

Appendix 1

The Chinese EPOCH Measure

Item	English Item	Chinese Item
C1	When something good happens to me, I have people who I like to share the good news with.	当有好事发生在我身上的时候，我有喜欢的人可以去分享
P1	I finish whatever I begin.	只要开始做一件事情，我就会完成它
O1	I am optimistic about my future	我对自己的未来充满乐观
H1	I feel happy.	我很快乐
E1	When I do an activity, I enjoy it so much that I lose track of time.	当我做一项活动的时候，我非常乐在其中以至于忘了时间
H2	I have a lot of fun.	我有很多的欢乐
E2	I get completely absorbed in what I am doing.	我会全神贯注于我正在做的事
H3	I love life.	我热爱生活
P2	I keep at my schoolwork until I am done with it.	我会一直坚持做作业直到完成为止
C2	When I have a problem, I have someone who will be there for me.	当我遇到问题时，总有人支持我
E3	I get so involved in activities that I forget about everything else.	我会专心致志地投入到当前活动以至于忘记了其他事情
E4	When I am learning something new, I lose track of how much time has passed.	当我学习新东西时，我是那么地投入以至于忘记时间的流逝
O2	In uncertain times, I expect the best.	在不明确的情况下，我期待最好的结果
C3	There are people in my life who really care about me.	我的生命中有一些人真心地关心我
O3	I think good things are going to happen to me.	我相信好事会发生在我身上
C4	I have friends that I really care about.	我有我真正关心的朋友
P3	Once I make a plan to get something done, I stick to it.	一旦我计划了要做某事，我就会按计划进行
O4	I believe that things will work out, no matter how difficult they seem.	我相信事情总会好起来，不管它看起来有多困难
P4	I am a hard worker.	我是一个勤奋的人
H4	I am a cheerful person.	我是一个快乐的人

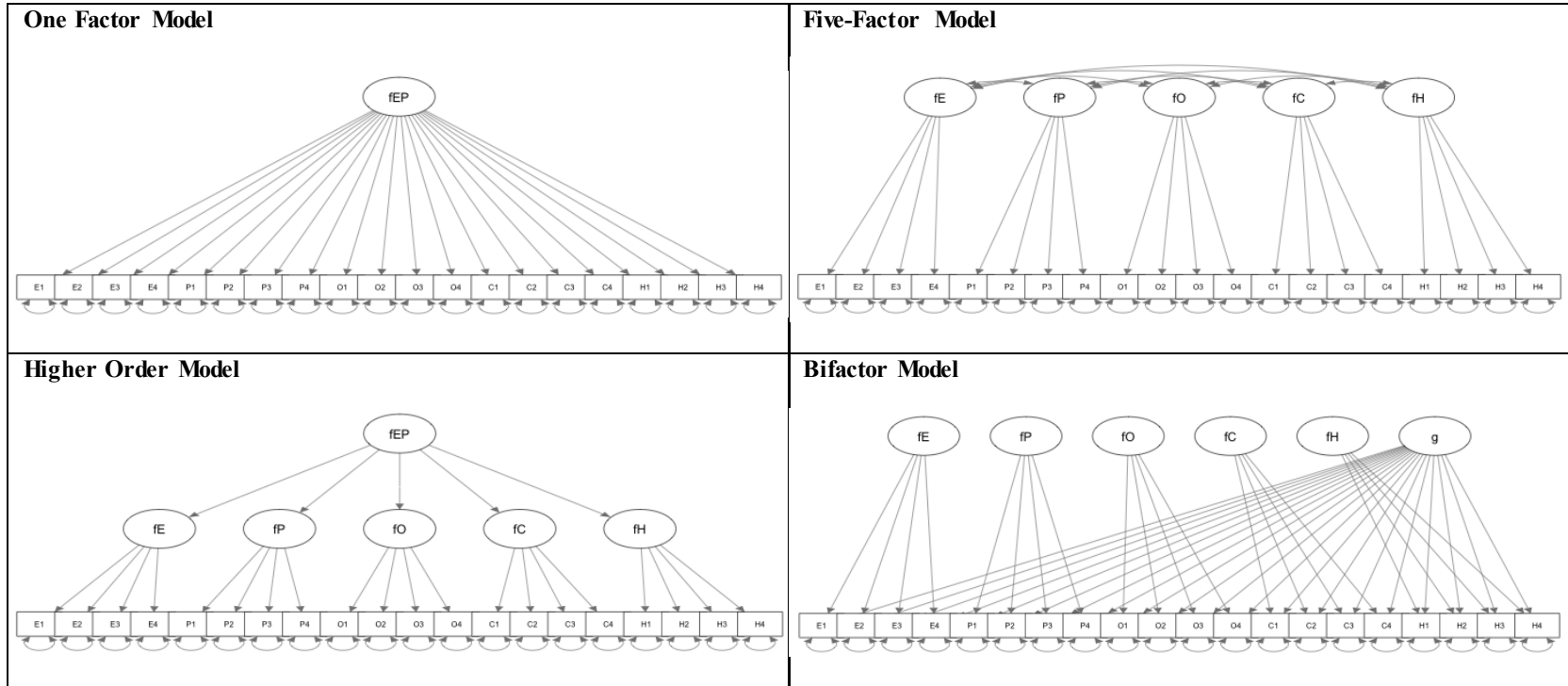
Items are on a 1-5 scale, labeled as:

- 1 = not at all like me (完全不像我)
- 2 = a little like me (不太像我)
- 3 = somewhat like me (有些像我)
- 4 = mostly like me (大部分像我)
- 5 = very much like me (非常像我)

Scores are computed for each domain as the average of the four items. Overall wellbeing is computed as average of the 20 items (or the average of the five domains).

Appendix 2

Models Tested in Analyses



Appendix 3

Item descriptives by culture and inter-item correlations for the Chinese sample

EPOCH item descriptives by culture

Variables	Chinese students					American students					Australian students				
	n	M	SD	Skew	Kurt	n	M	SD	Skew	Kurt	n	M	SD	Skew	Kurt
E1 When I do an activity, I enjoy it so much that I lose track of time.	3620	3.96	0.95	-0.67	0.01	2026	3.44	1.17	-0.18	-1.03	1050	3.48	1.07	-0.34	-0.61
E2 I get completely absorbed in what I am doing.	3620	3.99	0.89	-0.62	0.07	2024	3.35	1.10	-0.06	-0.93	1054	3.41	0.97	-0.37	-0.24
E3 I get so involved in activities that I forget about everything else.	3620	3.81	0.96	-0.48	-0.22	2032	3.01	1.19	0.17	-0.99	1050	3.06	1.01	0.02	-0.67
E4 When I am learning something new, I lose track of how much time has passed.	3620	3.75	0.96	-0.43	-0.15	2029	3.34	1.15	-0.20	-0.76	1046	3.10	0.99	-0.02	-0.38
P1 I finish whatever I begin.	3620	3.94	0.90	-0.53	-0.17	2032	3.37	1.07	-0.05	-0.87	1048	3.66	0.96	-0.51	-0.12
P2 I keep at my schoolwork until I am done with it.	3620	3.93	1.03	-0.74	-0.06	2025	3.29	1.22	-0.05	-1.09	1050	3.50	1.11	-0.38	-0.63
P3 Once I make a plan to get something done, I stick to it.	3620	3.75	0.97	-0.41	-0.36	2028	3.46	1.06	-0.25	-0.64	1041	3.48	1.00	-0.28	-0.47
P4 I am a hard worker.	3620	3.61	0.95	-0.28	-0.18	2028	3.94	1.04	-0.76	-0.14	1043	3.75	1.07	-0.59	-0.32
O1 I am optimistic about my future.	3620	4.19	0.94	-1.00	0.44	2011	3.81	1.17	-0.63	-0.66	1047	3.89	1.03	-0.87	0.32
O2 In uncertain times, I expect the best.	3620	4.08	1.00	-0.97	0.40	2028	3.11	1.20	-0.12	-0.83	1040	3.01	1.06	-0.10	-0.57
O3 I think good things are going to happen to me.	3620	3.85	1.04	-0.62	-0.20	2027	3.66	1.18	-0.53	-0.64	1040	3.68	1.04	-0.65	-0.07
O4 I believe that things will work out, no matter how difficult they seem.	3620	4.05	0.93	-0.76	0.08	2024	3.51	1.16	-0.32	-0.82	1046	3.44	1.09	-0.38	-0.49
C1 When something good happens to me, I have people to share the good news with.	3620	4.25	0.91	-1.27	1.53	2022	3.79	1.21	-0.61	-0.77	1052	4.09	1.03	-1.03	0.23
C2 When I have a problem, I have someone who will be there for me.	3620	3.88	0.98	-0.62	0.00	2024	3.90	1.19	-0.73	-0.62	1052	3.94	1.11	-0.88	-0.10
C3 There are people in my life who really care about me.	3620	4.36	0.87	-1.32	1.38	2022	3.74	1.31	-0.58	-0.97	1039	4.33	0.93	-1.50	1.93
C4 I have friends that I really care about.	3620	4.31	0.92	-1.38	1.61	2020	4.19	1.06	-1.19	0.50	1038	4.25	0.95	-1.32	1.43

Variables	Chinese students					American students					Australian students				
	n	M	SD	Skew	Kurt	n	M	SD	Skew	Kurt	n	M	SD	Skew	Kurt
H1 I feel happy.	3620	4.22	0.91	-1.02	0.54	2023	3.49	1.17	-0.28	-0.91	1048	3.80	1.03	-0.76	0.06
H2 I have a lot of fun.	3620	4.16	0.94	-0.97	0.52	2025	3.53	1.18	-0.32	-0.95	1053	3.90	0.96	-0.82	0.36
H3 I love life.	3620	4.28	0.85	-1.02	0.63	2029	3.70	1.26	-0.50	-1.00	1053	3.89	1.10	-0.84	-0.02
H4 I am a cheerful person	3620	4.23	0.92	-1.11	0.83	2027	3.64	1.16	-0.49	-0.64	1044	3.94	1.03	-0.90	0.34

Note. For each item and sample, minimum score was 1, maximum was 5. Kew = skewness, kurt = kurtosis.

Item inter-correlations for the Chinese sample

	E1	E2	E3	E4	P1	P2	P3	P4	O1	O2	O3	O4	C1	C2	C3	C4	H1	H2	H3	H4
E1		.39	.53	.45	.32	.28	.32	.30	.35	.30	.30	.34	.32	.33	.30	.29	.33	.36	.36	.35
E2	.36		.45	.48	.56	.47	.52	.45	.40	.29	.31	.42	.33	.37	.34	.34	.35	.37	.41	.37
E3	.52	.42		.49	.39	.32	.36	.35	.33	.29	.29	.36	.29	.34	.28	.30	.33	.34	.34	.34
E4	.44	.47	.48		.45	.38	.42	.43	.36	.27	.29	.40	.34	.37	.29	.32	.33	.34	.37	.33
P1	.30	.56	.37	.43		.51	.56	.49	.40	.28	.28	.45	.31	.36	.31	.32	.35	.36	.41	.36
P2	.26	.46	.30	.37	.50		.44	.43	.36	.29	.27	.35	.25	.31	.30	.28	.35	.34	.38	.34
P3	.30	.52	.34	.42	.56	.44		.47	.38	.26	.28	.40	.31	.36	.30	.30	.34	.34	.40	.35
P4	.28	.45	.34	.42	.49	.44	.47		.38	.24	.29	.40	.28	.37	.28	.28	.36	.36	.42	.37
O1	.33	.38	.32	.35	.39	.34	.37	.36		.39	.47	.52	.36	.44	.40	.38	.58	.57	.58	.58
O2	.26	.26	.27	.24	.26	.26	.24	.22	.37		.43	.36	.30	.31	.30	.26	.35	.35	.36	.36
O3	.27	.29	.27	.27	.27	.25	.27	.28	.47	.41		.42	.32	.38	.31	.29	.44	.45	.43	.45
O4	.32	.40	.33	.38	.44	.33	.40	.40	.51	.35	.42		.36	.42	.38	.36	.46	.47	.53	.47
C1	.30	.30	.27	.31	.28	.23	.29	.26	.33	.27	.30	.34		.43	.38	.44	.40	.42	.38	.41
C2	.32	.35	.31	.36	.34	.28	.36	.35	.44	.29	.37	.42	.43		.50	.48	.46	.49	.45	.48
C3	.28	.32	.26	.28	.30	.27	.29	.27	.42	.27	.31	.39	.36	.51		.49	.46	.47	.44	.47
C4	.27	.31	.28	.31	.30	.26	.29	.28	.37	.23	.28	.36	.44	.47	.47		.43	.45	.41	.43
H1	.33	.34	.32	.32	.35	.33	.33	.35	.59	.34	.45	.47	.39	.47	.48	.43		.73	.58	.76
H2	.36	.35	.33	.33	.35	.31	.33	.35	.57	.34	.45	.49	.41	.49	.49	.46	.74		.59	.73
H3	.35	.40	.33	.36	.40	.36	.40	.41	.58	.35	.43	.54	.38	.44	.46	.41	.59	.60		.60
H4	.34	.35	.32	.32	.35	.33	.34	.36	.58	.34	.45	.48	.40	.49	.49	.43	.77	.74	.61	

Note. Lower diagonal = Pearson correlations, upper diagonal = Spearman correlations

Appendix 4

Item factor loadings across the one-factor, five-factor, and higher order models in the Chinese sample, using robust maximum likelihood (ML) estimation and robust diagonally weighted least squares (DWLS) estimation.

	Robust ML estimation			Robust DWLS estimation		
	One factor	Five factor	Higher order	One factor	Five factor	Higher order
Engagement						
When I do an activity, I enjoy it so much that I lose track of time.	.48	.56	.61	.58	.69	.67
I get completely absorbed in what I am doing.	.52	.64	.59	.69	.80	.80
I get so involved in activities that I forget about everything else.	.48	.62	.65	.60	.69	.69
When I am learning something new, I lose track of how much time has passed.	.52	.67	.67	.64	.73	.73
Perseverance						
I finish whatever I begin.	.52	.68	.68	.69	.80	.80
I keep at my schoolwork until I am done with it.	.53	.66	.67	.60	.69	.69
Once I make a plan to get something done, I stick to it.	.54	.69	.69	.66	.75	.76
I am a hard worker.	.52	.63	.64	.63	.73	.73
Optimism						
I am optimistic about my future	.67	.71	.71	.76	.83	.83
In uncertain times, I expect the best.	.47	.51	.51	.53	.57	.57
I think good things are going to happen to me.	.59	.64	.64	.60	.66	.65
I believe that things will work out, no matter how difficult they seem.	.62	.64	.65	.71	.77	.77
Connectedness						
When something good happens to me, I have people who I like to share the good news with.	.48	.54	.54	.60	.69	.69
When I have a problem, I have someone who will be there for me.	.62	.71	.71	.68	.78	.78
There are people in my life who really care about me.	.53	.60	.59	.68	.77	.77
I have friends that I really care about.	.52	.61	.61	.65	.74	.74
Happiness						
I feel happy.	.70	.78	.78	.87	.90	.90
I have a lot of fun.	.73	.79	.79	.85	.89	.89
I love life.	.63	.62	.62	.79	.85	.85
I am a cheerful person	.72	.80	.80	.88	.91	.91

	Robust ML estimation			Robust DWLS estimation		
	One factor	Five factor	Higher order	One factor	Five factor	Higher order
Latent factor covariances						
Engagement ~ Perseverance		.85			.85	
Engagement ~ Optimism		.71			.73	
Engagement ~ Connectedness		.68			.70	
Engagement ~ Happiness		.60			.64	
Perseverance ~ Optimism		.71			.73	
Perseverance ~ Connectedness		.62			.66	
Perseverance ~ Happiness		.59			.65	
Optimism ~ Connectedness		.78			.80	
Optimism ~ Happiness		.87			.89	
Connectedness ~ Happiness		.79			.81	
Higher order factor loadings						
Engagement			.78			.84
Perseverance			.76			.83
Optimism			.95			.95
Connectedness			.86			.87
Happiness			.87			.88