

**Western Positive Psychology
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Conference**

**The Optimum Dimensions Structure of Chinese
University Teachers' Professional
Psychological Capital**

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Introduction

□ 1. Job burnout

- Emotional exhaustion
- Depersonalization
- Reduced personal accomplishment

□ 2. Psychological Capital

- a positive state of mind that a person is in the process of growth and development
 - a psychological characteristic which can be measured
 - a transcendence of human capital and social capital
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Research Purposes

- ❑ 1.From the perspective of the professional development of teachers
 - ❑ 2.To construct the professional psychological capital elements
 - ❑ 3.To reflect the native contents of psychological capital Chinese University Teachers under the background of Chinese culture
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Research Procedure

1. pre-research of scale structure

□ To collect the sentences of professional psychological capital

---Depth interviews (18 outstanding teachers who are working for more than 15 years)

---Open questionnaire (120 excellent teachers from 8 national Universities)

---Interview of experts(3 scholars from Organizational Behavior)

Research procedure

□ **To sort out and classify the sentences**

---Encoding(626 sentences)

---delete(repetitive, ambiguous), merge(similar content)

---Semantic classification: 104 sentences
categories(4)

□ **questionnaire**

---104 items and 4 categories

--- reverse scoring items:10

---scoring method:six-point Likert scales (from "no agree "to"agree")

Research Procedure

□ 2.Pretest

---**test samples:** 800 teachers of the top 100 National University in China.
Valid questionnaires: 713

Table 1 Frequency Distribution of Pretest Sample

variables	classification	frequency	percentages (%)	variables	Classification (years)	frequency	percentage (%)
Gender	male	216	54%	length of employment	Less than 2	46	11.5%
	female	184	46%		2-5	87	21.8%
Degree	bachelor	76	19%		10-15	132	33%
	master	127	31.8%		15-20	87	21.8%
	Ph.D	197	49.2%	More than 20	48	11.9%	
courses	science	92	23%	age	20-30	132	33%
	engineering	108	27%		30-40	195	49%
	Arts	141	35.3%		50-60	73	18%
	medicine	43	10.7%	Academic title	Lecture	79	19.8%
	others	16	4%		Associate professor	185	46.3%
			Professor		136	33.9%	

- ---Item analysis(N=400): 7 items were eliminated
- ---Methods: SPSS16.0

Table 2 Discrimination Analysis[↵]

Excluded items [↵]	High-score [↵]	Low-score [↵]	T [↵]	P [↵]
A4 [↵]	2.00 ±1.305 [↵]	2.48±1.252 [↵]	-1.395 [↵]	0.169 [↵]
A9 [↵]	3.54±1.290 [↵]	2.93± 1.072 [↵]	1.903 [↵]	0.063 [↵]
B13 [↵]	2.93±1.120 [↵]	2.70±1.068 [↵]	0.762 [↵]	0.450 [↵]
C5 [↵]	3.00±1.633 [↵]	2.78±1.050 [↵]	0.602 [↵]	0.550 [↵]
C9 [↵]	4.00±1.089 [↵]	3.48±1.221 [↵]	1.664 [↵]	0.102 [↵]
D4 [↵]	3.46±1.261 [↵]	3.19±1.241 [↵]	0.827 [↵]	0.412 [↵]
D12 [↵]	2.46±1.319 [↵]	2.78±1.121 [↵]	-0.948 [↵]	0.347 [↵]

3. Exploratory Factor Analysis (n=400)

□ **Methods:**

principal component analysis ($\lambda > 1$, orthogonal rotation)

□ **Item Deletion principle:**

factor loading less than 0.5, load across more than 0.4

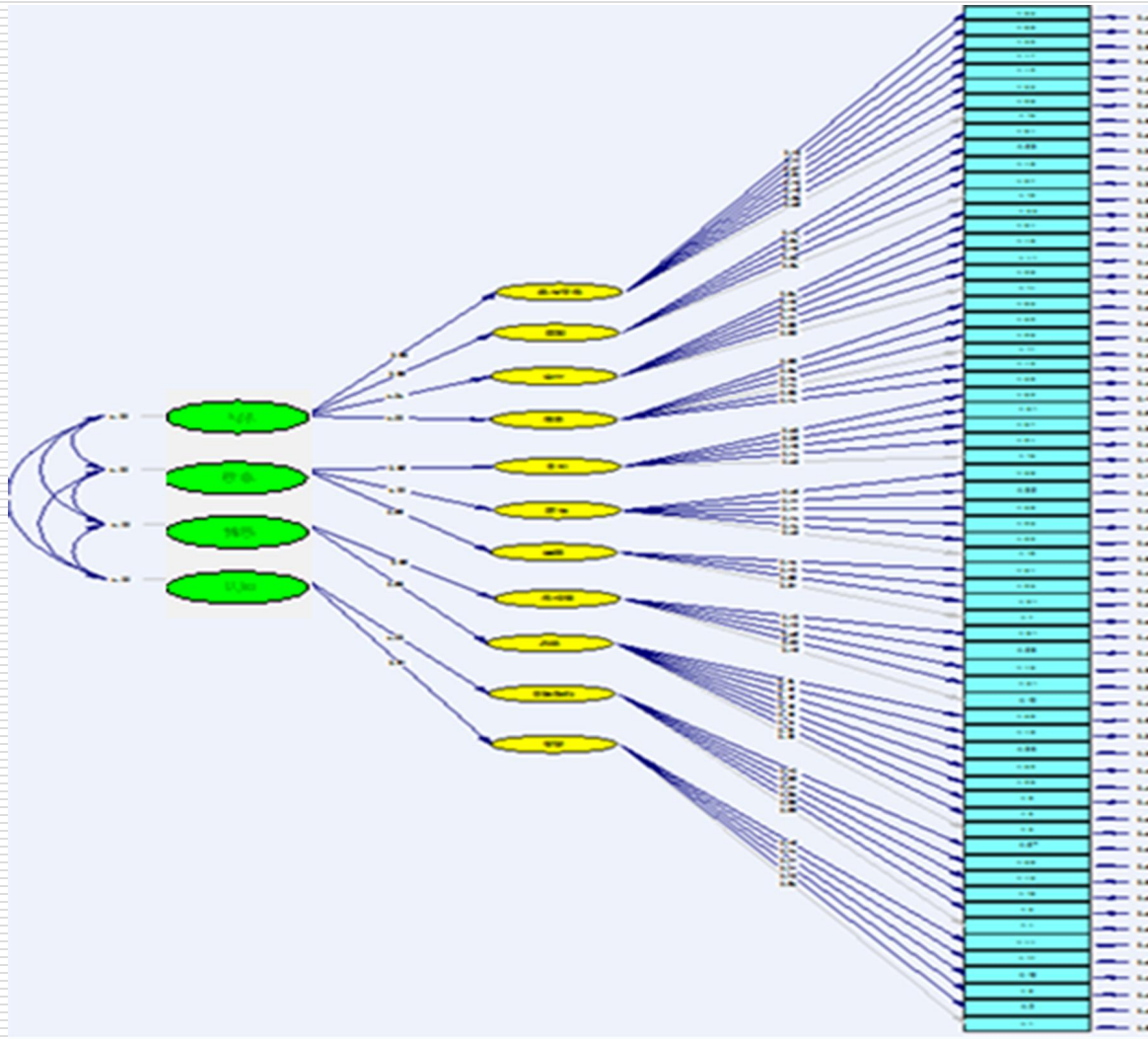
□ **Results:**

the number of items (65)

2nd rank factors(4): cognitive capital, emotional capital, will capital and interpersonal capital

1st rank factors (11) : wisdom, self-efficacy, optimism, well-being, enterprise, resilience, self-control, gratitude, cooperation, forgiveness and love.

4. confirmatory factor analysis (n=313)

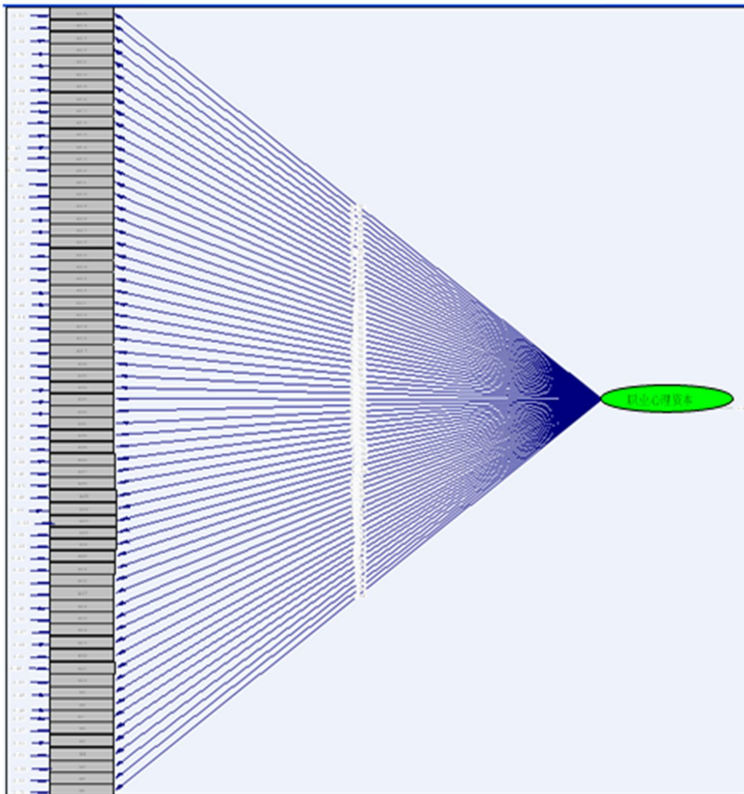


Methods: LISREL10

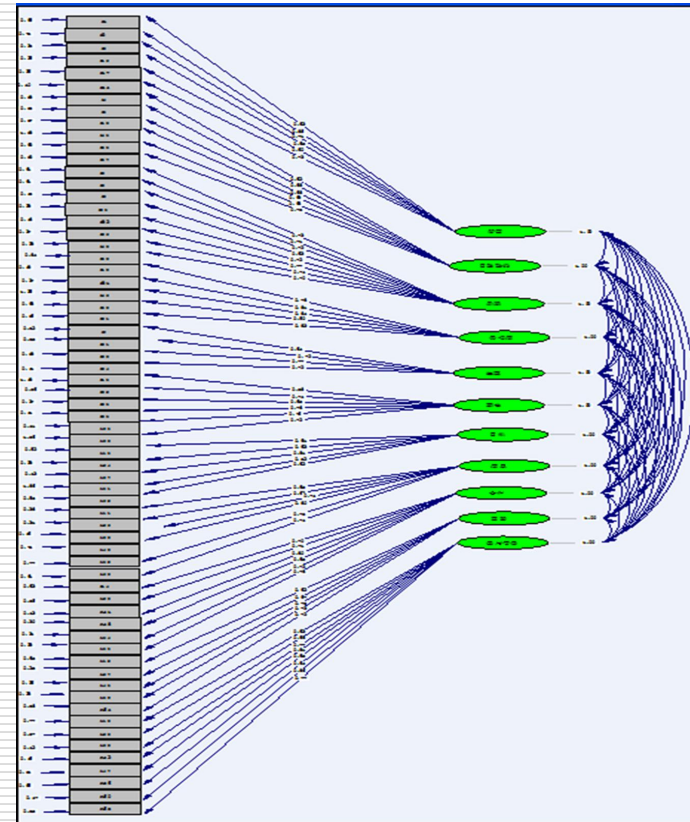
Table 3 Fit Measures of Model

Absolute Fit Index					Parsimonious Fit Index				incremental Fit Index				
GFI	AGFT	RMR	RMSEA	NCP	NFI	RFI	IFI	CFI	PGFI	PNFI	CN	X ² /df	AIC
0.98	0.96	0.040	0.042	376.08	0.97	0.97	0.98	0.98	0.94	0.94	262.02	2.45	668.08

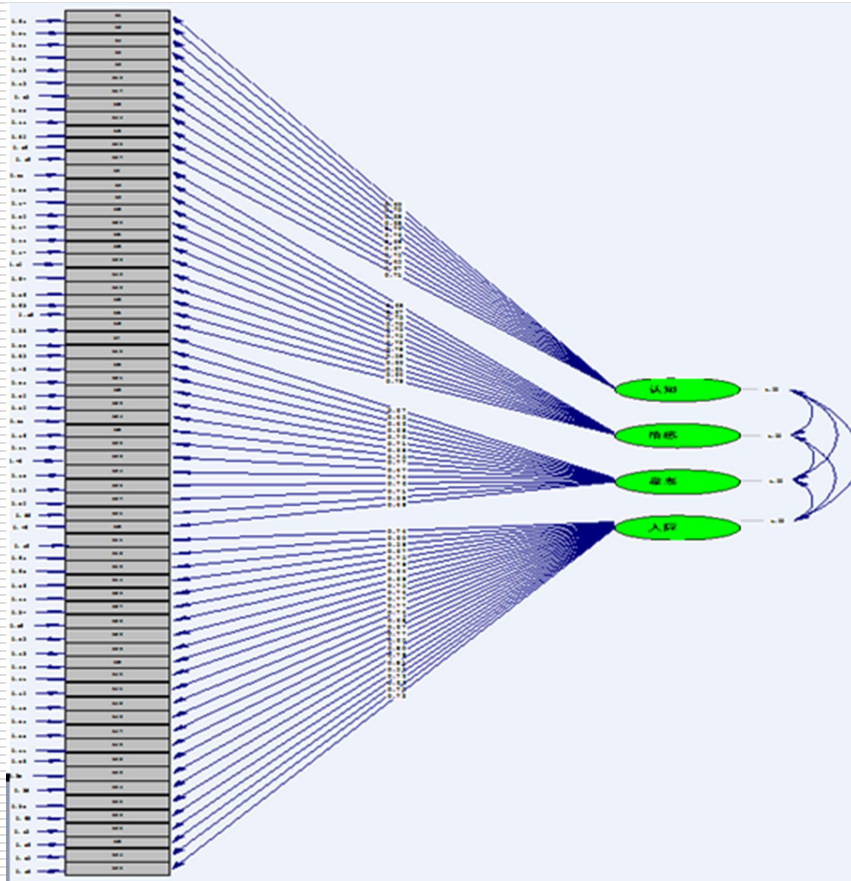
5. Comparison of competitive models (5 alternative models)



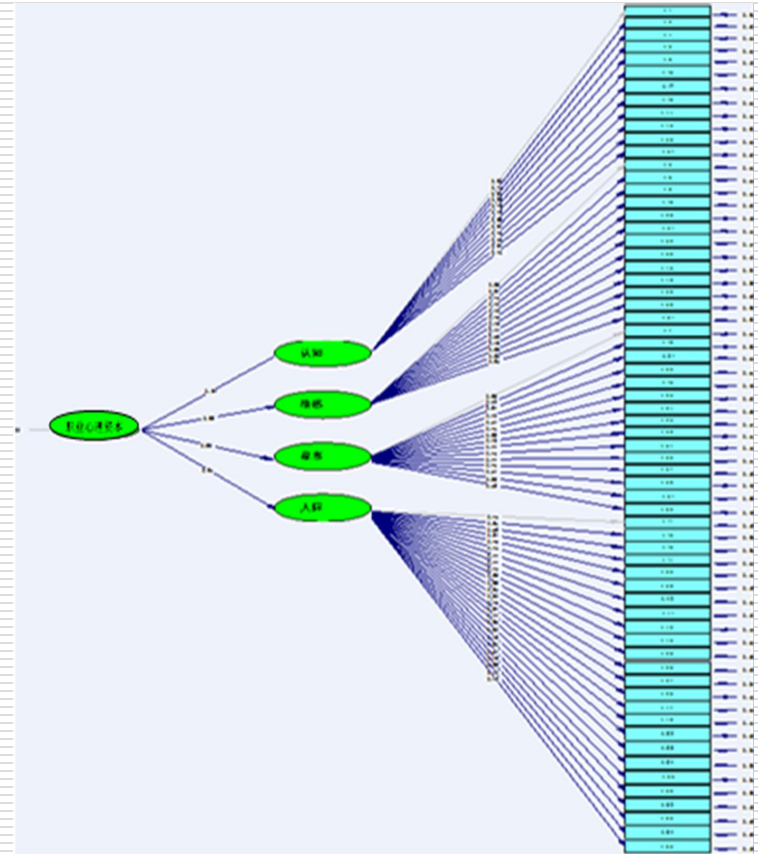
(I) single-order Single Factor model



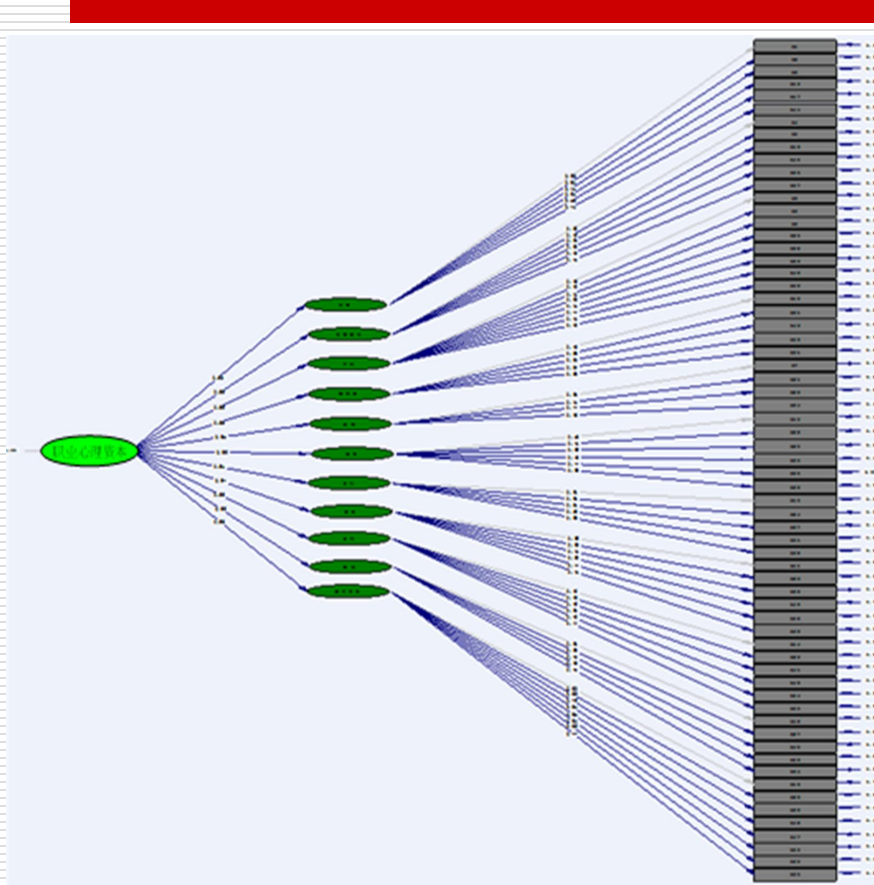
(II) single-order Eleven Factors model



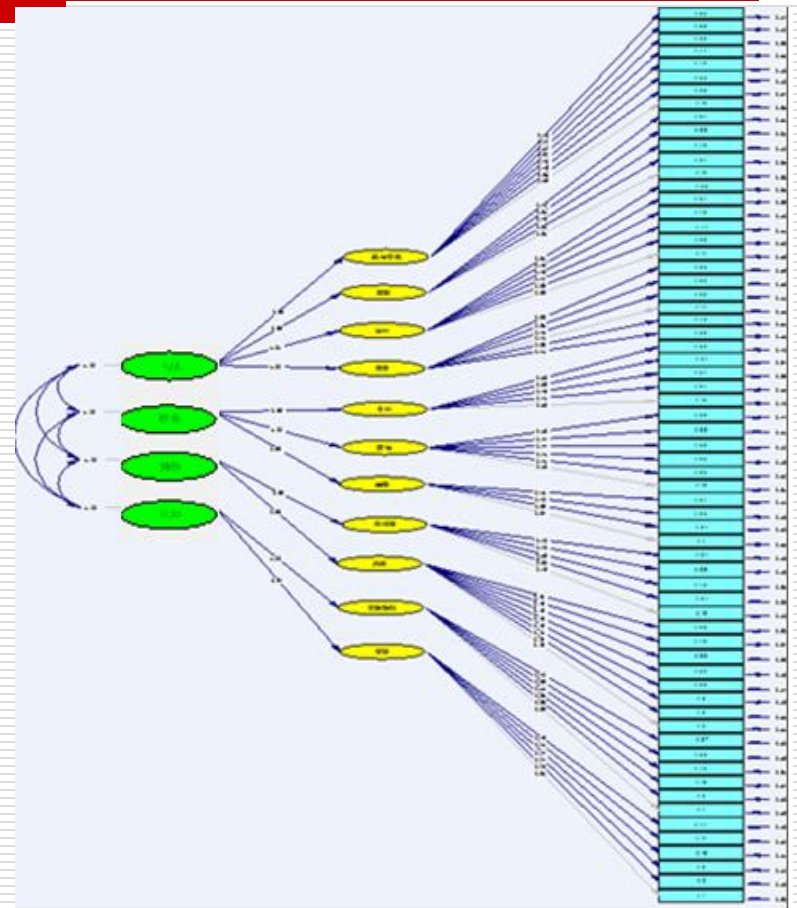
(III) single-order Four Factors model



(IV) Second-order Four Factors model



(V) Second-order Eleven Factors model



Optimal Structure model

Table 4 Fit Measures of Alternative Models

MODELS	Absolute Fit Index					Parsimonious Fit Index				incremental Fit Index				
	GFI	AGFI	RMR	RMSEA	NCP	NFI	RFI	IFI	CFI	PGFI	PNFI	CN	χ^2/df	AIC
single-order Single Factor	0.67	0.62	0.092	0.129	2524.53	0.66	0.64	0.68	0.68	0.60	0.64	248	3.56	2690
single-order Eleven Factors	0.76	0.77	0.089	0.109	1055.19	0.74	0.72	0.78	0.78	0.94	0.68	265	3.25	1385.19
Single-order Four Factors	0.87	0.85	0.052	0.071	724.09	0.86	0.84	0.89	0.88	0.93	0.84	258	2.56	925.09
Second-order Eleven Factors	0.87	0.86	0.046	0.048	668.63	0.83	0.82	0.88	0.89	0.92	0.89	255	2.93	854.63
Second-order Four Factors	0.92	0.95	0.043	0.049	684.40	0.90	0.89	0.94	0.96	0.93	0.93	267	2.68	963.40
Optimal Dimension Structure	0.98	0.96	0.040	0.042	376.08	0.97	0.97	0.98	0.98	0.94	0.94	282	2.45	668.08

6. Reliability Analysis

Table 5 Reliabilities of Scale

	<u>Cronbach α coefficient</u>	<i>CR</i>
Cognitive Capital	0. 8862	0. 97
Wisdom	0. 827	0. 87
Self-efficacy	0. 8202	0. 80
Emotional Capital	0. 8226	0. 95
Optimism	0. 8784	0. 89
Wellbeing	0. 7967	0. 85
Will Capital	0. 8139	0. 88
Enterprise	0. 7980	0. 80
Resilience	0. 7781	0. 82
Self-control	0. 7472	0. 73
Interpersonal Capital	0. 9183	0. 99
Gratitude	0. 8089	0. 87
Cooperation	0. 8701	0. 88
Forgiveness	0. 8432	0. 86
Love	0. 8571	0. 90

7. Validity Analysis

- Content validity: judgment from 6 psychological experts
- Construct validity

---Results of exploratory factor analysis and confirmatory factor analysis
---Correlation of among factors

Table 6 Correlation Coefficients of Four Categories

	cognitive capital	emotional capital	will capital	interpersonal capital
emotional capital	0.882**			
will capital	0.883**	0.877**		
interpersonal capital	0.840**	0.893**	0.860**	
Occupation psychological capital	0.934**	0.956**	0.945**	0.963**

Table 7 Correlation Coefficients among Factors

	Wisdom	Self-efficacy	Optimism	Wellbeing	Enterprise	Resilience	Self-control	Gratitude	Cooperation	Forgiveness
Self-efficacy	0.803***									
Optimism	0.827***	0.815***								
Wellbeing	0.719***	0.766***	0.762***							
Enterprise	0.759***	0.779***	0.775***	0.685***						
Resilience	0.745***	0.828***	0.769***	0.692***	0.753***					
Self-control	0.673***	0.639***	0.725***	0.687***	0.630***	0.612***				
Gratitude	0.734***	0.710***	0.816***	0.792***	0.692***	0.648***	0.736***			
Cooperation	0.762***	0.771***	0.836***	0.737***	0.738***	0.715***	0.732***	0.865***		
Forgiveness	0.750***	0.740***	0.821***	0.699***	0.733***	0.719***	0.722***	0.843***	0.875***	
Love	0.779***	0.766***	0.843***	0.750***	0.730***	0.726***	0.735***	0.857***	0.877***	0.839***

(Notes: “***” $P < \alpha = 0.001$, “**” $P < \alpha = 0.01$; “*” $P < \alpha = 0.05$)

Conclusions

- The Optimum Dimensions Structure of Chinese University Teachers' Professional Psychological Capital is a model of two hierarchies and four factors.
 - Including:
 - 65 test items
 - Four categories: cognitive capital, emotional capital, will capital and interpersonal capital
 - Eleven first-order factors: wisdom, self-efficacy, optimism, wellbeing, enterprise, resilience, self-control, gratitude, cooperation, forgiveness and love
 - The result of empirical study shows that the scale has reasonable structure, which can be used as the evaluation tool in the study for Professional Psychological Capital of Chinese University Teachers.
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Thank you !

