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A CHINESE LANGUAGE TRANSLATION OF THE INVENTORY OF
INTERPERSONAL PROBLEMS SHORT CIRCUMPLEX (IIP-SC)

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ABSTRACT

The Inventory of Interpersonal Problems – Short Circumplex (IIP-SC; Hopwood, Pincus, DeMoore, & Koonce, 2008) is a widely used self-report measure of subjective distress linked to chronic behavioral excesses and inhibitions in social relationships. The IIP-SC exhibits a validated circumplex structure reflecting the underlying dimensions of dominance-submissiveness (Agency) and warmth-coldness (Communion). For the current study, a native speaker translated the IIP-SC into Mandarin Chinese and this was back-translated by independent native speakers in an iterative process. Data was then collected in the People’s Republic of China. A sample of 401 Chinese university students completed the 32-item translated IIP-SC and the 541-item Chinese Personality Assessment Inventory (CPAI-2; Cheung, Cheung, & Leung, 2001). The CPAI-2 is a broad based measure of indigenous personality trait dimensions and symptoms consisting of 22 personality scales for assessing normal personality traits, 12 clinical scales for assessing personality characteristics associated with psychopathology, and 3 validity indexes. The circumplex structure of the Chinese IIP-SC is examined using Principle components analysis (PCA), a randomization test for hypothesized order relations (RANDALL), and a confirmatory circumplex analysis (CIRCUM). The validity of the Chinese IIP-SC is evaluated by examining its associations with the indigenous personality and psychopathology dimensions of the CPAI-2. A valid Chinese translation of the IIP-SC extends its use for clinical assessment to native Chinese speakers, who constitute one fifth of the world’s population.

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Chapter 1

Introduction

The Inventory of Interpersonal Problems-Short Circumplex (IIP-SC; Soldz, Budman, Demby, & Merry, 1995) is a widely used self-report measure of subjective distress linked to chronic behavioral excesses and inhibitions in social relationships. The IIP-SC is a short version of the Inventory of Interpersonal Problems – Circumplex (IIP-C; Alden, Wiggins, & Pincus, 1990), which is associated with interpersonal circumplex theory and circumplex structure (Wiggins, 1991). The circumplex model (Figure 1) is a two-dimensional circular space commonly divided into eight octants. A perfect circumplex represents a precise pattern of intercorrelations among scales measuring these octants. The interpersonal circumplex provides a comprehensive map of interpersonal themes based on the underlying dimensions of dominance and affiliation.

The IIP-SC shortened the IIP-C from 64 items to 32 items while retaining the same scale structure. The IIP-SC has eight 4-item scales, each assessing one octant of the interpersonal circumplex. The IIP-SC is a valuable clinical assessment instrument used broadly in English speaking countries in recent years (e.g., Hopwood, Pincus, DeMoor, & Koonce, 2008; Wright, Pincus, Hopwood, Thomas, Markon, & Krueger, 2012). There are also translations of IIP-SC in other languages such as Dutch (Vanheule, Desmet, & Rosseel, 2006) and Spanish (Salazar, Marti, Soriano, Beltran, & Adam, 2010) and its use in different cultures around the world is increasing. However, there is no successful

Chinese translation of IIP-SC completed to extend the use of interpersonal theory and the interpersonal circumplex in China.

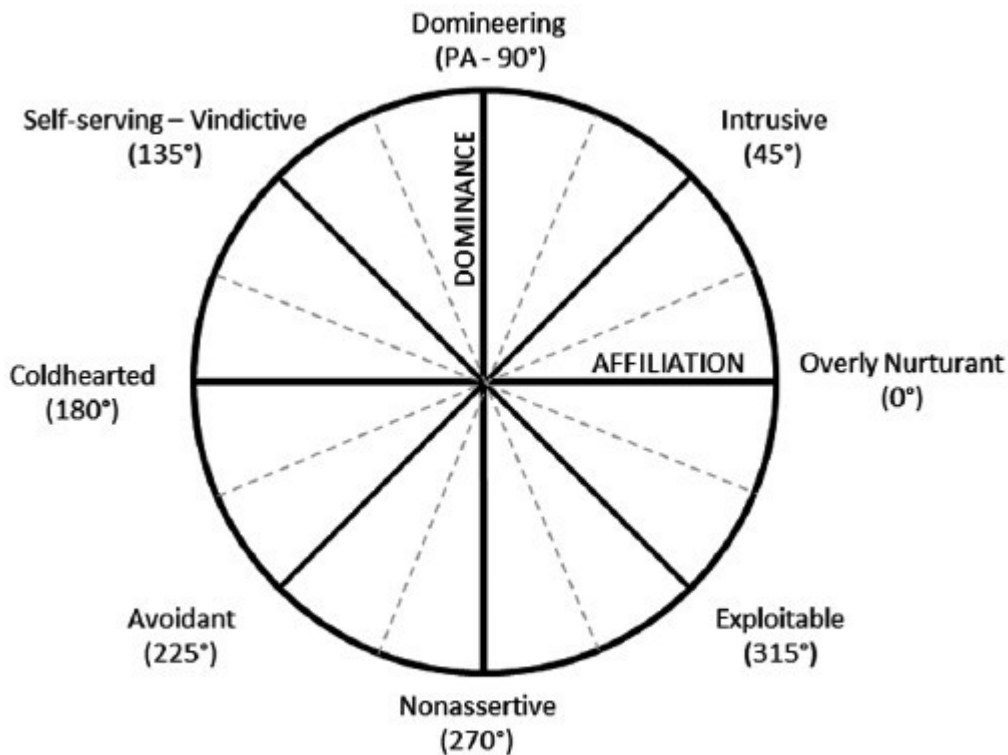


Figure 1. The interpersonal problems circumplex (Wright et al., 2012).

Extending studies of interpersonal problems in China is important for two big reasons: a collectivist culture and the country's one child policy. Unlike American culture, which is individualistic (focusing more on self achievement and individual benefit), Chinese culture is collectivist, encouraging people to focus more on sharing benefit and group success. Under the strong influence of Confucianism in history, Chinese people emphasize keeping harmony and peace while avoiding conflict (Chang, Arkin, Leong, Chan, & Leung, 2004). With this cultural norm, Chinese people highly value cooperation with others and helpfulness toward others. In Chinese society, people

with interpersonal problems who do not have good social skills might struggle to perform the social norm. Additionally, China's one-child policy, enforced since 1979, has greatly reduced the number of people in younger generations who grow up with siblings in their families (You, Leung, Lai, & Fu, 2012). The loneliness of childhood in China has created several severe problems in the society and one of the problems is a lack of social skills in interpersonal situations and relationships. The conflict between being a self-centered single child in a family and performing the social norm (emphasizing sharing and humbleness) causes more interpersonal problems for developing generations.

Due to the lack of assessment of interpersonal problems in the Chinese language, the main purpose of the current study is to create a reliable and valid Mandarin Chinese translation of IIP-SC and collect validity data in mainland China. Internal reliability of the Mandarin Chinese IIP-SC was computed by Cronbach's alpha. Principle Components Analysis (PCA), a randomization test of hypothesized order relations (RANDALL; Tracey, 1997), and a confirmatory circumplex analysis (CIRCUM; Browne, 1992) were used to examine the circumplex structure of the Chinese IIP-SC. Finally, external validity was evaluated by examining the associations between the IIP-SC and the Chinese Personality Assessment Inventory (CPAI-2; Cheung, Cheung, & Leung, 2001).

Chapter 2

Methods

Sample and Procedure

Participants in this study were 401 Chinese students from a university in northeast mainland China between 18 and 27 years old with a mean of 19.86 years old. Among these participants, 167 (41.65%) were male students and 234 (58.35%) were female students. All participants were born in China with Mandarin as their native language. Participants were randomly selected from volunteers at classrooms and completed questionnaires during class time with compensation. 90 minutes were provided for participants to complete consent form and two questionnaires in paper with research assistants in the same classroom. All the research materials and procedures were consented by the Office of Research Protection of the Pennsylvania State University.

Measures

The Inventory of Interpersonal Problems – Short Circumplex (IIP-SC; Soldz et al., 1995) is a 32-item measure of distress level associated with common interpersonal problems. All eight octants of interpersonal problems circumplex are fully covered by four item octant scales. Each item has a 5-point response option from 0 (not at all) to 4 (extremely) measuring the distress participants have when dealing with common interpersonal problems in relationships. These include behavioral inhibitions (i.e., “It’s hard for me to...”) and behavioral excesses (i.e., “I do... too much”). Higher scores reflect greater distress level associated with each common interpersonal problem.

Mandarin Chinese IIP-SC. The Mandarin Chinese version of the IIP-SC was translated from the English version by a bilingual undergraduate Chinese student majoring in psychology. The Mandarin Chinese IIP-SC was then back-translated to English by a bilingual Chinese university instructor and compared with the original English version. Discrepancies were identified by another bilingual Chinese university instructor and then corrected through discussion with the other two translators. Ten bilingual Mandarin Chinese native speakers attending university in the United States were recruited to test the readability of the Mandarin Chinese IIP-SC. The final Mandarin Chinese IIP-SC was confirmed after collecting recommendations for final editorial changes.

The Chinese Personality Assessment Inventory-2 (CPAI-2; Cheung, Leung, Song, & Zhang, 2001) is a 541-item yes or no format self-report questionnaire measuring personality characteristics that are culturally relevant to the Chinese people. The full simplified Chinese version of CPAI-2 Form A with 28 personality scales, 12 clinical scales, and three validity scales was used in the research. Some CPAI-2 scales are associated with interpersonal problems (e.g., social sensitivity and interpersonal tolerance), while some CPAI-2 scales are not associated with interpersonal problems (e.g., diversity and aesthetics). Sample items include “I have a lot of different interests” for diversity scale and “I like visiting art museums and galleries” for aesthetics scale. Only valid profiles on the CPAI-2 were retained in this study and invalid cases indicating random responses, responses inconsistency, and extremely high infrequency scores were screen out using recently developed screening criteria (Cheung, Cheung, Zhang, Leung,

Leong & Yeh, 2008). This resulted in a 43 participants being dropped, leaving a final sample of 358 participants.

Data analyses

To evaluate the reliability and validity of the Mandarin Chinese version of the IIP-SC, this study examined the internal consistency, structural validity, and external validity of the translated measure. Cronbach's alpha was used to estimate internal consistency for each IIP-SC octant scale. Circumplex structural validity was tested by principle components analysis (PCA), a randomization test for hypothesized order relations (RANDALL), and confirmatory circumplex analysis (CIRCUM). For external validity, the relation of Mandarin Chinese IIP-SC and the CPAI-2 (Cheung et al., 2004) was computed to reveal the valid use of Mandarin Chinese IIP-SC in mainland China.

Principle components analysis (PCA) of the eight octant scales was the first step in examining structural validity before further testing the circumplex structure, providing a visual display of component loadings reflecting a circular pattern around two dimensions. As Tracey (2000) noted, when a general factor runs through a set of intercorrelations (here, general interpersonal distress), a circular structure may present spatially based on the second and third components, ignoring the first unrotated general factor (e.g., Rounds & Tracey, 1993). An alternative approach, and the one employed here, was to ipsatize the data prior to conducting the PCA (e.g., Alden et al., 1990; Bartholomew & Horowitz, 1991).

Next, the circumplex structure of the IIP-SC was tested using the randomization test of hypothesized order relations (Hubert & Arabie, 1987). Using an eight-octant

circumplex model, there are 288 predictions about the relative magnitudes of correlations among the scales. We employed the RANDALL program (Tracey, 1997) to compute the number of predictions met in the sample, as well as a correspondence index (CI; Hubert & Arabie, 1987) to aid in interpretation of circular fit. The CI reflects the proportion of predictions met and thus can range from 1.00 (perfect fit) to -1.00 (all predictions violated).

CIRCUM (Browne, 1992) is a confirmatory circumplex analytic program that evaluates circular structure with increasingly strict levels of model fit. The most restrictive model requires that octant scales exhibit both equal spacing and equal communality in two dimensions. These constraints can be removed individually (i.e., only equal spacing, only equal communality). CIRCUM can also estimate model fit without spacing or communality requirements; however, this relaxed model is not a true circumplex (Darcy & Tracey, 2007). By using the CIRCUM program, the IIP-SC data was confirmed with maximum-likelihood estimation of fit into the circumplex model, as employed in many prior studies (e.g., Hopwood, et al., 2008; Vanhede et al., 2006).

To test the external validity of Mandarin Chinese IIP-SC, CPAI-2 (Cheung et al., 2004) scales were correlated with each octant scale. If an external scale (CPAI-2 scale) had strong correlations with one specific interpersonal octant, the adjacent octant scales should be the next highest correlated, while the opposite octant scales should be the least correlated. The pattern of correlations can be examined using the structural summary method for circumplex data (Gurtman & Pincus, 2003; Wright, Pincus, Conroy, & Hilsenroth, 2008). This approach fits the correlations across circumplex octants to a cosine curve representing circular structure and quantifies pattern of correlations in terms

of three parameters: angular displacement (degree), elevation, and amplitude. The relationship among the three elements of a circumplex structural summary can be seen clearly on Figure 2 (Trucco, Wright, & Colder, 2013).

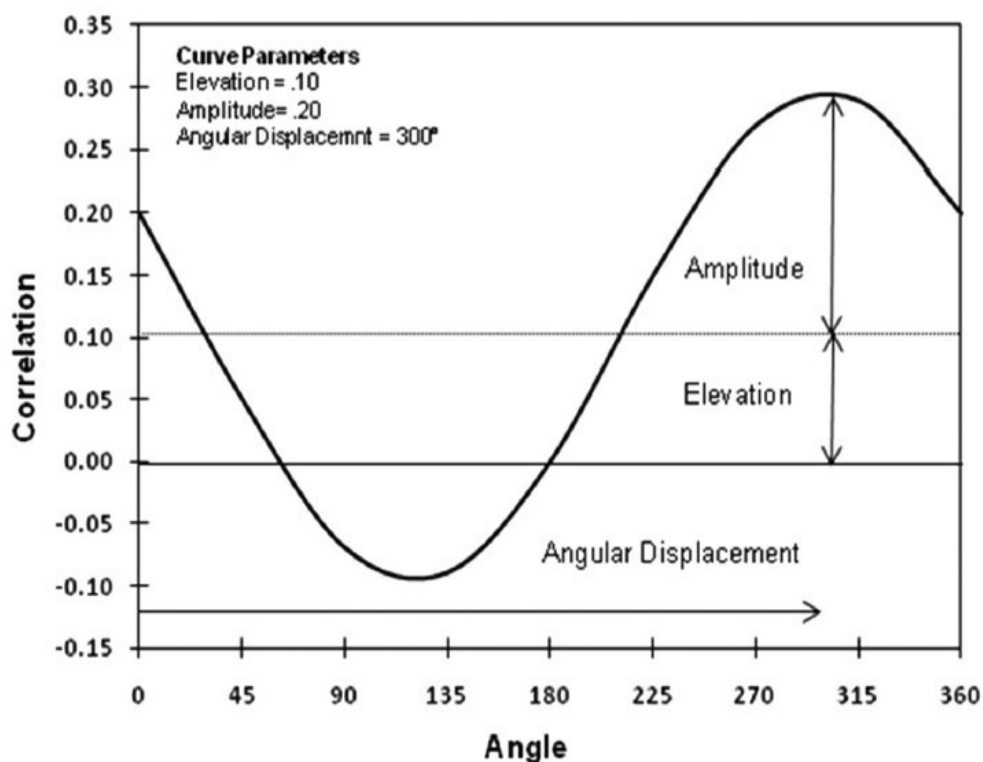


Figure 2. Illustration of the cosine curve parameters associated with the structural summary method for circumplex data (Trucco et al., 2013).

Angular displacement indicates where the curve peaks, locating the scale in two dimensional space. The location of the scale reflects the interpersonal theme of the scale. Amplitude reflects the differentiation of a scale's correlations across the eight interpersonal octants. Elevation is the average correlation across octants, representing the degree of general interpersonal distress in IIP-SC responses (Tracey, Rounds, & Gurtman, 1996). Profile elevation is interpretable in all structural summaries. For more

fine-grained interpretation, certain conditions must be met. Amplitude, which is the distance between elevation and the peak, quantifies the distinctiveness of a scale's interpersonal content. When amplitude shows that a scale has distinctive interpersonal context, R^2 is computed to reflect how well the actual data fits in the predicted cosine curve. If a scale exhibits acceptable amplitude and R^2 the interpersonal theme (angular displacement) of the scale is considered interpretable. All CPAI-2 scales were correlated with Mandarin Chinese IIP-SC octants, and the interpersonal content and distress level of each scale was examined using the structural summary method.

Chapter 3

Results

Reliability

Cronbach's α for each Mandarin Chinese IIP-SC is scale is presented in Table 1 alongside the reliabilities for an American college student sample for comparison (Hopwood et al., 2008). Avoidant (FG) is the only one that with Cronbach's α higher than .70, while Vindictive (BC) with .68 and Cold (DE) with .69 are close to .70. Domineering (PA), Nonassertive (HI), and Intrusive (NO) are above .60, while Exploitable (JK) is slightly lower than .60 as .59. Overly Nurturant (LM) is the only subscale which is much lower than .60, with the lowest Cronbach's α (.53).

Table 1. Cronbach's α of IIP-SC in Chinese Sample and American Sample

IIP-SC Reliability	Chinese Sample	US Sample
(PA) Domineering	0.61	0.69
(BC) Vindictive	0.68	0.66
(DE) Cold	0.69	0.83
(FG) Avoidant	0.76	0.83
(HI) Nonassertive	0.61	0.81
(JK) Exploitable	0.59	0.72
(LM) Overly Nurturant	0.53	0.69
(NO) Intrusive	0.65	0.75
Note. US sample from Hopwood et al., 2008.		

Structural Validity

Figure 3 presents the plot of a principle components analysis (PCA) displaying the spatial structure of the Mandarin Chinese IIP-SC octant scale intercorrelations. A circular pattern was observed, providing visual evidence that the Mandarin Chinese IIP-SC data exhibited circular structure.

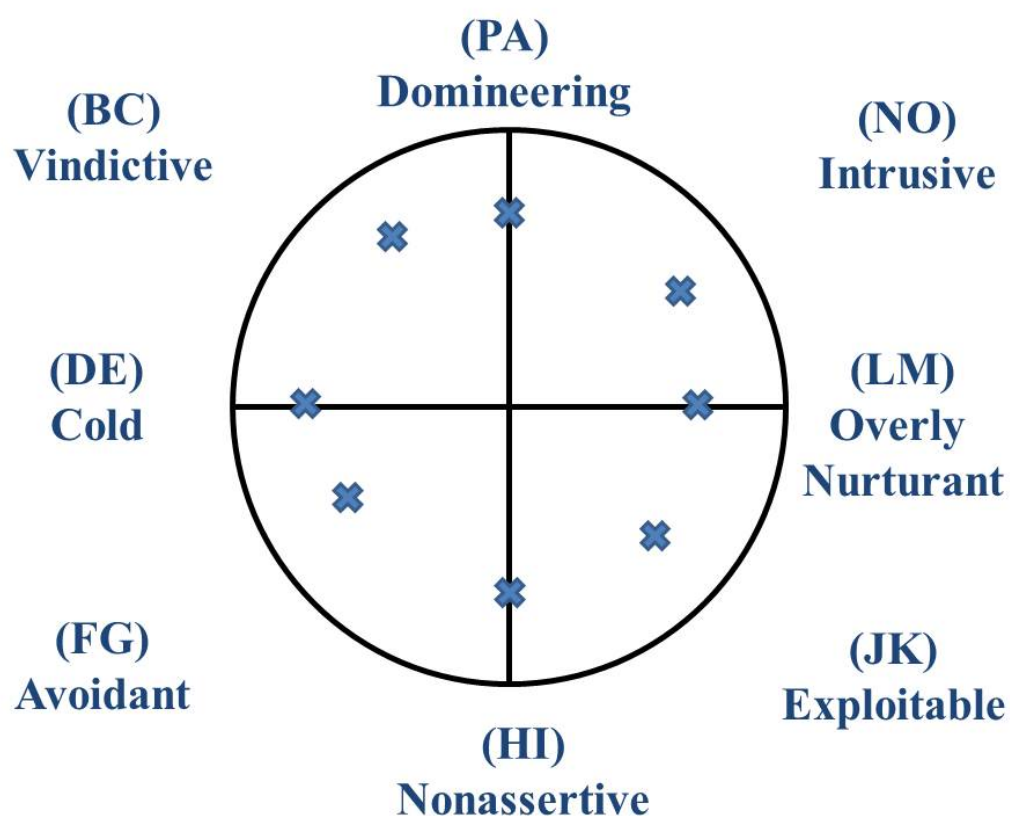


Figure 3. Location of Mandarin Chinese IIP-SC in circumplex space.

Both RANDALL and CIRCUM analyses returned confirmatory results, providing solid evidence that Mandarin Chinese IIP-SC data exhibits circumplex structure.

RANDALL analyses resulted in a Correspondence Index of 0.74 ($p < .001$), which meant 251 of the 288 predictions were met. CIRCUM analyses indicated adequate fit (RMSEA = .067) to the strictest model, constrained to both equal radii and equal spacing.

External Validity

Table 2. Correlations Between CPAI-2 and Mandarin Chinese IIP-SC Octant Scales

Scales	PA	BC	DE	FG	HI	JK	LM	NO
PERSONALITY SCALES								
Social Potency Factor								
Novelty	-0.14	-0.24	-0.33	-0.47	-0.39	-0.24	-0.09	-0.18
Diversity	-0.21	-0.21	-0.22	-0.25	-0.18	-0.08	-0.12	-0.12
Divergent Thinking	-0.1	-0.02	-0.09	-0.33	-0.14	-0.09	0.08	-0.06
Leadership	0.01	0.01	-0.16	-0.32	-0.23	-0.08	-0.05	-0.1
Logical vs. Affective Orientation	-0.12	-0.06	-0.16	-0.33	-0.24	-0.09	0	-0.2
Aesthetics	-0.1	-0.19	-0.27	-0.32	-0.29	-0.22	-0.04	-0.2
External vs. Internal Locus of Control	-0.12	-0.15	-0.47	-0.59	-0.38	-0.3	-0.22	-0.04
Enterprise	-0.31	-0.3	-0.39	-0.42	-0.59	-0.41	-0.27	-0.31
Dependability Factor								
Responsibility	-0.29	-0.3	-0.37	-0.36	-0.42	-0.43	-0.28	-0.32
Emotionality	0.45	0.43	0.44	0.33	0.3	0.3	0.17	0.41
Practical Mindedness	-0.24	-0.22	-0.23	-0.21	-0.36	-0.44	-0.24	-0.25
Optimism-Pessimism	-0.33	-0.38	-0.51	-0.46	-0.5	-0.56	-0.5	-0.34
Meticulousness	-0.16	-0.09	-0.12	-0.25	-0.3	-0.31	-0.21	-0.34
Face	0.29	0.3	0.15	0.26	0.32	0.34	0.26	0.15
Introversion-Extroversion	-0.25	-0.38	-0.32	-0.31	-0.3	-0.41	-0.37	-0.26
Family Orientation	-0.33	-0.57	-0.56	-0.44	-0.36	-0.37	-0.33	-0.35
Accommodation Factor								
Defensiveness (Ah-Q attitude)	0.24	0.39	0.22	0.09	0.13	0.12	0.15	0.07
Graciousness-Meanness	-0.58	-0.72	-0.61	-0.37	-0.36	-0.31	-0.24	-0.35
Interpersonal Tolerance	-0.32	-0.54	-0.41	-0.5	-0.38	-0.32	-0.23	-0.23
Self vs. Social Orientation	0.42	0.68	0.57	0.45	0.4	0.36	0.33	0.21
Veraciousness-Slickness	-0.31	-0.51	-0.26	-0.22	-0.27	-0.18	-0.1	-0.17
Interpersonal Relatedness Factor								
Traditionalism vs. Modernity	0.1	0	-0.01	0.07	0.09	-0.01	0	0.03
Ren Qin (Relationship) Orientation	-0.2	-0.3	-0.26	-0.19	-0.02	-0.06	0.04	-0.14
Social Sensitivity	-0.27	-0.37	-0.54	-0.45	-0.3	-0.28	-0.15	-0.22
Discipline	0.31	0.41	0.33	0.3	0.31	0.13	0.18	0.16
Harmony	-0.47	-0.37	-0.37	-0.31	-0.2	-0.2	-0.11	-0.34
Thrift-Extravagance	-0.22	-0.11	-0.12	-0.09	-0.03	-0.07	0.03	-0.07

Table 2. (continued)

Scale name	PA	BC	DE	FG	HI	JK	LM	NO
CLINICAL SCALES								
Anxiety	0.3	0.43	0.43	0.43	0.45	0.37	0.36	0.37
Depression	0.37	0.52	0.52	0.48	0.42	0.43	0.33	0.3
Physical Symptoms	0.34	0.51	0.51	0.33	0.31	0.31	0.24	0.28
Somatization	0.24	0.45	0.35	0.32	0.3	0.18	0.22	0.2
Sexual Maladjustment	0.38	0.45	0.46	0.42	0.42	0.24	0.22	0.28
Pathological Dependence	0.4	0.55	0.29	0.19	0.17	0.12	0.13	0.23
Hypomania	0.46	0.46	0.26	0.16	0.26	0.26	0.25	0.37
Antisocial Behavior	0.42	0.58	0.48	0.41	0.34	0.29	0.23	0.31
Need for Attention	0.49	0.48	0.27	0.2	0.34	0.3	0.26	0.41
Distortion of Reality	0.51	0.63	0.56	0.42	0.51	0.37	0.24	0.37
Paranoia	0.37	0.53	0.43	0.31	0.31	0.24	0.21	0.27
Inferiority vs. self-Acceptance	0.34	0.42	0.51	0.57	0.54	0.5	0.42	0.38

Note. N= 358; PA = Domineering; BC = Vindictive; DE = Coldhearted; FG = Avoidant; HI = Nonassertive; JK = Exploitable; LM = Overly Nurturant; NO = Intrusive.

Table 2 presents the correlations between the CPAI-2 scales and the Mandarin Chinese IIP-SC octants. Since some of the CPAI-2 scales had notably lower reliability than is preferable, disattenuated correlations were used. Table 2 divides the 43 CPAI-2 scales into personality scales (grouped by factor) and clinical scales. Table 3 provides circumplex structural summaries parameters for each CPAI-2 scale.

In this study, an R^2 value greater than .70 is considered adequate fit of the actual observed profile to the predicted cosine curve (Gurtman & Pincus, 2003). For amplitude, .13 is used to as a cutoff for interpreting differentiation of interpersonal content (Hopwood, Ansell, Pincus, Wright, Lukowitsky, & Roche, 2011). Twelve CPAI-2 scales with amplitude greater than .13 also had R^2 greater than .70, suggesting they have distinct

interpersonal themes. Only one scale (Leadership) with an amplitude greater than .13 is not interpretable because the R^2 (.67) is less than .70. The angular displacement (degrees) of all CPAI-2 scales are listed in Table 3, but only those of the 12 CPAI-2 scales with adequate amplitude and R^2 (in bold) are interpretable.

Five CPAI-2 scales contain warm and warm submissive interpersonal content. Graciousness-Meanness (324.51°), Interpersonal Tolerance (10.78°), Ren Qin (Relationship) Orientation (329.4°), Social Sensitivity (11.39°), and Harmony (309.93°) are all located in the overly nurturant (LM) and exploitable (JK) octants. In contrast, five CPAI-2 scales contain hostile dominant interpersonal content. Self vs. Social Orientation (173.31°), Antisocial Behavior (158.37°), Distortion of Reality (164.79°) Pathological Dependence (127.29°) and Paranoia (152.1°) are all located in the vindictive (BC) to coldhearted (DE) octants. Two CPAI-2 scales, Novelty (45.97°) and External vs. Internal Locus of Control (54.32°) were located in the Intrusive (NO) octant, reflecting warm dominant interpersonal content. Structural summaries for these 12 CPAI-2 scales are plotted in Figure 4.

The cutoff to interpret elevation is $|\ .14 |$ in this study. Twelve CPAI-2 scales with elevation higher than .14 are interpreted as related to high distress; while 10 scales with elevation lower than -.14 are interpreted as related to low distress in general interpersonal problems. Five scales are not interpretable, showing no association with distress.

Table 3. IIP-SC Structural Summary for CPAI-2 Scales

Scale name	Elevation	Amplitude	R ²	Degree
PERSONALITY SCALES				
Social Potency Factor				
<i>Novelty</i>	-0.26	0.16	0.87	45.97
Diversity	-0.17	0.07	0.84	352.73
Divergent Thinking	-0.09	0.11	0.46	40.73
Leadership	-0.11	0.13	0.67	66.26
Logical vs. Affective Orientation	-0.15	0.08	0.33	44.49
Aesthetics	-0.2	0.1	0.69	43.96
<i>External vs. Internal Locus of Control</i>	-0.28	0.23	0.87	54.32
Enterprise	-0.38	0.11	0.68	74.79
Dependability Factor				
Responsibility	-0.35	0.06	0.67	82.66
Emotionality	0.35	0.11	0.71	135.6
Practical Mindedness	-0.27	0.08	0.54	128.07
Optimism-Pessimism	-0.45	0.1	0.7	94.37
Meticulousness	-0.22	0.09	0.6	142.68
Face	0.26	0.04	0.15	293.7
Introversion-Extroversion	-0.33	0.03	0.12	113.21
Family Orientation	-0.42	0.11	0.7	354.1
Accommodation Factor				
Defensiveness (Ah-Q attitude)	0.18	0.1	0.55	133.75
<i>Graciousness-Meanness</i>	-0.44	0.21	0.86	324.51
<i>Interpersonal Tolerance</i>	-0.37	0.14	0.79	10.78
<i>Self vs. Social Orientation</i>	0.43	0.16	0.7	173.31
Veraciousness-Slickness	-0.25	0.12	0.57	331.35
Interpersonal Relatedness Factor				
Traditionalism vs. Modernity	0.04	0.01	0.01	201.29
<i>Ren Qin (Relationship) Orientation</i>	-0.14	0.15	0.9	329.4
<i>Social Sensitivity</i>	-0.32	0.16	0.9	11.39
Discipline	0.27	0.12	0.8	167.05
<i>Harmony</i>	-0.3	0.14	0.77	309.93
Thrift-Extravagance	-0.08	0.07	0.53	313.52

Table 3. (Continued)

Scale name	Elevation	Amplitude	R ²	Degree
CLINICAL SCALES				
Anxiety	0.39	0.05	0.65	221.84
Depression	0.42	0.1	0.81	198.75
Physical Symptoms	0.35	0.12	0.76	163.28
Somatization	0.28	0.1	0.73	173.34
Sexual Maladjustment	0.36	0.12	0.9	179.35
<i>Pathological Dependence</i>	0.26	0.18	0.82	127.29
Hypomania	0.31	0.12	0.73	89.65
<i>Antisocial Behavior</i>	0.38	0.14	0.9	158.37
Need for Attention	0.34	0.11	0.57	88.81
<i>Distortion of Reality</i>	0.45	0.14	0.73	164.79
<i>Paranoia</i>	0.33	0.13	0.84	152.1
Inferiority vs. self-Acceptance	0.46	0.11	0.97	247.44

Note. N= 358; Degree = angular location of interpersonal problem; Elevation = average correlation; Amplitude = differentiation of interpersonal problem; R² = degree of fitting to cosine curve.

Chapter 4

Discussion

Cronbach's α

The internal reliability of the Mandarin Chinese IIP-SC scales are acceptable, but lower than the comparison sample of American college students (Hopwood et al., 2008). However, the Cronbach's α of Mandarin Chinese IIP-SC is similar to the Dutch version of IIP-SC (Vanheule et al., 2006) and the Spanish version of IIP-SC (Salazar et al., 2010). The similar results of lower reliability in other translations of IIP-SC suggest the values obtained here are adequate. As Vanheule et al. (2006) discussed, the lower reliability might be influenced by culture differences. In the current study, the octant of Mandarin Chinese IIP-SC with lowest reliability was Overly Nurturant (LM). It is possible that that the expression and prediction of warmth in Chinese and American culture is different (Wu, Roche, Dowgwillo, Wang, & Pincus, 2013). Thus, the Mandarin Chinese IIP-SC octant scales are considered to be reliable, but lower than ideal. Future research should evaluate if specific IIP-SC items have a different meaning or interpretation in Chinese culture.

Structural Validity

All three evaluations of the octant scale intercorrelations converged in providing robust evidence that the Mandarin Chinese IIP-SC exhibits circumplex structure. This is a necessary requirement for examining external validity correlations using the structural summary method. It also is important because it supports the interpretation of structural summary parameters in individual clinical assessments (Pincus & Gurtman, 2003).

External Validity

The Mandarin Chinese IIP-SC exhibited meaningful associations with CPAI-2 scales which reflected varying distress levels and interpersonal problem content, providing evidence supporting the validity of the Mandarin Chinese IIP-SC. After analyzing the IIP-SC structural summary of CPAI-2 scales, CPAI-2 scales were categorized in four groups with reference to their fit with circumplex structure. The scales with both interpretable amplitude and interpretable R^2 qualified to be interpreted as scales with interpersonal themes. The scales with elevation qualified to be interpreted as scales associated with distress (high or low). The remaining scales are grouped as uninterpretable, which indicates they are unrelated to interpersonal themes and distress.

Interpersonal Problem Content

12 CPAI-2 scales (Figure 4) with R^2 above 0.7 and amplitude larger than 0.13 exhibited distinct interpersonal problem content. All 12 CPAI-2 scales associated with specific interpersonal themes fall into expectable octant locations, indicating the Chinese IIP-SC is valid to use to identify general distress and specific interpersonal dysfunction. Among those 12 scales, four clinical scales (Antisocial Behavior, Distortion of Reality, Pathological Dependence, and Paranoia) fall in the vindictive (BC) to coldhearted (DE) octants with no surprise. All four clinical scales have positive elevations, indicating that they generate interpersonal problems. Note that the Pathological Dependence scale reflects excessive “drinking, smoking, gambling or drugs” (Cheung, Cheung, & Leung, 2008), and its location is consistent with the longstanding association between antisocial personality and substance abuse (e.g., Ruiz, Pincus, & Schinka, 2008).

One personality scale falls in the cold (DE) octant. Self vs. Social Orientation which reflects people who only care about the self and are unwilling to cooperate with others (Cheung et al., 2008). People who lack collaborative skills are likely to be considered interpersonally cold. Self vs. Social Orientation also have a high positive elevation (0.43), reflecting it is related to high distress. As previously discussed in the introduction, Chinese culture is collectivist and cooperation is a cultural characteristic for Chinese people. Thus, people with high score on Self vs. Social Orientation have a huge struggle when performing the culture norms, encountering high level of distress. However, with the one-child policy limitation, most Chinese families only have one child. Lack of siblings is an obstacle to developing cooperation skills to suit the cultural norms and keep distress low. The result reflects that how to help younger generation develop collaborating skills in single-child families is an urgent topic on education for Chinese people.

The five personality scales (Graciousness-Meanness, Interpersonal Tolerance, Ren Qin (Relationship) Orientation, Social Sensitivity, and Harmony) are fall in the overly nurturant (LM) to exploitable (JK) octants. Novelty and External vs. Internal Locus of Control fall in the intrusive (NO) octant. However, these seven scales have negative elevations, indicating that they are not generating interpersonal problems, but are promoting interpersonal adjustment. Thus, Graciousness-Meanness, Interpersonal Tolerance, Ren Qin (Relationship) Orientation, Social Sensitivity, and Harmony are in a warm submissive location; while Novelty and External vs. Internal Locus of Control are in a warm location. They are helping keep distress low through a friendly and cooperative interpersonal style.

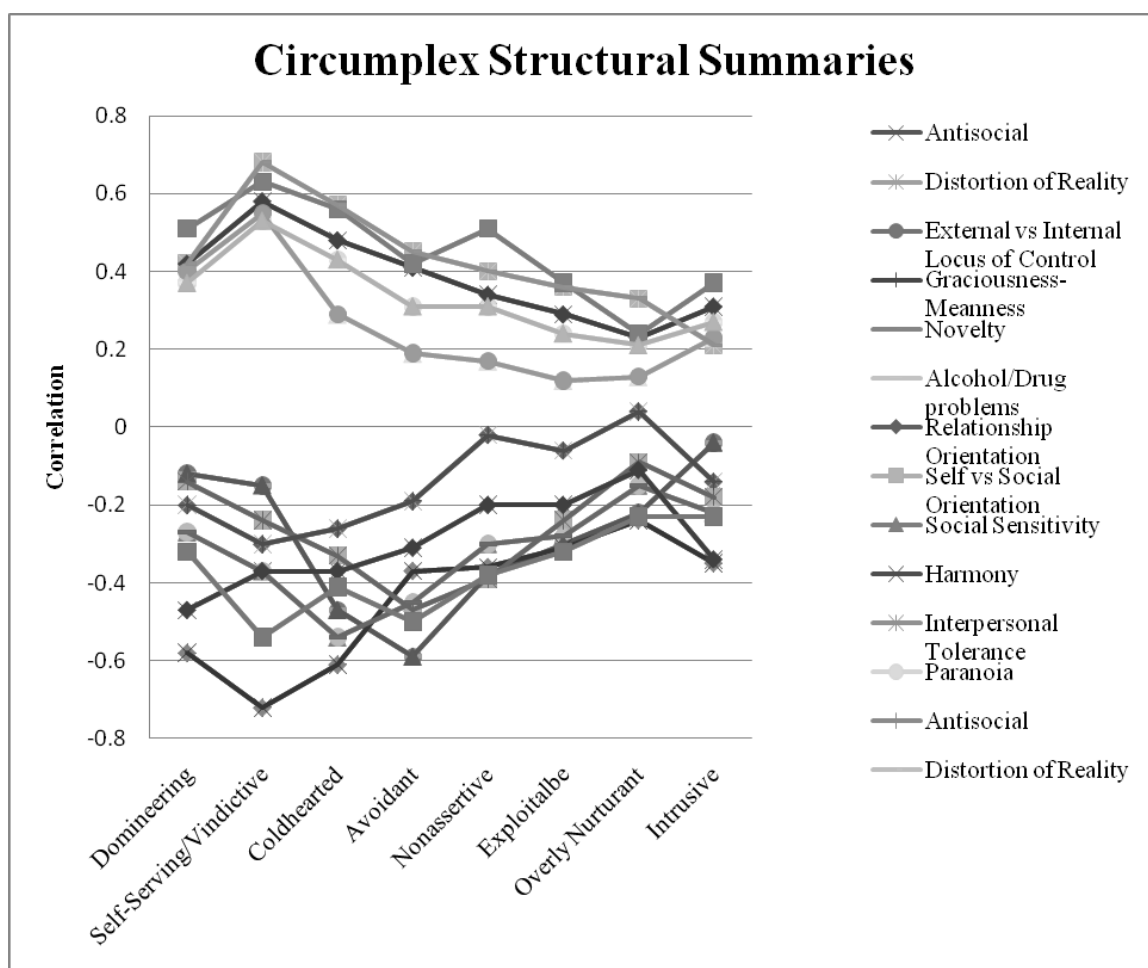


Figure 4. Circumplex Structural Summaries for Selected CPAI-2 Scales.

People with high scores on Interpersonal Tolerance and Social Sensitivity are tolerant and sensitive to other people's reaction, often making people feel relaxed and friendly. Graciousness-Meanness means people who are lenient and never stand for disagreement. Harmony means to get inner peace and avoid conflicts and competition. Ren Qin (relationship) orientation is related to "culture norms of interpersonal interaction" in China, similar to networking to maintain and exchange resources (Cheung et al., 2008).

People with high scores on Novelty are the ones who like to try new things and challenge themselves. People with high scores on Locus of Control mean they like to believe they can influence their lives more than external factors can. They are able to achieve what they want (Cheung et al., 2008). Individuals with high scores on these scales are extraverted and will attract attention.

Since the Chinese culture emphasizes friendly and peaceful living in groups, being extroverted and cooperative is easier to fit in the harmonic society. High scorers on those seven scales are less distressed because they can perform the cultural norm effectively, reflecting interpersonal adjustment in a collectivist culture. The IIP-SC captures both their substance (friendly, friendly submissive) and their adjustment (low distress).

High Distress vs. Low Distress

The structural summaries for CPAI-2 scales shown in Table 3 present predictable and meaningful associations with interpersonal distress. High elevations (all clinical scales and some personality scales) indicated those CPAI-2 scales were strongly associated with interpersonal distress. Low elevations (most personality scales) indicated those CPAI-2 scales were not related to interpersonal distress.

As would be expected, all the rest of clinical scales without distinct interpersonal themes (Anxiety, Depression, Physical Symptoms, Somatization, Sexual Maladjustment, Hypomania, Need of Attention, and Inferiority vs. Self-Acceptance) are highly related to distress level. Emotionality, Face, Defensiveness (Ah-Q attitude) and Discipline are the four personality scales associated with high level of general distress. High scores on Emotionality reflect a person who lacks emotional stability and easily loses control. High score on Discipline indicate that the person is lacks of flexibility. High tension under

rigid rules might cause distress. Face and Ah-Q attitude are two terms in Chinese culture. People with high scores on overly invested in social recognition. They try to present their best side to others and are concerned about losing face often. Ah-Q attitude is a defense mechanism of Chinese people. People with Ah-Q attitude belittle other's achievements, blame external factors, and find excuses to make themselves feel better. Those two scales are both related to high levels of distress (Cheung et al., 2008).

Diversity, Logical vs. Affective Orientation, Enterprise, Responsibility, Practical Mindedness, Optimism-Pessimism, Meticulousness, Introversion-Extroversion, Family Orientation, and Veraciousness-Slickness are the scales associated with low distress. Trying out new ways of ideas (Diversity), thinking problem with logic (Logical Orientation), taking responsibility (Responsibility), being realistic (Practical Mindedness) and cautious (Meticulousness), energetic and optimistic (Optimism), and taking care of family (Family Orientation) are obviously beneficial and related to low distress. People with high scores on Enterprise reflect that they are not afraid of taking risks. Thus, unexpected chances are less likely to increase their distress. Veraciousness-Slickness is a Chinese term meaning truthful vs. boastful. High scores on Veraciousness-Slickness indicate a truthful person who has less distress than people who are boastful and superficial (Cheung et al., 2008). Family Orientation is a very important value in Chinese collectivist culture that keeping family tied helps keep distress in low level and keep society in harmony. High scores on Extraversion are associated with low distress. Extraverted people are generally good at meeting friends and collaborating with others, performing Chinese social norms is easier for extraverts than introverts.

Although most CPAI-2 scales could be interpreted with reference to the Mandarin Chinese IIP-SC circumplex model, five scales were uninterpretable. Divergent Thinking, Leadership, Aesthetics, Traditionalism vs. Modernity, and Thrift- Extravagance are not associated with interpersonal themes or distress level. People scoring high on Traditionalism vs. Modernity show that they keep “traditional beliefs, customs and values”, while people scoring high on Thrift- Extravagance means they “endorse traditional value of frugality” (Cheung et al., 2008). Traditional vs. Modernity and Thrift- Extravagance are personal choices of maintaining a traditional Confucian value and life style; while Divergent Thinking, Leadership and Aesthetics reflect people’s cognitive preferences and are not related to interpersonal functioning.

Conclusion

Evaluations of circumplex structure and structural summaries of the CPAI-2 scales support the validity of the Mandarin Chinese IIP-SC. The Mandarin Chinese IIP-SC was applied successfully with Chinese college students, extending its use for clinical assessment to native Chinese speakers, who constitute one fifth of the world’s population. This research also provided the first set of Chinese college student norms on Mandarin Chinese IIP-SC for future studies.

Chapter 5

Limitation and Future Study

One of the limitations of this study is that the college student sample only provides norms based on a college age nonclinical population, but both IIP-SC and CPAI-2 are used clinically. Not including in clinical sample might be the reason for the lower reliability of some CPAI-2 items. Since some of the questions are specifically for clinical populations, participants may have been confused over some items on the CPAI-2. Future study of Mandarin Chinese IIP-SC with clinical samples is suggested to examine the clinical use of IIP-SC in Chinese culture. Another limitation is that only the IIP-SC was translated in Mandarin Chinese, but the full IIP-C is not translated yet. Since the IIP-C has better reliability than the IIP-SC, the full measure should be translated. While Mandarin Chinese IIP-SC generally applied successful in Chinese population, there might be specific items or scales reflecting different issues due to the collectivist Chinese culture. For example, no CPAI-2 scale assesses being too unassertive, but assertiveness is a big issue for Americans. For future studying the use of Mandarin Chinese IIP-SC in collectivist Chinese Culture, research comparing Chinese students and American students is suggested to conduct to study the culture difference related problems.

Appendix A

Mandarin Chinese IIP-SC

IIP 简化版

下面列出的是大家报告的人与人交往中的各种常见的问题。请阅读每一项，并考虑是否它已经成为你与你生活中重要的人之间的问题。然后选择一个描述这个问题对你的困扰程度的数字，并把答题卡上的圆圈涂实。

例子

你已经被这个问题困扰到多少？

对于我来说，这样做很难。。。。

00. 和我的亲戚相处

- 0 完全没有
- 1 有一点点
- 2 中等
- 3 相当多
- 4 非常多

IIP 简化版

请使用下面的数值范围来评定以下各选项：

0 = 完全没有 1 = 有一点点 2 = 中等 3 = 很多 4 = 非常多

- | | |
|----------------------------------|-----------|
| 1. 对于我来说，理解他人的观点是困难的。 | 0 1 2 3 4 |
| 2. 对于我来说，支持他人人生中的目标是困难的。 | 0 1 2 3 4 |
| 3. 对于我来说，表达对他人的善意是困难的。 | 0 1 2 3 4 |
| 4. 对于我来说，加入一个已在团体是困难的。 | 0 1 2 3 4 |
| 5. 对于我来说，告诉别人停止烦扰我是困难的。 | 0 1 2 3 4 |
| 6. 对于我来说，让别人知道我在生气是困难的。 | 0 1 2 3 4 |
| 7. 对于我来说，当其他人是贫困的，关注自己个人的福利是困难的。 | 0 1 2 3 4 |
| 8. 对于我来说，和大家在一起但保持事物私有化是困难的。 | 0 1 2 3 4 |
| 9. 我对其他人有过多的攻击性。 | 0 1 2 3 4 |
| 10. 对于我来说，因为别人的幸福而有好的感受是困难的。 | 0 1 2 3 4 |
| 11. 对于我来说，体验到爱其它人的感受是困难的。 | 0 1 2 3 4 |
| 12. 对于我来说，跟新认识的人做自我介绍是困难的。 | 0 1 2 3 4 |
| 13. 对于我来说，与别人对质出现的问题是困难的。 | 0 1 2 3 4 |
| 14. 对于我来说，不担心伤害其他人感受的坚持主见是困难的。 | 0 1 2 3 4 |
| 15. 我过多地试图讨好其他人。 | 0 1 2 3 4 |
| 16. 我对别人过度毫无保留。 | 0 1 2 3 4 |
| 17. 我过多地试图控制其他人。 | 0 1 2 3 4 |
| 18. 我对其他人过度怀疑。 | 0 1 2 3 4 |
| 19. 对于我来说，感觉和其他人亲近是困难的。 | 0 1 2 3 4 |
| 20. 对于我来说，和其他人社交是困难的。 | 0 1 2 3 4 |
| 21. 对于我来说，和其他人在一起坚持主见是困难的。 | 0 1 2 3 4 |
| 22. 我太容易被别人说服。 | 0 1 2 3 4 |
| 23. 我过多地把别人的需求放在自己的需求之前。 | 0 1 2 3 4 |
| 24. 我太想被人关注。 | 0 1 2 3 4 |
| 25. 我太常和别人争吵。 | 0 1 2 3 4 |
| 26. 我太想要报复别人。 | 0 1 2 3 4 |
| 27. 我过度的与人保持距离。 | 0 1 2 3 4 |
| 28. 对于我来说，邀请其他人和我聚会是困难的。 | 0 1 2 3 4 |
| 29. 对于我来说，在需要的时候保持坚定是困难的。 | 0 1 2 3 4 |
| 30. 我让人利用我太多。 | 0 1 2 3 4 |
| 31. 我被别人的不幸影响太多。 | 0 1 2 3 4 |
| 32. 我告诉其他人太多我私人的事情。 | 0 1 2 3 4 |

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