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DESCRIPTION OF PERSONALITY TRAITS BY CHINESE ADJECTIVES: A TRIAL ON UNIVERSITY STUDENTS

Studies on personality-related Chinese adjectives suggest either a five-factor or seven-factor structure. In the current investigation, we selected a bigger adjective pool of personality-related adjectives, and tested them on the university students in Northern, Southern, Western and Eastern China. In Study 1, we administered the the self-rating scales of the 650 adjectives in 610 subjects. Five factors emerged clearly, and named as “Intelligent”, “Emotional”, “Conscientious”, “Unsocial” and “Agreeable”. We then selected 20 adjectives with highest target loadings for each factor to develop a short version of the self-report rating scales, the Chinese Adjective Descriptors of Personality (CADP). In study 2, we administered the 100-adjective CADP to 720 university students in the four areas of China. Again, five-factor structures were confirmed. Loadings of the individual adjectives on the target factor were satisfactory, and the internal alphas for each personality scale were high. Most CADP scales were intercorrelated. There were, however, no significant gender differences in regard to CADP scales. The five-factor structures found in our report were comparable to the Openness to Experiences (or Intellect), Neuroticism, Conscientiousness, Extraversion and Agreeableness found in other cultures. The normative data of the CADP is presented.

Key words: adjective descriptor, Chinese, five-factor model, personality, self-report of narratives

Introduction

Personality trait shows differences between individuals which can be measured through self- or peer-reported questionnaires (McCrae, 2004). Consistent evidence provides support that the normal personality has a five-factor structure (Goldberg & Rosolack, 1994; Costa & Widiger, 1994), one example of the model is the NEO-PI-R (Costa & McCrae, 1985). Cross-culture comparisons have indicated that the

emic-component contribution to personality is unique to a specific culture, while the etic-component can be found in all cultures (Church, 1987). However, whether the emic-component contribution results from biases in self-report measures (Poortinga *et al.*, 2002) is still under debate.

The five-factor model¹ measures structures referred to as: (1) Extraversion, Surgency, or Sociability, (2) Neuroticism, Affect, or Emotional Stability, (3) Agreeableness, Altruism, Love, or Compliance, (4) Conscientiousness, Orderliness, Industriousness, Energetic, or Active, and (5) Intellect, Openness to experience, Culture, or Capacity (Costa & Widiger, 1994; Saucier & Goldberg, 2001). The constructs of NEO-PI-R, for instance, have proven to be reproducible throughout 26 cultures around the world (Costa *et al.*, 2001).

Because all significant individual differences are embodied in language (De Raad, 2000; Saucier & Goldberg, 2001), the lexical approach has been used to measure personality, providing a short and original route to investigate traits (John *et al.*, 1988; Whitmore *et al.*, 2004). Although this approach has been frequently criticized on several grounds, it is argued that the study of personality structure via the lexical approach is an important area of research (Ashton & Lee, 2005; De Raad & Barelds, 2008). Personality-related adjectives are the most-frequently used descriptors. Consistently, the lexicon approach has demonstrated a five-factor model of personality in Dutch (Hofstee, 1977; De Raad, 1992; Muris *et al.*, 2005), English (Peabody, 1987), German (Angleitner *et al.*, 1990), Italian (Caprara & Perugini, 1994), Russian (Shmelyov & Pokhil'ko, 1993), Croatian (Mlacic & Ostendorf, 2005), Hong Kong Chinese, Japanese, and Filipino (Bond, 1979; Yang & Bond, 1990), Polish (Szarota, 1996) and other cultures.

Recently, a lexical-based six-factor model of personality has been proposed, five of which are very similar to the five-factor model, while the sixth, Honesty-Humility, also overlaps with Agreeableness (Ashton & Lee, 2007; Lee & Ashton, 2008). Moreover, the personality-related Chinese adjectives were again tried in China. Rudowicz and Yue (2002), using 60 adjectives relating to creativity, found five factors, namely Innovative or Dynamic, Intellectual abilities, Social style, Obedience or Social acceptance, Discipline or Dutifulness. D. Wang and colleagues (Wang & Cui, 2004), using carefully-selected 410 adjectives, found seven factors: Talents, Ways of Life, Extraversion, Kindness, Emotionality, Human Relations, and Behavioral Styles. Although different adjective pools employed in the two studies resulted in these discrepancies, after scrutinizing on the measurement entities, one could still argue that what they reported fit into the five-factor model. For example, we may hypothesize that the first factor covers Emotionality; the second covers Social style, and Extraversion; the third covers Discipline or Dutifulness, and Behavioral Styles; the fourth covers Obedience or Social acceptance, Kindness, and part of Human Relations; the fifth covers Intellectual abilities, Talents, and part of Ways of Life.

¹ In the sentence/statement based questionnaire such as NEO-PI-R, or in pictorial non-verbal questionnaire such as the five-factor nonverbal questionnaire (Paunonen *et al.*, 2001).

In the present investigation, we chose a bigger adjective pool from two Chinese dictionaries. Subjects employed were students from 29 provinces or cities, currently studying in universities located in the four areas of China. Our purposes were (1) to figure out whether there is an “emic” contribution to personality through Chinese adjectives, and (2) to select some adjectives with highest loadings on the target personality trait to form a short version of personality rating scales.

Study 1: Adjective Selection for self-report rating scales

Methods

Seven of us (two women and five men; three PhD or MD holders and three PhD candidates in psychology) served as judges. Two of us (SY and WH), selected more than 6000 personality adjectives from *The Modern Chinese Dictionary and Its Supplements* (Beijing, The Commercial Publishing House, 1998) and *A Chinese – English Dictionary, Revised Edition* (Beijing, Foreign Language Teaching and Research Press, 1995). All synonyms were aggregated, the awkward, less-frequently used or slang adjectives were dropped. The resulting 650 adjectives were considered exhaustive, since no new words could be added. Finally, these words were checked and approved by another three of us (WW, WC and DW).

Six hundred and ten university students (398 women, mean age 19.3 years with 1.1 SD, range 17-23 years; 202 men, mean age 19.6 years with 1.3 SD, range 17-25 years) were asked to rate themselves in referring to the 650 adjectives. They were not paid for their cooperation. All subjects were free from somatic or psychiatric illnesses, they were studying in the Eastern (Hangzhou), Western (Taiyuan), Northern (Haerbin) and Southern (Haikou) parts of China, majoring in the Arts, Education, Foreign Languages, Mechanics, or Medicine.

They completed the ratings of themselves with reference to the 650 adjectives during evening classes or other quiet rooms, using the Likert type scales: 1 – very unlike me, 2 – moderately unlike me, 3 – somewhat like and unlike me, 4 – moderately like me, 5 – very like me.

Statistics

The rating answers to the 650 adjectives by 610 subjects were submitted to Principal Component Analysis. The factor loadings were rotated orthogonally using the vaximax normalized method.

Results

Altogether 20 factors were extracted with eigenvalues larger than 1.0, the first five being most prominent. There was clearly a level-off from the sixth factor on. The first five factors accounted for 31.31% of the total variance. From the sixth factor

Table 1. Factor analysis results of the personality-related 650 Chinese adjectives

Factor	Eigenvalue	Explained variance
I (Intelligent)	42.40	28.94
II (Emotional)	20.37	20.72
III (Conscientious)	14.21	20.50
IV (Unsocial)	10.04	12.54
V (Agreeable)	6.90	11.22

on, no one can account for more than 1.78% of the total variance. Table 1 presents the eigenvalues and the variance explained by the factors. A five-factor solution was therefore performed. The five factors were consecutively named as “Intelligent”, “Emotional”, “Conscientious”, “Unsocial” and “Agreeable”.

After the varimax normalized rotation, the top 20 adjectives with highest loadings on the target factor and cross-loading below 0.40 on other non-target factors were obtained (Table 2). Altogether 100 adjectives were selected to form a short version of rating scales, called the Chinese Adjective Descriptors of Personality (CADP).

Table 2. Top 20 highest loading adjectives

Chinese	English Translation	Loading
I. Intelligent		
有才能的	competent	0.72
学识渊博的	knowledgeable	0.72
才思敏捷的	creative in writing	0.72
天赋高的	naturally gifted	0.71
才智出众的	outstanding in wisdom	0.71
多才多艺的	versatile	0.71
有才智的	endowed	0.71
才华横溢的	full of talents	0.70
有才干的	talented or capable	0.70
有才华的	artistically gifted	0.69
有文才的	literary-talented	0.69
有才略的	sagacious	0.68
有才气的	artistically talented	0.68
博学的	erudite	0.68

智慧的	bright	0.68
有才识的	insightful	0.67
文思敏捷的	good at writing	0.67
智力高的	highly intelligent	0.67
足智多谋的	wise and resourceful	0.66
敏感的	sensible	0.66

II. Emotional

性子躁的	hot-tempered	0.64
暴躁的	irascible	0.64
脾气大的	temperamental	0.60
烈性的	explosive	0.59
爱发脾气的	stormy	0.59
急躁的	fidgety	0.58
性急的	impatient	0.57
冲动的	impulsive	0.57
莽撞的	foolhardy	0.56
脾气坏的	quick-tempered	0.56
急性子的	impetuous	0.55
易怒的	irritable	0.55
火暴的	fierce	0.54
毛躁的	hasty	0.53
牛脾气的	bullheaded	0.52
直性子的	straightforward	0.52
快人快语的	straight-talking	0.51
马虎的	careless	0.49
多言的	garrulous	0.49
心直口快的	outspoken	0.46

III. Conscientious

脚踏实地的	down-to-earth	0.63
有毅力的	of willpower	0.62
坚韧不拔的	firm and dauntless	0.61
意志坚定的	determined	0.61
勤劳的	diligent	0.60
耐劳的	able to endure heavy work	0.59
坚毅的	resolute	0.59
吃苦耐劳的	able to endure hardships	0.58
刚毅的	firm	0.57

勤俭的	thrifty	0.56
持之以恒的	tireless	0.56
顽强的	steadfast	0.56
不屈不挠的	tenacious	0.540.
孜孜不倦的	assiduous	0.53
自强不息的	constantly effortful	0.51
有意志力的	having strong willpower	0.51
刚强的	strong-minded	0.49
有恒心的	persevering	0.49
严格的	strict	0.49
锲而不舍的	persistent	0.47

IV. Unsociable

孤僻的	unsociable and eccentric	0.64
思想迟钝的	obtuse	0.62
死板的	inflexible	0.62
蠢笨的	stupid and clumsy	0.61
愚笨的	foolish	0.60
呆板的	stiff and awkward	0.59
刻薄的	mean	0.59
孤傲的	aloof and arrogant	0.59
古板的	old-fashioned and inflexible	0.59
低能的	imbecile	0.59
愚蠢的	stupid	0.59
粗鲁的	rude	0.58
怯懦的	cowardly	0.58
无能的	incompetent	0.58
呆笨的	dull	0.57
苛刻的	overcritical	0.56
不中用的	useless	0.56
迟钝的	sluggish	0.56
清高的	aloof and overconfident	0.55
气量狭小的	narrow-minded	0.55

V. Agreeable

宽厚的	lenient	0.65
朴实的	plain and honest	0.64
忠厚的	honest and tolerant	0.63
心肠好的	kindhearted	0.62

和善的	amiable	0.62
淳朴的	naïve	0.62
忠诚的	loyal	0.62
忠实的	faithful	0.62
朴厚的	simple and lenient	0.61
温存的	attentive	0.54
忠顺的	loyal and obedient	0.54
心肠软的	softhearted	0.52
顺从的	obedient	0.51
柔顺的	docile	0.51
随顺的	casual and obliging	0.50
温顺的	meek and docile	0.47
脾气好的	good-natured	0.47
贤惠的	(of a woman) virtuous	0.46
文静的	gentle and quiet	0.46
温柔的	gentle and soft	0.45

Study 2: Test of Chinese Adjective Descriptors of Personality (CADP)

After CADP was developed, it was administered to the adult university students (older than 18 years) in the Eastern (Hangzhou), Western (Taiyuan), Northern (Haerbin) and Southern (Haikou) parts of China.

Subjects

Seven hundred and twenty university students (465 women, mean age 19.6 years with 1.1 SD, range 18-23 years; 255 men, mean age 19.9 years with 1.1 SD, range 18-23 years) were asked to rate themselves with reference to 100 adjectives. Again, they were not paid for their cooperation. All subjects were free from somatic or psychiatric illnesses; they were majoring in Arts, Education, Foreign Languages, Mechanics, Modern Medicine, or Traditional Chinese Medicine.

They completed the rating scales during evening classes or in other quiet rooms on-site, using the Likert type scales: 1 – very unlike me, 2 – moderately unlike me, 3 – somewhat like and unlike me, 4 – moderately like me, 5 – very like me.

Statistics

The rating answers to the 100 adjectives in 720 subjects were submitted to Principal Component Analysis. The factor loadings were rotated orthogonally using the varimax normalized methods. The internal reliability (Cronbach's alpha) of each scale was evaluated by the Reliability and Item Analysis. The gender differences

on the mean scores of individual scales were submitted to two-way ANOVA plus Duncan's multiple new range test. Pearson's rank correlation test was used to search for possible relations within the scale scores and between them and subject's age. A *P* value less than 0.05 was considered to be significant.

Results

Altogether 15 factors were extracted with eigenvalues larger than 1.0, the first five were most prominent, and with a clearly leveling-off from the sixth factor on. The first five factors accounted for 19.89, 9.66, 7.00, 5.48 and 4.18% of the total variance respectively (altogether 46.22%). From the sixth factor on, no one can account for more than 2% of the total variance. The loadings of each item on the five factors are shown in Table 3. Based on 20 items for each factor, the respective Cronbach's alphas were satisfactory.

Generally, loadings on the target factors were acceptable. The target loadings were positive, except for those on "Unsocial". There were, however, some cross-loadings higher than .30. For instances, one item (Rude) targeted at "Unsocial" was loaded .39 on "Emotional". Six items targeted at "Agreeable" (Honest and tolerant, 0.39; Naïve, 0.41; Simple and lenient, 0.41; Plain and honest, 0.47; Faithful, 0.42; Loyal, 0.41) were loaded highly on "Conscientious", one item (Kindhearted, 0.35) was loaded on "Unsocial" in an opposite way, and another item (Casual and obliging, -0.47) was also loaded on "Emotional" factor (Table 3).

Table 3. Individual adjective loadings on the five CADP factors

Chinese	English Translation	Factor				
		I α : 0.95	II α : 0.91	III α : 0.95	IV α : 0.91	V α : 0.89
才华横溢的	Full of talents	0.76	-0.03	0.10	0.03	-0.02
才思敏捷的	Creative in writing	0.75	-0.01	0.15	0.17	0.00
有才能的	Competent	0.75	-0.01	0.18	0.22	0.04
学识渊博的	Knowledgeable	0.74	-0.03	0.15	0.05	0.01
有才华的	Artistically gifted	0.73	-0.02	0.16	0.02	0.07
有才智的	Endowed	0.73	0.00	0.18	0.21	0.05
天赋高的	Naturally gifted	0.73	0.04	0.06	0.03	0.00
才智出众的	Outstanding in wisdom	0.73	0.01	0.20	0.06	-0.03
有文才的	Literary-talented	0.72	-0.10	0.12	0.04	0.08
有才干的	Talented or capable	0.71	0.01	0.18	0.04	0.08
有才气的	Artistically talented	0.71	0.05	0.19	0.15	0.04
有才识的	Insightful	0.70	-0.06	0.22	0.14	0.05
智力高的	Highly intelligent	0.69	0.02	0.17	0.19	0.00

多才多艺的	Versatile	0.69	0.00	0.04	0.04	0.00
博学的	Erudite	0.69	-0.09	0.15	0.00	0.03
有才略的	Sagacious	0.68	-0.01	0.22	0.12	0.05
智慧的	Bright	0.67	-0.01	0.20	0.19	0.08
敏锐的	Sensible	0.66	-0.02	0.12	0.10	0.13
文思敏捷的	Good at writing	0.66	0.03	0.15	0.18	0.05
足智多谋的	Wise and resourceful	0.63	0.06	0.14	0.09	0.02
性子躁的	Hot-tempered	-0.07	0.74	-0.04	-0.21	-0.10
性急的	Impatient	-0.05	0.70	-0.09	-0.12	-0.08
急躁的	Fidgety	-0.05	0.69	-0.07	-0.09	-0.03
暴躁的	Irascible	-0.071	0.68	-0.01	-0.29	-0.20
易怒的	Irritable	0.00	0.67	-0.10	-0.15	-0.18
急性子的	Impetuous	-0.04	0.66	-0.01	0.07	-0.02
脾气大的	Temperamental	0.07	0.66	-0.04	-0.19	-0.19
爱发脾气的	Stormy	-0.02	0.65	-0.08	-0.23	-0.19
脾气坏的	Quick-tempered	-0.04	0.63	-0.06	-0.22	-0.26
烈性的	Explosive	0.06	0.60	0.07	-0.20	-0.07
冲动的	Impulsive	-0.08	0.60	-0.05	-0.14	0.05
火暴的	Fierce	-0.03	0.59	-0.09	-0.23	-0.23
牛脾气的	Bullheaded	0.00	0.58	-0.04	-0.24	-0.08
毛躁的	Hasty	-0.13	0.57	-0.15	-0.14	-0.05
莽撞的	Foolhardy	0.04	0.52	-0.19	-0.19	0.05
直性子的	Straightforward	0.00	0.51	0.08	0.18	0.04
心直口快的	Outspoken	0.19	0.51	0.05	0.25	0.16
快人快语的	Straight-talking	0.19	0.48	-0.02	0.15	0.10
马虎的	Careless	-0.10	0.38	-0.23	-0.12	0.03
多言的	Garrulous	0.17	0.31	-0.13	0.16	-0.01
坚忍不拔的	Firm and dauntless	0.31	-0.09	0.71	0.10	0.05
有毅力的	Of willpower	0.25	0.03	0.70	0.07	0.06
顽强的	Steadfast	0.20	-0.07	0.70	0.18	0.02
持之以恒的	Tireless	0.22	-0.24	0.69	0.05	0.03
意志坚定的	Determined	0.22	-0.08	0.69	0.17	0.01
锲而不舍的	Persistent	0.17	-0.13	0.68	0.03	0.00
有恒心的	Persevering	0.19	-0.11	0.68	0.00	0.00
有意志力的	Having strong willpower	0.23	-0.15	0.68	0.13	0.07
自强不息的	Constantly effortful	0.29	-0.05	0.68	0.13	0.04
不屈不挠的	Tenacious	0.24	-0.07	0.68	0.17	0.09
刚毅的	Firm	0.26	0.12	0.66	0.09	0.07
孜孜不倦的	Assiduous	0.19	-0.17	0.65	0.05	0.08

坚毅的	Resolute	0.25	-0.02	0.64	0.09	0.09
严格的	Strict	0.18	-0.01	0.62	0.00	0.08
吃苦耐劳的	Able to endure hardships	0.03	-0.05	0.60	0.04	0.17
脚踏实地的	Down-to-earth	0.01	-0.11	0.59	0.10	0.23
耐劳的	Able to endure heavy work	0.07	-0.09	0.55	0.12	0.22
勤劳的	Diligent	0.02	-0.08	0.55	0.15	0.26
勤俭的	Thrifty	-0.01	-0.14	0.53	0.02	0.15
刚强的	Strong-minded	0.27	0.15	0.53	0.09	0.11
蠢笨的	Stupid and clumsy	-0.17	0.07	-0.06	-0.71	-0.06
呆板的	Stiff and awkward	-0.11	0.06	-0.16	-0.68	0.05
愚笨的	Foolish	-0.15	0.04	-0.01	-0.67	-0.04
愚蠢的	Stupid	-0.19	0.05	-0.04	-0.67	0.00
思想迟钝的	Obtuse	-0.18	0.06	-0.06	-0.67	0.08
呆笨的	Dull	-0.17	0.08	-0.05	-0.65	0.00
低能的	Imbecile	-0.11	0.07	-0.05	-0.65	0.00
死板的	Inflexible	-0.19	0.10	-0.12	-0.65	0.05
无能的	Incompetent	-0.20	0.10	-0.03	-0.64	0.03
迟钝的	Sluggish	-0.22	0.03	-0.08	-0.63	0.05
不中用的	Useless	-0.15	0.06	-0.10	-0.61	0.02
怯懦的	Cowardly	-0.09	0.05	-0.20	-0.61	0.08
古板的	Old-fashioned and inflexible	-0.12	0.07	-0.12	-0.61	0.01
孤僻的	Unsociable and eccentric	-0.04	0.14	-0.04	-0.58	-0.01
刻薄的	Mean	0.04	0.21	-0.14	-0.53	-0.20
苛刻的	Overcritical	0.13	0.23	-0.15	-0.47	-0.16
气量狭小的	Narrow-minded	-0.12	0.21	-0.20	-0.46	-0.07
粗鲁的	Rude	0.01	0.39	-0.16	-0.42	-0.21
孤傲的	Aloof and arrogant	0.21	0.25	-0.08	-0.40	-0.17
清高的	Aloof and overconfident	0.29	0.20	0.00	-0.40	-0.11
温柔的	Gentle and soft	0.05	-0.24	0.03	-0.04	0.63
温顺的	Meek and docile	0.05	-0.22	0.01	-0.15	0.62
柔顺的	Docile	0.09	-0.13	0.10	-0.08	0.61
忠顺的	Loyal and obedient	0.06	-0.19	0.01	-0.11	0.61
心肠软的	Softhearted	-0.12	0.14	0.03	0.14	0.58
温存的	Attentive	0.14	-0.20	0.02	-0.06	0.57
和善的	Amiable	0.04	-0.11	0.16	0.25	0.57
宽厚的	Lenient	-0.04	-0.02	0.34	0.21	0.57
忠厚的	Honest and tolerant	-0.06	0.02	0.39	0.12	0.56
淳朴的	Naïve	-0.01	0.04	0.41	0.13	0.54
朴厚的	Simple and lenient	0.01	-0.02	0.41	0.14	0.53

心肠好的	Kindhearted	0.06	0.06	0.23	0.35	0.51
朴实的	Plain and honest	-0.03	-0.02	0.47	0.12	0.51
顺从的	Obedient	0.05	-0.01	-0.20	-0.36	0.50
忠实的	Faithful	0.05	0.10	0.42	0.22	0.50
忠诚的	Loyal	-0.01	0.10	0.41	0.21	0.50
贤惠的	(of a woman) Virtuous	0.10	-0.06	0.14	-0.02	0.49
随顺的	Casual and obliging	0.10	-0.47	0.06	0.05	0.48
脾气好的	Good-natured	0.06	0.02	-0.05	-0.21	0.48
文静的	Gentle and quiet	0.06	-0.23	0.19	-0.11	0.42
	Eigenvalue	19.89	9.66	7.00	5.48	4.18
	Explained Variance	11.59	8.43	10.55	8.90	6.75

Women and men scored similarly on the five scales (Table 4). The scales were significantly intercorrelated except that, between “Emotional” and “Agreeable”. “Conscientious” was correlated with “Intelligent” ($r = 0.45$) and with “Agreeable” ($r = 0.42$) in a moderate way (Table 5). When the five scales were treated as repeated measures, two-ANOVA did not detect any gender differences (main effect, $F(1,718) = 0.54$, $p = 0.46$). The subject’s age was significantly, but weakly, correlated with “Conscientious” ($n = 720$, $r = 0.13$, $p < 0.001$) only. No other meaningful correlations were found in the study.

Table 4. Scale scores (mean \pm SD) of the five CADP scales in two gender groups

	Intelligent	Emotional	Conscientious	Unsocial	Agreeable
Women	62.99 \pm 14.50	56.05 \pm 15.51	74.60 \pm 13.89	34.20 \pm 11.54	75.21 \pm 11.53
Men	66.04 \pm 14.20	53.76 \pm 13.81	75.81 \pm 12.96	36.53 \pm 12.75	72.67 \pm 11.51

Table 5. Intercorrelation of the CADP five scales

	Intelligent	Emotional	Conscientious	Unsocial
Emotional	-0.06			
Conscientious	0.45	0.22		
Unsocial	-0.28	0.37	-0.33	
Agreeable	0.16	-0.28	0.42	-0.16

Discussion

Through analyzing the 650 personality-related Chinese adjectives in Study 1, we have found clearly a five-factor model of personality traits, labeled as “Intelligent”, “Emotional”, “Conscientious”, “Unsocial” and “Agreeable”. In Study 2, using the 100-adjective CADP, the five-factor model was again confirmed. Most inter-scale correlations of CADP were significant, especially those between “Conscientious” and “Intelligent” or “Agreeable”. Our report, therefore, is in accordance with the adjective approach conducted in other languages. Moreover, we did not detect any gender differences on the five CADP scales, consistent with results of other researchers (Guenole & Chernyshenko, 2005; Gomez, 2006).

The first Chinese personality factor, named as “Intelligent”, representing the talented, competent, and creative features, corresponds partly to Openness to Experiences (Costa & McCrae, 1994), Intellectual Abilities (Rudowicz & Yue, 2002), and Capacity (Wang & Cui, 2004). In accordance with the suggestion that intelligence (or Openness to Experiences) is a trait dimension that affects nearly every aspect of the individual’s life (Costa & McCrae, 1994), subjects in our study had a tendency to evaluate intelligence to be an important aspect of personality (accounted for 19.89% of the total variance).

The second factor, “Emotional”, representing temperamental, straightforward, and impatient traits, corresponds partly to Neuroticism (Costa & McCrae, 1994) or Emotionality (Wang & Cui, 2004). Although Chinese people were once considered as more emotionally reserved (Song, 1985), subjects in our study still thought that the emotional aspect contributed to personality. This phenomenon is in accordance with the results using the questionnaires.

The third factor, “Conscientious”, representing diligent, steadfast, and persistent capacities, corresponds to Discipline or Dutifulness (Rudowicz & Yue, 2002), and Ways of Life (Wang & Cui, 2004). This is in line with modern personality theory, that human potential and will are an important outgrowth of the human trait (Averill, 1997). In the Chinese tradition, both parents and teachers place much emphasis on nurturing self-discipline and responsibility in the young, and connected them with moral reality (Yang, 1990).

The fourth factor, “Unsocial”, representing stupid, dull or inflexible characters, corresponds partly to the negative poles of Extraversion (Costa & McCrae, 1994), Social Life (Rudowicz & Yue, 2002) or Extraversion (Wang & Cui, 2004). Chinese students recognized unsocial behaviors and avoided using them to describe themselves. Traditionally, the Chinese social system is rather rigid and defensive, and would discourage independence (Dunn *et al.*, 1988). Conversely, in the current transition period of Chinese society, when a peer is asked to evaluate a person, he or she would add an opinion of whether the person functions well in the social and cultural domains. But when compared

with adjectives in other cultures, we could see that “Unsocial” was not unique to the Chinese culture, therefore it cannot be viewed as an emic contribution to the Chinese personality.

The fifth factor, “Agreeable”, representing gentle, docile or obedient aspects, corresponds partly to Agreeableness (Costa & McCrae, 1994), Obedience or Social acceptance (Rudowicz & Yue, 2002), and Kindness in Human Relations (Wang & Cui 2004). When referring to virtue, both empathy and serenity are considered (Cawley et al., 2000). This is also the case in China, as obedience, quiet and patience are frequently emphasized in the primary schools (Song, 1985; Yang, 1990). Moreover, studies of Chinese organizational behavior reveal that employees are selected mostly on the basis of the applicants’ obedience to current employers (Redding & Wong, 1986; Cross & Markus, 1999). Nowadays in China, job-seeking behavior, and the problems frequently encountered, would feedback the cognition of self-training, consequently the personality trait construction.

Although traits distinguish one individual from another, many of them work together when a person is facing challenges (McCrae and Costa, 1996). In a Chinese family and in society, people also think this way, since self-discipline, motivation, obedience, and social adaptation are always emphasized and linked together, these qualities are important to evaluate a person’s capacity or professional success (Song, 1985; Yang, 1990). This helps to explain why “Conscientious” was moderately correlated with “Intelligent” and “Agreeable” found in our study. For instance, seven out of 20 adjectives on “Agreeable” were loaded highly on “Conscientious”.

In conclusion, the five-factor structures of personality in China were confirmed through the lexicon approach, and these basic structures were similar to the “etic” statement-questionnaire results. Since no personality trait was found unique, our study supports the idea that personality is independent of cultures (McCrae & Costa, 1997). Since the adjective checklist has been employed in the basic measure and in clinical researches (Loehlin et al., 1998; Craig & Olson, 2001), the short-version of CADP might also be tried in China. Furthermore, we might conduct a comparative study of CADP and questionnaires measuring disordered personality, to figure out when Chinese adjective descriptors are related to personality dysfunctions.

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References

- Angleitner, A., Ostendorf, F., & John, O.P. (1990). Towards a taxonomy of personality descriptors in German: A psycho-lexical study. *European Journal of Personality*, 4, 89-118.
- Ashton, M.C. & Lee, K. (2005). A defense of the lexical approach to the study of personality structure. *European Journal of Personality*, 19, 5-24.
- Ashton, M.C. & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, 11, 150-166.
- Avrill, J.R. (1997). The emotions: An integrative approach. In R. Hogan, J.A. Johnson, & S.R. Briggs (Eds.), *Handbook of personality psychology* (pp. 513-541). San Diego, CA Academic Press.
- Bond, M.H. (1979). Dimensions used in perceiving peers: cross-cultures comparisons of Hong Kong, Japanese, American and Filipino university students. *Internal Journal of Psychology*, 14, 47-56.
- Caprara, G.V. & Perugini, M. (1994). Personality described by adjectives: The generalizability of the Big Five to the Italian lexical context. *European Journal of Personality*, 8, 357-369.
- Cawley, M.J. III, Martin, J.E., & Johnson, J.A. (2000). A virtues approach to personality. *Personality and Individual Differences*, 28, 997-1013.
- Church, A. (1987). Personality in a non-Western culture: The Philippines. *Psychological Bulletin*, 102, 272-292.
- Costa, P.T., Jr. & McCrae, R.R. (1994). *NEO Personality Inventory-Revised (NEO-PI-R) manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P.T., Jr. & Widiger, T.A. (1994). *Personality disorder and the five-factor model of personality*. Washington, DC: American Psychological Association.
- Costa, P.T., Jr., Terracciano, A., & McCrae, R.R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology*, 81, 322-331.
- Craig, R.J. & Olson, R.E. (2001). Adjective descriptions of personality disorders: a convergent validity study of MCMI-III. *Journal of Personality Assessment*, 77, 259-271.
- Cross, S.E. & Markus, H.R. (1999). The cultural constitution of personality. In L. Pervin, O. John (Eds.), *Handbook of Personality*, vol. 2 (pp. 376-396). New York: Guilford.
- De Raad, B. (1992). The replicability of the big five personality dimensions in three word-classes of the Dutch language. *European Journal of Personality*, 6, 15-29.
- De Raad, B. (2000). The Big Five personality factors: The psycholexical approach to personality. Gottingen: Hogrefe and Huber.
- De Raad, B. & Barelids, D.P.H. (2008). A new taxonomy of Dutch personality traits based on a comprehensive and unrestricted list of descriptors. *Journal of Personality and Social Psychology*, 94, 347-364.

- Dunn, J.A., Zhang, X.Y., & Ripple, R.E. (1988). Comparative study of Chinese and American performance on divergent thinking tasks. *New Horizons*, 29, 7-20.
- Goldberg, L.R. & Rosolack, T.K. (1994). The Big-Five structure as an integrated framework: An empirical comparison with Eysenck's P-E-N model. In C.F. Halverson, G.A. Kohnstamm, & R.P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 7-35). New York: Erlbaum.
- Gomez, R. (2006). Gender invariance of the five-factor model of personality among adolescents: a mean and covariance structure analysis approach. *Personality and Individual Differences*, 41, 755-765.
- Guenole, N., & Chernyshenko, O.S. (2005). The stability of Goldberg's Big Five IPIP personality markers in New Zealand: a dimensionality, bias, and criterion validity. *New Zealand Journal of Psychology*, 34, 86-96.
- Hofstee, W.K.B. (1977). Preliminary steps in structuring the set of 1,204 Dutch personality-descriptive adjectives. *Heymans Bulletins, HB-77-302 IN*, University of Groningen.
- John, O.P., Angleitner, A., & Ostendorf, F. (1988). The lexical approach to personality: a historical review of trait taxonomic research. *European Journal of Personality*, 2, 171-203.
- Lee, K., and Ashton, M.C. (2008). The HEXACO personality factors in the indigenous personality lexicons of English and 11 other languages. *Journal of Personality*, 76, 1001-1054.
- Leohlin, J.C., McCrae, R.R., Costa, P.T., Jr., & John, O.P. (1998). Heritabilities of common and measure specific components of the Big Five personality factors. *Journal of Research in Personality*, 32, 431-453.
- McCrae, R.R. (2004). Human nature and culture: A trait perspective. *Journal of Research in Personality*, 38, 3-14.
- McCrae, R.R. & Costa, P.T. Jr. (1996). Toward a new generation of personality theories: theoretical contexts for the five-factor model. In S.Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 51-87). New York: Guilford.
- McCrae, R.R. & Costa, P.T. Jr. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509-516.
- Mlacic, B. & Ostendorf, F. (2005). Taxonomy and structure of Croatian personality-descriptive adjectives. *European Journal of Personality*, 19, 117-152.
- Muris, P., Meesters, C., & Diederens, R. (2005). Psychometric properties of the Dutch big five questionnaire for children in a Dutch sample of young adolescents. *Personality and Individual Differences*, 38, 1757-1769.
- Paunonen, S.V., Ashton, M.C., & Clark, D.N. (2001). Nonverbal assessment of the Big Five personality factors. *European Journal of Personality*, 15, 3-18.
- Peabody, D. (1987) Selecting representative trait adjectives. *Journal of Personality and Social Psychology*, 52, 59-71.

- Poortinga, Y.H., van de Vijver, F., & van Hemert, D.A. (2002). Cross-culture equivalence of the Big Five: A tentative interpretation of the evidence. In R.R. McCrae & J. Allik (Eds.), *The Five-Factor Model of personality across cultures* (pp. 273-294). New York: Kluwer Academic Plenum Publishers.
- Redding, G. & Wong, G.Y.Y. (1986). The psychology of Chinese organizational behavior. In M.H. Bond (Ed.), *The psychology of the Chinese people* (pp. 267-295). London: Oxford University Press.
- Rudowicz, E. & Yue, X. (2002). Compatibility of Chinese and creative personalities. *Creativity Research Journal*, 14, 387-394.
- Saucier, G. & Goldberg, L.R. (2001). Lexical studies of indigenous personality factors: premises, products, and prospects. *Journal of Personality*, 69, 847-879.
- Shmelyov, A.G. & Pokhil'ko, V.I. (1993). A taxonomy-oriented study of Russian personality-trait names. *European Journal of Personality*, 7, 1-17.
- Song, W. (1985). Analysis of results of MMPI of normal Chinese subjects. *Acta Psychologica Sinica*, 4, 346-355 (in Chinese).
- Szarota, P. (1996). Taxonomy of the Polish personality-descriptive adjectives of the highest frequency of use. *Polish Psychological Bulletin*, 27, 343-351.
- Wang, D. & Cui, H. (2004). Reliabilities and validities of the Chinese Personality Scale (QZPS). *Acta Psychologica Sinica*, 36, 347-358 (in Chinese).
- Whitmore, J.M., Shore, W.J., & Smith, P.H.(2004). Partial knowledge of word meanings: thematic and taxonomic representations. *Journal of Psycholinguistic Research*, 33, 137-164.
- Yang, K.S. (1990). Chinese personality and its change. In M.H. Bond (Ed.), *The psychology of the Chinese people* (pp. 106-170). Hong Kong: Oxford University Press.
- Yang, K.S. & Bond, M.H. (1990). Exploring implicit personality theories with indigenous or imported constructs: The Chinese case. *Journal of Personality and Social Psychology*, 58, 1087-1095.