

CTT Assignment

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B.1 initial alpha() call

```
mt_rev <- read_excel("Bruce_CTT_data.xlsx", sheet = "Reverse Coded")
alpha(mt_rev)$total[1]
```

Warning in alpha(mt_rev): Some items were negatively correlated with the total scale and probably should be reversed.

To do this, run the function again with the 'check.keys=TRUE' option

Some items (Q1_EMPOW Q2_ADOL Q6_AVCM Q8_WHOURS Q10_SUMM Q12_STATUS Q14_FAMILY Q17_PPEERS Q19_NOACAD Q20_

probably should be reversed.

To do this, run the function again with the 'check.keys=TRUE' option

```
raw_alpha
0.3029083
```

B.2 alpha() call with “check.keys=TRUE”

```
alpha(mt_rev, check.keys=TRUE)$total[1]
```

Warning in alpha(mt_rev, check.keys = TRUE): Some items were negatively correlated with total scale and
This is indicated by a negative sign for the variable name.

```
raw_alpha
0.7293692
```

B.3 alpha() with original scores

This data set is the original data with no items that are reverse-coded.

```
mt_orig <- read_excel("Bruce_CTT_data.xlsx", sheet = "Transposed Responses")
alpha(mt_orig[,1:23])$total[1]
```

Some items (Q1_EMPOW Q2_ADOL Q13_NOADMIT) were negatively correlated with the total scale and probably should be reversed.

To do this, run the function again with the 'check.keys=TRUE' option

```
raw_alpha
0.7051619
```

```
alpha(mt_orig[,1:23], check.keys = TRUE)$total[1]
```

```
raw_alpha
0.7293692
```

C. First pass at eliminating items

```
keep <- c(1,3,4,6,8,10,11,12,14,15,16,17,18,20,21,23)
alpha(mt_orig[,keep])
```

Warning in alpha(mt_orig[, keep]): Some items were negatively correlated with the total scale and probably should be reversed.

To do this, run the function again with the 'check.keys=TRUE' option

Some items (Q1_EMPOW Q21_CUND) were negatively correlated with the total scale and probably should be reversed.

To do this, run the function again with the 'check.keys=TRUE' option

Reliability analysis

Call: alpha(x = mt_orig[, keep])

raw_alpha	std.alpha	G6(smc)	average_r	S/N	ase	mean	sd	median_r
0.72	0.69	0.78	0.12	2.2	0.043	2.8	0.32	0.097

lower	alpha	upper	95% confidence boundaries
0.64	0.72	0.8	

Reliability if an item is dropped:

	raw_alpha	std.alpha	G6(smc)	average_r	S/N	alpha	se	var.r	med.r
Q1_EMPOW	0.73	0.71	0.79	0.14	2.4	0.042	0.032	0.117	
Q3_SOCIETY	0.72	0.69	0.78	0.13	2.2	0.042	0.033	0.102	
Q4_SCHANGE	0.71	0.68	0.76	0.12	2.1	0.043	0.032	0.102	
Q6_AVCM	0.72	0.70	0.78	0.14	2.4	0.042	0.029	0.102	
Q8_WHOURS	0.68	0.65	0.75	0.11	1.9	0.049	0.030	0.095	

Q10_SUMM	0.71	0.68	0.76	0.12	2.1	0.045	0.029	0.095
Q11_HELP	0.72	0.69	0.76	0.13	2.2	0.043	0.032	0.099
Q12_STATUS	0.69	0.65	0.76	0.11	1.9	0.048	0.032	0.085
Q14_FAMLY	0.67	0.65	0.75	0.11	1.8	0.051	0.029	0.093
Q15_INEQL	0.71	0.68	0.75	0.12	2.1	0.043	0.030	0.093
Q16_INCOM	0.67	0.64	0.74	0.11	1.8	0.050	0.029	0.089
Q17_PPEERS	0.73	0.70	0.78	0.13	2.3	0.040	0.033	0.102
Q18_SJOB	0.69	0.66	0.74	0.12	2.0	0.047	0.028	0.099
Q20_FLEXR	0.71	0.67	0.77	0.12	2.1	0.045	0.033	0.093
Q21_CUND	0.73	0.70	0.77	0.13	2.3	0.041	0.029	0.102
Q23_STEAD	0.69	0.66	0.76	0.12	2.0	0.047	0.031	0.099

Item statistics

	n	raw.r	std.r	r.cor	r.drop	mean	sd
Q1_EMPOW	82	0.10	0.19	0.057	0.013	3.7	0.46
Q3_SOCIETY	82	0.20	0.31	0.218	0.118	3.8	0.47
Q4_SCHANGE	81	0.37	0.42	0.385	0.234	3.4	0.72
Q6_AVCM	79	0.25	0.21	0.127	0.118	1.3	0.62
Q8_WHOURS	81	0.64	0.60	0.576	0.530	2.7	0.88
Q10_SUMM	82	0.46	0.41	0.361	0.315	2.8	0.82
Q11_HELP	82	0.28	0.34	0.295	0.175	3.7	0.52
Q12_STATUS	81	0.58	0.59	0.544	0.482	2.2	0.82
Q14_FAMLY	81	0.68	0.63	0.618	0.564	2.3	0.94
Q15_INEQL	81	0.35	0.40	0.371	0.238	3.3	0.64
Q16_INCOM	80	0.68	0.66	0.665	0.589	2.3	0.81
Q17_PPEERS	81	0.32	0.27	0.175	0.145	2.4	0.96
Q18_SJOB	82	0.57	0.52	0.522	0.457	2.6	0.78
Q20_FLEXR	81	0.43	0.44	0.365	0.326	1.5	0.69
Q21_CUND	81	0.15	0.24	0.174	0.046	3.6	0.51
Q23_STEAD	79	0.56	0.54	0.496	0.439	2.8	0.77

Non missing response frequency for each item

	1	2	3	4	miss
Q1_EMPOW	0.00	0.00	0.29	0.71	0.00
Q3_SOCIETY	0.00	0.02	0.17	0.80	0.00
Q4_SCHANGE	0.02	0.06	0.36	0.56	0.01
Q6_AVCM	0.72	0.23	0.04	0.01	0.04
Q8_WHOURS	0.12	0.25	0.48	0.15	0.01
Q10_SUMM	0.09	0.20	0.55	0.17	0.00
Q11_HELP	0.00	0.02	0.27	0.71	0.00
Q12_STATUS	0.19	0.48	0.27	0.06	0.01
Q14_FAMLY	0.21	0.36	0.32	0.11	0.01
Q15_INEQL	0.00	0.09	0.48	0.43	0.01
Q16_INCOM	0.20	0.34	0.44	0.03	0.02
Q17_PPEERS	0.23	0.19	0.48	0.10	0.01
Q18_SJOB	0.11	0.26	0.56	0.07	0.00
Q20_FLEXR	0.60	0.33	0.04	0.02	0.01
Q21_CUND	0.00	0.01	0.36	0.63	0.01
Q23_STEAD	0.06	0.25	0.54	0.14	0.04