Construct Validation of Chinese Youth Personality Dimensions: Correspondences between Chinese and Western Personality Dimensions

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The Chinese personality traits measured by Multidimensional Personality Inventory for Chinese Youth (MPICY) were validated in this study. To validate the dimensions of Chinese personality traits MPICY measured, two sets of etic and Western personality dimensions that were derived from different theoretical frameworks and measured by HEXACO-Personality Inventory 60 (HEXACO-60) and NEO Five-Factor Inventory (NEO-FFI) examined its convergent and discriminant validities. Two groups of participants were recruited from senior high school located at the rural and urban area of Taiwan: one group of participants consisted of 851 senior high school students who filled out MPICY and HEXACO-60, the other group of participants consisted of 611 senior high school students who filled out MPICY and NEO-FFI. To validate convergent and discriminant validities of MPICY, one of two foreign personality instruments (HEXACO-60 and NEO-FFI) and MPICY were correlated and analyzed in hierarchical factor analyses. We performed two correlation analyses and two kinds of hierarchical factor analyses with promax rotation. According the results of correlation analyses and factor analyses, three dimensions (extraversion, industriousness, and pessimism) of MPICY were nearly isomorphic with HEXACO and NEO-FFI extraversion, conscientiousness and HEXACO emotionality and NEO-FFI neuroticism. Although MPICY other-orientedness and HEXACO honesty-humility and MPICY and HEXACO agreeableness were highly correspondent respectively, MPICY other-orientedness and agreeableness and NEO-FFI agreeableness grouped together. Large-mindedness and competence (the dimensions of MPICY) and openness to experience (the dimension of HEXACO-60 and NEO-FFI) were separate dimensions not highly correlated with other dimensions. The meaning of Chinese personality traits and the relationships between Chinese personality traits and western personality traits were discussed.

Keywords: *HEXACO, NEO-FFI, Chinese personality, construct validation*

Background

One of the recurrent issues in the psycholexical approach to personality structure is the replicability of personality factors across different languages, instruments, and age and cultural groups. To identify indigenous personality constructs in a Chinese context, Yang (1999) used Chinese personality adjectives to identify seven personality factors: competence (vs. impotence), industriousness (vs. unindustriousness), other-orientedness (vs. self-centeredness), agreeableness (vs. disagreeableness), extraversion (vs. introversion), large-mindedness (vs. small-mindedness), and pessimism (vs. optimism). Findings from studies in Taiwan and mainland China have suggested that these Chinese Big Seven can be replicated across different instruments and age groups (e.g., Hsu et al., 2008; Wang & Cui, 2003).

Yang (2001) examined the correspondence between these Chinese personality dimensions and the American Big Five to explicate the cross-cultural generalizability of the American Big Five; they found that four Chinese personality dimensions (industriousness, agreeableness, extraversion, and pessimism) highly correlated with four dimensions of the American Big Five (conscientiousness,

agreeableness, extraversion, and neuroticism). However, the American Big Five did not cover three Chinese personality factors (competence, other-orientedness, and large-mindedness), and openness to experience in the American Big Five failed to significantly correlate with any of Chinese personality dimensions. These results suggest that the American Big Five is not a fully cross-culturally generalizable model. In other words, some Chinese personality dimensions are different from those found in Western personality models. To investigate this issue further, we compared a new instrument of Chinese personality dimensions to an extended six-factor Western personality model (HEXACO model) to validate the new personality instrument and to examine the cross-cultural generalizability of the Chinese and Western personality dimensions.

Based on the findings of Yang (1999) and Hsu et al. (2008) developed a new adolescents' personality inventory (Multidimensional Personality Inventory for Chinese Youth, MPICY), which used a complete sentence to express the meaning of each adjective in the Multidimensional Chinese Personality Inventory (MCPI). They found that the seven dimensions of the MPICY corresponded to their counterparts in the MCPI and that different rating types (rating self and others) of the seven dimensions of the MPICY were highly congruent in several groups of Taiwanese youths. These results imply that the seven Chinese personality dimensions may be replicated across different age groups and different personality measures. However, as the MPICY is a new personality instrument, further studies are necessary to validate it. In this study, two Western instruments for personality traits (NEO Five-Factor Inventory [NEO-FFI] and HEXACO-Personality Inventory 60 [HEXACO-60]) were used to examine the convergent and discriminant validities of the dimensions measured by the Chinese personality MPICY and its cross-cultural generalizability. Based on previous research findings and the content of these personality instruments, we made the following predictions.

(1) Industriousness, agreeableness, and extraversion in the MPICY are highly correlated with conscientiousness, agreeableness, and extraversion in the NEO-FFI

and the Revised HEXACO-Personality Inventory HEXACO-60, and pessimism in the MPICY is highly correlated with both NEO-FFI neuroticism and HEXACO emotionality.

(2) MPICY other-orientedness correlates with HEXACO honesty/humility.

(3) Competence and large-mindedness in the MPICY do not significantly correlate with any dimensions of the NEO-FFI or HEXACO-60.

(4) Openness to experience in the NEO-FFI and HEXACO-60 does not significantly correlate with any dimensions of the MPICY.

Method

The sample consisted of 851 adolescents recruited to complete the MPICY and HEXACO-60, and 611 adolescents recruited to fill the MPICY and NEO-FFI. The HEXACO-60 and NEO-FFI were used as criterion instruments.

Instruments

MPICY

This scale was developed by my research team to assess seven Chinese personality factors: competence, industriousness, other-orientedness, agreeableness, extraversion, large-mindedness, and pessimism. It consists of 98 statements derived from the personality adjectives used in the MCPI. The participants rated the statements on a 6-point Likert-type scale, anchored at strongly disagree, moderately disagree, disagree, agree, moderately agree, and strongly agree. The internal consistency coefficients were in the range of .66 to .90.

NEO-FFI

This scale was developed by Costa and McCrae (1992). It is a 60-item questionnaire that assesses five personality traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The participants responded to the statements on a 5-point Likert-type scale, anchored at strongly disagree, disagree, neutral, agree, and strongly agree. The

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internal consistency coefficients were in the range of .54 to .87.

HEXACO-60

The Revised HEXACO-Personality Inventory was developed by Lee and Ashton (2004). The HEXACO-60 is a 60-item version of this inventory used to assess six personality traits: honesty/humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. In contrast to the Big-Five model, this personality model is more generalizable and inclusive. The participants responded to the statements on a 5-point Likert-type scale, anchored at strongly disagree,

disagree, neutral, agree, and strongly agree. The internal consistency coefficients were in the range of .70 to .80.

Results

To examine the convergent and discriminant validities of the MPICY, we used correlation analysis and joint factor analysis. Correlations between the dimensions of the MPICY and of the HEXACO-60 and NEO-FFI are presented in Table 1. Extraversion and industriousness in the MPICY highly correlated with extraversion and conscientiousness in the HEXACO-60 and NEO-FFI, respectively. Agreeableness and pessimism in the MPICY highly correlated with agreeableness and neuroticism in

Table 1. **Correlations between the personality dimensions of the MPICY and the HEXACO-60 and NEO-FFI**

		MPICY						
		Extraversion	Industriousness	Pessimism	Other-orientedness	Competence	Agreeableness	Large-mindedness
HEXACO-60								
Humility/honesty	r	.13***	.23***	-.09**	.68***	.12***	.50***	.02
	r_p	.04	.10	.15***	.53***	.13***	.19***	.14**
Emotionality	r	.13***	.06	.49***	-.01	-.28***	-.12***	-.01
	r_p	.24***	.12***	.48***	.08*	-.34***	-.10**	-.06
Extraversion	r	.75***	.13***	-.52***	.09**	.55***	.22***	.30***
	r_p	.66***	.12***	-.53***	-.16***	.22***	.03	.11**
Agreeableness	r	.25***	.14***	-.31***	.51***	.22***	.69***	-.26***
	r_p	.05	.004	-.12**	.17***	-.04	.54***	-.35***
Conscientiousness	r	-.08*	.74***	-.09**	.25***	.19***	.09**	-.08*
	r_p	-.08*	.70***	-.10**	.08*	.08*	-.01	-.08
Openness to experience	r	.19***	.19***	-.05	.21***	.35***	.26***	.09*
	r_p	-.01	-.05	.09*	.03	.19***	.10**	-.03
NEO-FFI								
Neuroticism	r	-.34***	-.22***	.79***	-.25***	-.53***	-.28***	-.09*
	r_p	-.05	.03	.71***	-.02	-.29***	-.01	.10*
Extraversion	r	.82***	.12**	-.25***	.24***	.43***	.29***	.24***
	r_p	.75***	-.05	.01	-.06	-.01	.12**	.13**
Openness to experience	r	.27***	.13***	-.07	.28***	.37***	.21***	-.03
	r_p	.02	-.08	.04	.17***	.27***	.03	-.19***
Agreeableness	r	.36***	.31***	-.32***	.60***	.12**	.52***	-.30***
	r_p	.22***	.06	-.17***	.44***	-.14**	.34***	-.36***
Conscientiousness	r	.21***	.75***	-.29***	.33***	.56***	.25***	.09*
	r_p	-.04	.74***	-.04	.04	.38***	-.04	.08

Note. MPICY: Multidimensional Personality Inventory for Chinese Youth; HEXACO-60: HEXACO-Personality Inventory 60; NEO-FFI: NEO Five-Factor Inventory. r: Pearson's correlation coefficient; r_p: partial correlation.
*p < .05, **p < .01, ***p < .001.

the NEO-FFI, respectively. Agreeableness in the MPICY highly correlated with both agreeableness and honesty/ humility in the HEXACO-60, and pessimism in the MPICY highly correlated with both emotionality and extraversion in the HEXACO-60. Other-orientedness highly correlated with honesty/humility in the HEXACO-60 and agreeableness in the HEXACO-60 and NEO-FFI. Competence in the MPICY correlated highly with neuroticism and conscientiousness in the NEO-FFI and extraversion in the HEXACO-60. Finally, large-mindedness in the MPICY did not highly correlate with any of the Western personality dimensions, and openness to experience in the HEXACO-60 and NEO-FFI did not highly correlate with any Chinese personality dimensions.

To further validate the convergent and discriminant validities of the MPICY, we performed two hierarchical factor analyses with a principal axis analysis to extract factors; we used the promax rotation to rotate the factors extracted. In these analyses, all of the MPICY and HEXACO-60 items were included in the first analysis, and all of the MPICY and NEO-FFI items were included in the second analysis. Several interesting results were found. In the analysis comparing the MPICY and HEXACO-60 items, as theoretically predicted, the humility/honesty items of the HEXACO-60 and the other-orientedness items of the MPICY, the conscientiousness items of the HEXACO-60 and the industriousness items of the MPICY, and the agreeableness items of the HEXACO-60 and the MPICY were loaded on the same factors. Some of the emotionality and extraversion items of the HEXACO-60 and most of the pessimism items of the MPICY were loaded on the same factor, and other items of the emotionality and extraversion of the HEXACO-60 and most of the extraversion items of the MPICY were loaded on another factor. Finally, most of the large-mindedness and competence items of the MPICY and the openness to experience items of the HEXACO-60 were loaded on three separate single-dimensional factors.

The results of the hierarchical factor analysis of the items of the MPICY and NEO-FFI are somewhat similar to the results of the hierarchical factor analysis of the items of the MPICY and HEXACO-60. The theoretically predicted highly correlated dimensions of the MPICY and NEO-FFI loaded on three factors: NEO-FFI and MPICY extraversion on Factor 1, NEO-FFI Neuroticism and MPICY pessimism on Factor 2, and NEO-FFI conscientiousness and MPICY industriousness on Factor 3. The MPICY large-mindedness, competence, and other-orientedness and the NEO-FFI openness to experience dimensions loaded on individual factors. Unexpectedly, agreeableness in the MPICY and agreeableness in the NEO-FFI were not loaded on the same factor; furthermore, the items of the NEO-FFI agreeableness did not form a factor in this analysis.

Discussion

This study examined the convergent and discriminant validities and cross-cultural generalizability of the MPICY with the HEAXCO and NEO-FFI. The correlation and hierarchical factor analyses show, as predicted, that two dimensions of the MPICY (extraversion and industriousness) were nearly isomorphic with extraversion and conscientiousness in the HEXACO-60, and pessimism in the MPICY was nearly isomorphic with emotionality in the NEO-FFI and neuroticism in the HEXACO and NEO-FFI. The other-orientedness dimension of the MPICY was highly correlated with humility/honesty in the HEXACO-60. Despite some inconsistent results, the agreeableness dimensions of the MPICY, NEO-FFI, and HEXACO-60 were highly related. Finally, the large-mindedness and competence dimension of the MPICY and HEXACO-60 and the openness to experience dimension of NEO-FFI and HEXACO-60 were distinct dimensions that did not highly correlate with other dimensions.

These findings have two important implications. First, the combined results of the correlation and hierarchical factor analyses show that large-mindedness is a distinct Chinese dimension that does not have an equivalent dimension in most Western personality dimensions. A person with high levels of large-mindedness may argue with others because he/she cannot tolerate unfair or injustice events. Hsu (2008) found that large-mindedness was positively correlated with physical aggression in a sample of Taiwanese adolescences, but

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was not correlated with external problem behaviors. The fights or aggressive behaviors associated with this dimension could be the result of concern for social justice and rule-abiding behavior that makes people express their intolerance straightforwardly, even impulsively. At the conceptual level, Western personality models have no dimension similar to large-mindedness. This dimension and its possible psychological mechanism are worth exploring in future studies.

Second, as predicted, MPICY pessimism was highly related to NEO-FFI neuroticism and HEXACO emotionality in the correlation analyses. However, some of the items assessing HEXACO emotionality and extraversion and most of the items assessing MPICY pessimism were loaded on a single factor. The items that loaded on the same factor as MPICY pessimism were related to positive (happiness and self-satisfaction) and negative (sadness and depression) emotions and to negative self-evaluation (worthlessness and unpopularity). Combined with the items used to assess NEO-FFI neuroticism, MPICY pessimism items measured some aspects of negative emotions, like anger and hostility, although there were no items directly considering anger and hostility in this scale.

In conclusion, Yang (1999, 2001) developed an indigenous model of Chinese personality that considered some Chinese personality dimensions that were not covered in the American Big Five model. This seven-dimension Chinese personality structure was validated using a new personality instrument (MPICY) for Taiwanese youths in this study. The results supported Yang's finding that the American Big Five model is not a fully cross-culturally generalizable model; only five dimensions of the MPICY (extraversion, industriousness, other-orientedness, agreeableness, and pessimism) corresponded with personality dimensions in the American Big Five. This finding implies that the universality of established personality structures, especially the Big Five model, needs to be reconsidered. To appropriately understand Taiwanese or Chinese youth, researchers need to use indigenous personality inventories.