Pooled Confirmatory Factorial Analysis on Authentic Leadership, Psychological Capital, Job Burnout and Organisational Commitment Based on Primary Healthcare Workers in Sarawak

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INTRODUCTION

Committed healthcare workers in healthcare organisations are essential to delivering high-quality services. They bring value to the organisation through their determination, proactive support, high productivity, and quality awareness.

Pooled Confirmatory Factor Analysis (Pooled CFA) is the first step of Structural Equation Modelling (SEM) that can identify the fitness of a complex measurement model based on four second-order constructs, including authentic leadership, psychological capital, job burnout and organisational commitment.
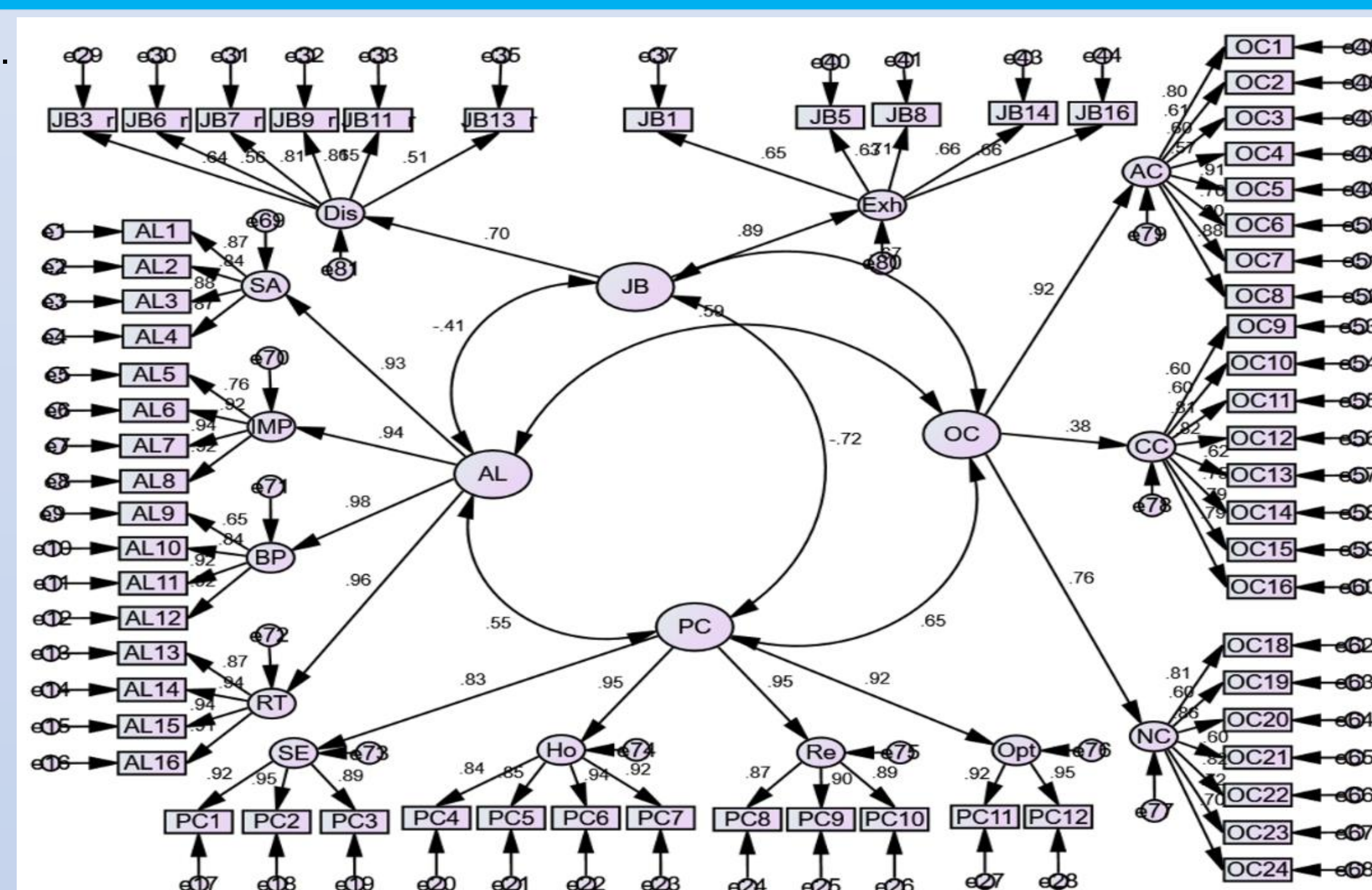
MATERIALS AND METHODS

The study populations were assistant medical officers (AMOs) and nurses working in public health clinics with doctors in Sarawak, and 549 samples fulfilled the analysis requirements. Pooled Confirmatory Factor Analysis ascertains the researcher to develop the capability of the latent measurement model to be more effective and precise for drawing the conclusion besides avoiding the violation or regression assumption.

Tools for measurement are all Likert Scales:
a) Authentic Leadership Questionnaire (ALQ)
b) Psychological Capital Scale (PsyCap)
c) Oldenburg Burnout Inventory (OLBI)
d) Three-factor Organisational Commitment Scale (OCS)

RESULTS AND DISCUSSION

Table 1 The Factor loading of each item in the new measurement model.

Construct	Sub-construct	Item	Factor Loading
Authentic Leadership	Self-Awareness	AL1	0.865
		AL2	0.843
		AL3	0.883
		AL4	0.867
	Internalised Moral Perspective	AL5	0.759
		AL6	0.917
		AL7	0.943
		AL8	0.922
	Balanced Processing	AL9	0.647
		AL10	0.844
		AL11	0.921
		AL12	0.924
	Rational Transparency	AL13	0.874
		AL14	0.936
		AL15	0.939
		AL16	0.915
Psychological Capital	Self-Efficacy	PC1	0.917
		PC2	0.950
		PC3	0.895
	Hope	PC4	0.838
		PC5	0.850
		PC6	0.942
		PC7	0.916
	Resilience	PC8	0.870
		PC9	0.896
		PC10	0.890
	Optimism	PC11	0.918
		PC12	0.949
Job Burnout	Disengagement	JB3	0.643
		JB6	0.563
		JB7	0.806
		JB9	0.806
		JB11	0.647
		JB13	0.505
	Exhaustion	JB1	0.649
		JB5	0.634
		JB8	0.715
		JB14	0.661
		JB16	0.664
Organisational Commitment	Affective Commitment	OC1	0.805
		OC2	0.613
		OC3	0.596
		OC4	0.572
		OC5	0.905
		OC6	0.703
		OC7	0.895
		OC8	0.880
	Continuance Commitment	OC9	0.602
		OC10	0.604
		OC11	0.810
		OC12	0.821
		OC13	0.617
		OC14	0.748
		OC15	0.786
		OC16	0.785
	Normative Commitment	OC18	0.807
		OC19	0.602
		OC20	0.857
		OC21	0.595
		OC22	0.818
		OC23	0.721
		OC24	0.696

Figure 1 The pooled CFA for the new measurement model.

Model of fit	
Chi-Square	4684.720
Df	1810
P-value	<.001
χ^2/df	2.588
CFI	.904
TLI	.900
RMSEA	.054
SRMR	.0617

Construct Validity. Fitness Indexes acceptable fit (CMIN/DF = 2.588, RMSEA = 0.054, CFI =0.904, SRMR = 0.0617). **(Figure 1)**

Table 2. AVE and CR values for all constructs and sub construct

Construct	Sub-construct	AVE	CR
Authentic Leadership		**0.909**	**0.973**
	Self-Awareness	0.748	0.899
	Internalised Moral Perspective	0.789	0.922
	Balanced Processing	0.708	0.888
	Rational Transparency	0.840	0.956
Psychological Capital		**0.719**	**0.880**
	Self-Efficacy	0.848	0.934
	Hope	0.788	0.946
	Resilience	0.748	0.925
	Optimism	0.872	0.922
Job Burnout		**0.871**	**0.921**
	Disengagement	0.451	0.689
	Exhaustion	0.442	0.637
Organisational Commitment		**0.522**	**0.631**
	Affective Commitment	0.574	0.861
	Continuance Commitment	0.529	0.826
	Normative Commitment	0.539	0.816

Convergent Validity and Composite Reliability. The Average Variance Extracted (AVE) and composite reliability (CR) of all constructs exceeded their threshold values of 0.5 and 0.6, respectively. The convergent validity and composite reliability for all latent constructs in the model have been achieved.

Table 3. Discriminant Validity Index Summary

No	Latent Variables	Authentic Leadership	Psychological Capital	Job Burnout	Organisational Commitment
1	Authentic Leadership	**0.954**			
2	Psychological Capital	0.552	**0.848**		
3	Job Burnout	-0.409	-0.725	**0.933**	
4	Organisational Commitment	0.588	0.647	-0.669	**0.723**

Discriminant Validity. The Root of the average Variance of a component is higher than the average Variance of other components in **Table 3.** The criterion of discriminant validity is fulfilled.

The low-value verification is associated with cultural interpretation problems that arise from adapting to the primary healthcare workers' context. Incorporating indicators belonging to another factor might contaminate the weak factor. Therefore, performing Exploratory SEM techniques can be considered. This is the first one to apply pooled CFA to test the conceptual framework. The findings are beneficial for researchers to proceed with structural modelling to determine the relationships. It can extend the human resource management literature by validating the four constructs since such relationships have not been tested together in previous studies.

CONCLUSION

The model has met the requirements for validating and testing the hypotheses presented by the models after the original number of items was reduced to 60 from 68. The findings could be used to proceed with the second step of the Structural Model to study the hypothesis. Pooled CFA is a framework that helps select the best fit for the measurement model.

Uni-dimensionality. The latest model demonstrated all factor loading of all items above 0.5 (**Table 1**) after deleting six items that are below 0.5 (OC17, JB2, JB4, JB10, JB12 and JB15), which indicated the uni-dimensionality of the new measurement model. (**Figure 1**).

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