m236

Achievement (AC, 20 items) 14/6
m10, m19, m30, m45, m64, m74, m84, m96, m107, m122, m133, m146, m157, m172, m181, m196, m206, m218, m231, m242

Social Closeness (SC, 21 items) 9/12
m4, m37, m50, m60, m68, m75, m87, m110, m121, m135, m156, m169, m179, m192, m203, m214, m226, m239, m251, m274, m276

Stress Reaction (SR, 23 items) 21/2
m3, m14, m22, m32, m40, m58, m67, m71, m81, m92, m102, m111, m123, m141, m151, m159, m171, m180, m190, m200, m221, m230, m240

Alienation (AL, 20 items) 18/2
m11, m24, m35, m47, m59, m78, m90, m104, m116, m129, m144, m154, m166, m183, m194, m204, m219, m232, m245, m250

Aggression (AG, 19 items) 16/3
m7, m17, m31, m53, m65, m73, m86, m98, m113, m127, m138, m149, m163, m175, m188, m201, m212, m227, m241

Control (CO, 24 items) 13/11
m2, m12, m21, m34, m43, m52, m63, m79, m89, m97, m109, m120, m130, m142, m152, m164, m173, m185, m195, m208, m216, m224, m238, m247

Harm Avoidance (HA, 26 items) 12/14
m27, m62, m72, m99, m118, m137, m165, m193, m220, m253, m254, m255, m256, m257, m258, m259, m260, m261, m262, m263, m264, m265, m266, m267, m268, m269

Traditionalism (TR, 27 items) 22/5
m9, m16, m25, m36, m44, m51, m76, m83, m94, m103, m114, m124, m134, m143, m160, m178, m186, m207, m213, m225, m234, m246, m270, m271, m272, m273, m275

Absorption (AB, 34 items) 34/0
m5, m13, m18, m26, m33, m41, m48, m54, m61, m66, m77, m85, m93, m101, m108, m115, m125, m132, m139, m147, m153, m161, m168, m174, m184, m191, m198, m205, m211, m222, m229, m237, m244, m24

Wellbeing Abbreviated (11 items)
m28, m38, m46, m55, m105, m148, m155, m170, m182, m209, m243

Stress Reaction Abbreviated (14 items)
m3, m14, m32, m40, m71, m81, m102, m111, m141, m171, m190, m221, m230, m240

Unlikely Virtues (14 items) **7/7**
m6, m23, m42, m56, m88, m106, m126, m145, m162, m177, m197, m215, m235, m248

Scoring Item Responses and Handling Missing Values

There are two response options for each item in the MPQ, (a) or (b). For most items, (a) and (b) refer to a True response or False response, respectively. For some items, (a) and (b) refer to two possible phrases following the item stem. In every case, (a)-responses to items are recorded in the data file as 1 and (b)-responses are recorded as 2. Missing responses in the data file are recorded as 1.5 .

The standard instructions for computing scale scores and handling missing values are somewhat complex, especially for the special validity scales. However, researchers at the Oregon Research Institute apparently used a simpler, but non-standard scoring procedures. For starters, the range of scale scores in the data file appear to be twice the value that they should be. For example, scores on the 23-item Wellbeing scale range from 23 through 46 instead of 0 through 23.

Furthermore, the scale scores in the MPQ_items_scales.tab data file computed at the Oregon Research Institute did not follow the standard instructions for handling missing values. Instead, it appears that ORI researchers recoded missing values with a half-point, .5. Replacing missing item responses with .5 produces scores that are very close to the scale scores divided by two for most respondents.

Why the scale scores in the file appear to be twice the value they should be is a question lost to history. It is also unclear why recoding missing values as half a point produces scores that correspond exactly to the scores divided by two for most respondents but differ by 1 or 2 points for a few respondents. We researchers have no choice but to accept these ambiguities and make our own decisions about whether to accept the scale scores in the file as is (and dividing the scores by 2) or applying a scoring key to the item responses, either recoding missing values as .5 or using the standard, but more complex prorating procedure described below.

Standard Scoring Procedure for the Content Scales

The items for each scale are scored, added, and prorated for missing responses. To score, items that are marked "true" [that is, option (a) was chosen, indicated by a "1" in the data file] receive a score of one, unless they are "false"-keyed in which case they receive a score of one when marked "false" [that is, option (b) was chosen, indicated by a "2" in the data file]. To prorate scores when responses are missing [indicated by a "1.5" in the data file], add the scored items of the scale, divide by the number of valid responses [that is, the total number of items on the scale minus the number of missing responses], and multiply the result by the total number of items on the scale.

Standard Scoring Procedure for the Validity Scales

TRIN

The following item pairs, when both are keyed "true" receive a score of 1. If an item is missing, the entire pair is considered missing. The "true" pair scores are then summed and prorated for missing item-pairs (score divided by number of valid item-pairs then multiplied by number of total possible pairs-14).

4	214
251	276
17	98
19	119
52	173
60	192
64	157
250	225
84	107
91	199
152	195
1548	150
181	196
189	210

The following item pairs, when both are keyed "false" receive a score of -1. If an item is missing, the entire pair is considered missing. The "false" pair scores are then summed and prorated for missing item-pairs (score divided by number of valid item-pairs then multiplied by number of total possible pairs-19).

1	39
4	214
14	180
251	276
17	98
19	119
274	203
34	43
47	166
50	179
53	175
68	135
92	223
95	128
266	118
120	130
122	242
167	236
189	216

The final TRIN score is calculated by adding the sums of the prorated "true" and "false" pair scores.

VRIN

Each item-pair is scored such that if the responses are in the indicated direction, the pair receives a score of 1. In dealing with missing values, the following rules apply:

Direction		Response		Pair Scoring Decision
Not Equal (NE)		Either item missing		Missing Pair
F	T	F	Missing	Missing Pair
F	T	T	Missing	0
F	T	Missing	T	Missing Pair
F	T	Missing	F	0

Items		Direction	
1	131	NE	
3	200	F	T
4	192	NE	
11	183	F	T
14	230	F	T
15	176	T	F
252	202	NE	
17	212	NE	
19	196	F	T
20	29	F	T
21	130	NE	
31	188	F	T
32	171	T	F
37	203	T	F
39	236	T	F
40	123	NE	
45	107	T	F
46	170	F	T
47	59	F	T
49	158	NE	
50	169	T	F
51	134	T	F
52	295	F	T
55	105	T	F
60	214	T	F
173	172	F	T
67	190	T	F
70	189	NE	
74	181	NE	
78	129	F	T
80	112	F	T
81	102	NE	
84	231	NE	
87	179	F	T
93	222	F	T
117	182	T	F
120	238	F	T
148	243	F	T
152	64	NE	

After each item-pair is scored, the scores are summed and prorated for missing item-pairs (score divided by the number of valid item pairs, multiplied by the total number of possible pairs-39).

Factor Scores

PEMAG = .987*WELL + .773*SOCPOT + 2.442*ACHIEVE -.301*SOCCLOS + .006*STRESS
+ .022*ALIEN -.001*AGGRESS + .008*CONTROL + .007*HARMAV + .007*TRAD -9.684.

PEMCO = 1.003*WELL + .788*SOCPOT -.322*ACHIEVE + 2.407*SOCCLOS + .065*STRESS
+ .192*ALIEN + .032*AGGRESS -.008*CONTROL -.007*HARMAV -.007*TRAD -5.541.

NEMAG = .011*WELL + .009*SOCPOT -.003*ACHIEVE + .026*SOCCLOS + 1.055*STRESS
-.821*ALIEN + 4.089*AGGRESS + .100*CONTROL + .092*HARMAV + .093*TRAD + 0.224.

NEMAL = .082*WELL + .065*SOCPOT + .022*ACHIEVE + .151*SOCCLOS + .873*STRESS
+ 3.826*ALIEN -.683*AGGRESS -.041*CONTROL -.038*HARMAV -.038*TRAD + 2.331.

PEM = 1.242*WELL + .975*SOCPOT + 1.311*ACHIEVE + 1.330*SOCCLOS + .122*STRESS
+ .369*ALIEN + .052*AGGRESS + .000*CONTROL + .000*HARMAV + .000*TRAD -27.258.

NEM = .129*WELL + .101*SOCPOT + .028*ACHIEVE + .243*SOCCLOS + 1.185*STRESS
+ 2.072*ALIEN + 1.890*AGGRESS + .065*CONTROL + .060*HARMAV + .060*TRAD -4.241.

CON = .000*WELL + .000*SOCPOT + .026*ACHIEVE -.025*SOCCLOS + .062*STRESS
-.159*ALIEN + .339*AGGRESS + 1.556*CONTROL + 1.430*HARMAV + 1.438*TRAD -21.589.