The Chinese Challenge to the Big-5

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Introduction

- Study results from two stages of a long-term project in Asia and the West
- Rationale for the project
- Explain this stage of the research/procedure
- Present results
  - psychometric properties
  - concurrent & criterion-related validity
  - regression analyses of personality on performance
  - structural equivalence of 15FQ+ UK/Hong Kong

Current issues

- Dominance of US psychology & English language publications
- Chinese cultural revolution led to rejection of personality measurement
- Taught from within Western- dominated field – perpetuates
- To ensure completeness of psychology as a body of knowledge, essential to develop Chinese models

Indigenous personality?

- NEO apparently provides support for universal personality trait structure.
- CPAI: 'holds promise as an indigenous clinical assessment tool'
- Indigenous Chinese factors replicated in non-Chinese samples
- What are considered 'indigenous' constructs in Asia may inform the blind-spot in Western measures

Benefits

- Development of universal ways of communicating personality
- Validation of models of Chinese personality
- Performance prediction at work in China based on CHINESE results
- Addition of Chinese facets to WESTERN performance prediction

Research program

- Translation of 15FQ+ into Traditional Chinese
- Trialling of 15FQ+ with NEO
- Item analysis
- Editing of 15FQ+ Chinese based on item-analysis
- Administration of 15FQ+ Chinese with CPAI-2 to professionals from 4 Hong Kong organisations
- Collection of performance appraisal data from staff at 1 Hong Kong organisation
- Further analyses

NEO reliability – Chinese students

NEO-FFI Scale	Min	Max	Mean	SD	Alpha Reliability Hong Kong Student Sample (n=175)
N	2	41	25.54	7.80	.84
E	10	44	27.85	6.89	.81
O	14	46	26.99	5.33	.59
A	17	43	28.45	5.02	.64
C	15	48	30.96	6.37	.83

15FQ+ reliability – Chinese students

15FQ+ Factor	Min	Max	Mean	SD	Alpha Reliability Hong Kong Student Sample (n=175)
fA: Distant Aloof - Empathic	2.00	23.00	15.61	4.24	.64
ß: Low Intellectance - High Intellectance	0.00	24.00	13.68	5.29	.81
fC: Affected by Feelings - Emotionally Stable	0.00	24.00	13.97	4.73	.73
fE: Accommodating – Dominant	0.00	23.00	12.81	4.29	.66
fF: Sober Serious – Enthusiastic	0.00	24.00	10.43	4.69	.69
fG: Expedient - Conscientious	4.00	24.00	17.47	4.48	.78
fH: Retiring - Socially-bold	0.00	24.00	10.95	6.02	.82
fI: Hard-headed - Tender-minded	2.00	24.00	15.48	4.25	.66
fL: Trusting - Suspicious	0.00	22.00	9.10	4.25	.71
fM: Concrete - Abstract	0.00	20.00	9.42	4.01	.76
fN: Direct – Restrained	3.00	23.00	17.10	3.40	.57
fO: Confident - Self-doubting	0.00	24.00	14.78	4.95	.67
fQ1: Conventional - Radical	0.00	20.00	9.00	4.05	.66
fQ2: Group-oriented - Self-sufficient	0.00	23.00	10.52	5.09	.78
fQ3: Informal – Self-disciplined	2.00	24.00	17.54	3.62	.60
fQ4: Composed - Tense-driven	0.00	24.00	10.57	5.99	.80
Social-desirability	0.00	16.00	9.22	3.34	.57

Bivariate correlations 15FQ+/NEO Chinese students

NEO Scales	n	15FQ+ Global Factors & GPA Performance N	E	O	A	C	GPA	N
NEO N	175	.67**	-.25**	.07	.19*	-.13	-.19*	128
NEO E	175	-.39**	.73**	.24**	-.15*	-.01	.09	128
NEO O	175	.10	.18*	.52**	-.24**	-.01	-.12	128
NEO A	175	-.52**	.13	-.06	.37**	.15*	.11	128
NEO C	175	-.40**	.14	.06	-.23**	.52**	.43**	128
Performance								
GPA	131	-.13	-.04	-.15	.02	.36**		

** p<.01 (two-tailed) * p<.05 (two-tailed).

15FQ+ reliability – Hong Kong professionals & UK bureau

15FQ+ Factor	Alpha Reliability Hong Kong Professionals n = 437	Alpha Reliability UK Bureau Data n = 1378
fA: Distant Aloof - Empathic	.72	.72
ß: Low Intellectance - High Intellectance	.80	.77
fC: Affected by Feelings - Emotionally Stable	.76	.78
fE: Accommodating – Dominant	.67	.72
fF: Sober Serious – Enthusiastic	.72	.79
fG: Expedient - Conscientious	.72	.82
fH: Retiring - Socially-bold	.83	.82
fI: Hard-headed - Tender-minded	.64	.73
fL: Trusting - Suspicious	.68	.73
fM: Concrete - Abstract	.64	.70
fN: Direct – Restrained	.61	.78
fO: Confident - Self-doubting	.73	.81
fQ1: Conventional - Radical	.61	.76
fQ2: Group-oriented - Self-sufficient	.74	.74
fQ3: Informal – Self-disciplined	.61	.77
fQ4: Composed - Tense-driven	.83	.79
Social-desirability	.63	.71

CPAI-2 reliability – Hong Kong professionals

CPAI-2 Scale	Cronbach's Alpha Reliability: Hong Kong Professional Sample Current Study (n=437)	Cronbach's Alpha Reliability: Mainland China & Hong Kong Representative Sample Cheung et al (2004) (n=1,911)
Face (FAC)	.62	.59
Family Orientation (FAM)	.73	.66
Defensiveness (Ah-Q Mentality) (DEF)	.68	.69
Graciousness vs. Meanness (G-M)	.69	.66
Veraciousness vs. Slickness V-S	.62	.69
Traditionalism vs. Modernity T-M	.66	.65
Ren Qing (Relationship Orientation) REN	.40	.49
Harmony HAR	.63	.53
Thrift vs. Extravagance T-E	.46	.54

Regression – Overall Performance

		Overall N-W Performance			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	-.23*	-.21*	0.151	3.11**
	fH	-0.1	-0.09		
	fI	0.01	-0.01		
	fM	-.19*	-.19*		
	fN	.18*	.19*		
	fO	-.36**	-.35**		
	fQ1	0.06	0.03		
	fQ2	0.09	0.07		
2	FAC		-0.04	0.005	<1
	G-M		-0.06		
	T-E		-0.07		
Full model				0.156	2.31*

* p<.05, **p<.01

Regression – Customer Service

		Customer Service			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	-0.18	-0.19	0.26	3.61**
	fH	0.13	0.1		
	fI	-0.15	-0.14		
	fM	-0.1	-0.09		
	fN	.31**	.30**		
	fO	-.31*	-.31*		
	fQ1	-0.05	0.02		
	fQ2	.32**	.31*		
2	FAC		0.01	0.019	<1
	G-M		0.04		
	T-E		0.15		
Full model				0.279	2.79**

Regression – Managing Change

		Managing Change			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	-.57**	-.59**	0.336	2.72*
	fH	-0.24	-0.22		
	fI	-0.13	-0.14		
	fM	-0.01	0		
	fN	0.14	0.16		
	fO	-.77**	-.76**		
	fQ1	-0.27	-0.29		
	fQ2	-0.14	-0.12		
2	FAC		-0.02	0.002	<1
	G-M		0.06		
	T-E		-0.02		
Full model				0.339	1.86

Regression - Problem-solving

		Problem-solving			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	-0.16	-0.12	0.184	2.62*
	fH	-.33**	-.34**		
	fI	0.02	0.02		
	fM	-0.06	-0.05		
	fN	.28**	.30**		
	fO	-.29*	-0.29		
	fQ1	.21*	0.22		
	fQ2	-0.2	-0.24		
2	FAC		-0.05	0.008	<1
	G-M		-0.11		
	T-E		0.03		
Full model				0.192	1.94*

Regression - Planning & organising

		Planning & organising			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	-.29*	-0.19	0.267	3.97**
	fH	-.32**	-.36**		
	fI	0.15	0.17		
	fM	-0.06	-0.01		
	fN	.29**	.33**		
	fO	-.52**	-.63**		
	fQ1	0.18	.25*		
	fQ2	-0.11	-0.23		
2	FAC		0.05	0.064	2.67
	G-M		-.33*		
	T-E		0.02		
Full model				0.331	3.78**

Regression - Quality

		Quality			
		Beta Weights			
Step	Predictors	Step 1	Step 2	ΔR^2	F
1	fC	0.09	0.02	0.166	2.11*
	fH	-.27*	-.28*		
	fI	0.07	0.06		
	fM	0.07	0.05		
	fN	.23*	.20*		
	fO	-0.25	-0.23		
	fQ1	0.06	0.06		
	fQ2	0.08	0.16		
2	FAC		0.08	0.031	1.05
	G-M		0.23		
	T-E		-0.02		
Full model				0.197	1.82

Varimax-rotated PCA rotated to UK bureau data using Procrustes Rotation

	15FQ+ Global Factor (Nearest approximation)					
15FQ+ Primary Factor	C	N	A	E	O	Variable Congruence
fA: Distant Aloof - Empathic	.23	-.15	.16	**.44**	**.58**	.98
ß: Low Intellectance - High Intellectance	.02	-.31	**.72**	.15	.14	.95
fC: Affected by Feelings - Emotionally Stable	.05	**-.78**	.23	.16	-.16	.99
fE: Accommodating – Dominant	.07	.12	**.66**	**.43**	-.03	.92
fF: Sober Serious – Enthusiastic	-.13	-.04	**.46**	**.62**	.10	.95
fG: Expedient - Conscientious	**.65**	-.11	.25	-.19	.18	.98
fH: Retiring - Socially-bold	.00	-.10	**.63**	**.50**	.15	.98
fI: Hard-headed - Tender-minded	-.12	-.01	-.12	.09	**.78**	.98
fL: Trusting - Suspicious	.18	**.48**	.13	**-.46**	-.23	.93
fM: Concrete - Abstract	-.28	.30	**.47**	-.15	**.47**	.95
fN: Direct – Restrained	**.57**	-.38	.01	-.05	.25	.95
fO: Confident - Self-doubting	.17	**.70**	-.24	-.06	.30	.96
fQ1: Conventional - Radical	**-.58**	.03	**.51**	-.08	.12	.99
fQ2: Group-oriented - Self-sufficient	-.03	.16	-.07	**-.80**	-.03	.99
fQ3: Informal – Self-disciplined	**.75**	.16	-.01	.13	.19	.95
fQ4: Composed - Tense-driven	-.06	**.81**	-.03	.08	-.04	.98
Factor/total congruence	.98	.99	.96	.94	.96	.96

Conclusions

- The FFM of personality has been shown to hold in a Chinese sample, providing further evidence of its universality
- A western-developed test, translated into Chinese was shown to have greater internal consistency and criterion-related validity on a Chinese sample than a Chinese test developed specifically on a Chinese sample
- Thus:
  - Need to exercise caution within the expectation that a test developed locally is superior
    - Western-developed tests can be both reliable and valid when used on a Chinese sample
    - a well-constructed test based on a well-researched model that has been adequately translated locally may be just as good a measure of the local experience as a locally developed test.

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Project website