

# A Structural Equation Model: The Influence of Family Relationship on Sense of Coherence among Chinese International Students

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## Introduction

With the increasing need of pursuing higher education, students from other countries choose to explore abroad for options which are not provided in their countries. The number of Chinese international students in the U.S. is rapidly increasing. However, very little research has been conducted to evaluate the factors that contribute to their mental health during their first months of adjustment to the new culture. One of these factors is a sense of coherence (SOC), the extent to which one regards one's life as manageable, comprehensive, and meaningful. Past research has shown that SOC protects against life stressors by promoting mental health. Thus, understanding the factors that influence Chinese international students' SOC could be relevant to promote their healthy adjustment to the U.S..

## A Model of Sense of Coherence

The goal of this study was to test the role of family on Chinese International students during their beginning of adaptation to college. On the base of above literature review, we develop several hypotheses as follows:

- Hypothesis 1: Family relationship predicts Chinese international students' SOC level and will continue to be predictable of SOC throughout their first semester.
- Hypothesis 2: Adaptation performance is predictive of SOC as well as will mediate the relationship between family relationship and Chinese international students' Sense of Coherence during the first semester.
- Hypothesis 3: SOC level at the beginning of the adaptation is predictive for SOC level after a few months of adaptation.

## Methods

The sample consisted of 34 Chinese international students at a Public Liberal Arts College in the mid-United States. Our sample was about half male (52.9%) and half female (47.1%) with a range from age 18 to age 21 (M = 19.06, SD = .814). Other characteristics of the sample are presented in Table 1. There were two data collections throughout the semester: the beginning of the semester (Time 1) and the end of the semester (Time 2). At both Times 1 and 2, participants responded to the same questionnaires in a university computer lab: Sense of Coherence Questionnaire, Family Adaptability And Cohesion Evaluation Scales, Sociocultural adaptation Scale, and a demographic form.

The three hypotheses were tested using the following steps: First, a paired-samples t-test was conducted to compare changes in variables between Time 1 and Time 2. Second, we conducted bivariate Pearson correlation analysis of variables for the total sample. The third step was to apply structural equation modeling techniques, using the SPSS AMOS 22 software, to test the hypothesis, eliminating variables that were not inter-correlated in the predicted fashion with SOC.

Table #1

Characteristics	Females n(%)	Males n(%)
Participants	16(47%)	18(53%)
Age		
18	1(6%)	6(33%)
19	8(50%)	10(56%)
20	6(38%)	2(11%)
21	1(6%)	0(0%)
Place of origin		
Shanghai	5(31%)	9(50%)
Zhejiang	4(25%)	0(0%)
Jiangxi	1(6%)	1(6%)
Other	6(38%)	8(44%)
Marital Status of parents		
Two-parent biological married family	14(86%)	17(94%)
Married stepfamily	0(0%)	1(6%)
Single-parent family	2(14%)	0(0%)
Prior experience living outside of China		
Yes	5(31%)	0(0%)
No	11(69%)	18(100%)

Note. N = Number of subjects; n = Number of subjects in specified group

## Results

- After participants' first semester spend in a U.S. college, their perceived family cohesion, adaptation performance, and SOC decreases while they perceived their family as more disengaged, rigid, and chaotic.
- Those who reported a better family communication had more strong SOC at the beginning of their adaptation, which was linked to a more positive perceptions of SOC after a semester of adaptation.
- Chinese student who reported more family chaotic had a worse adaptation performance, which was linked to a less strong SOC at the beginning of the first semester.
- Those who reported less adaptation problems after a semester had a more strong SOC at the end of the semester.
- In addition, those who reported a better family communication, he or she had more adaptation problems, which was linked to reduced SOC.
- SOC level at beginning of the semester is predictive of SOC level after one semester of adaptation.

Figure 1. Final Structural Equation Model

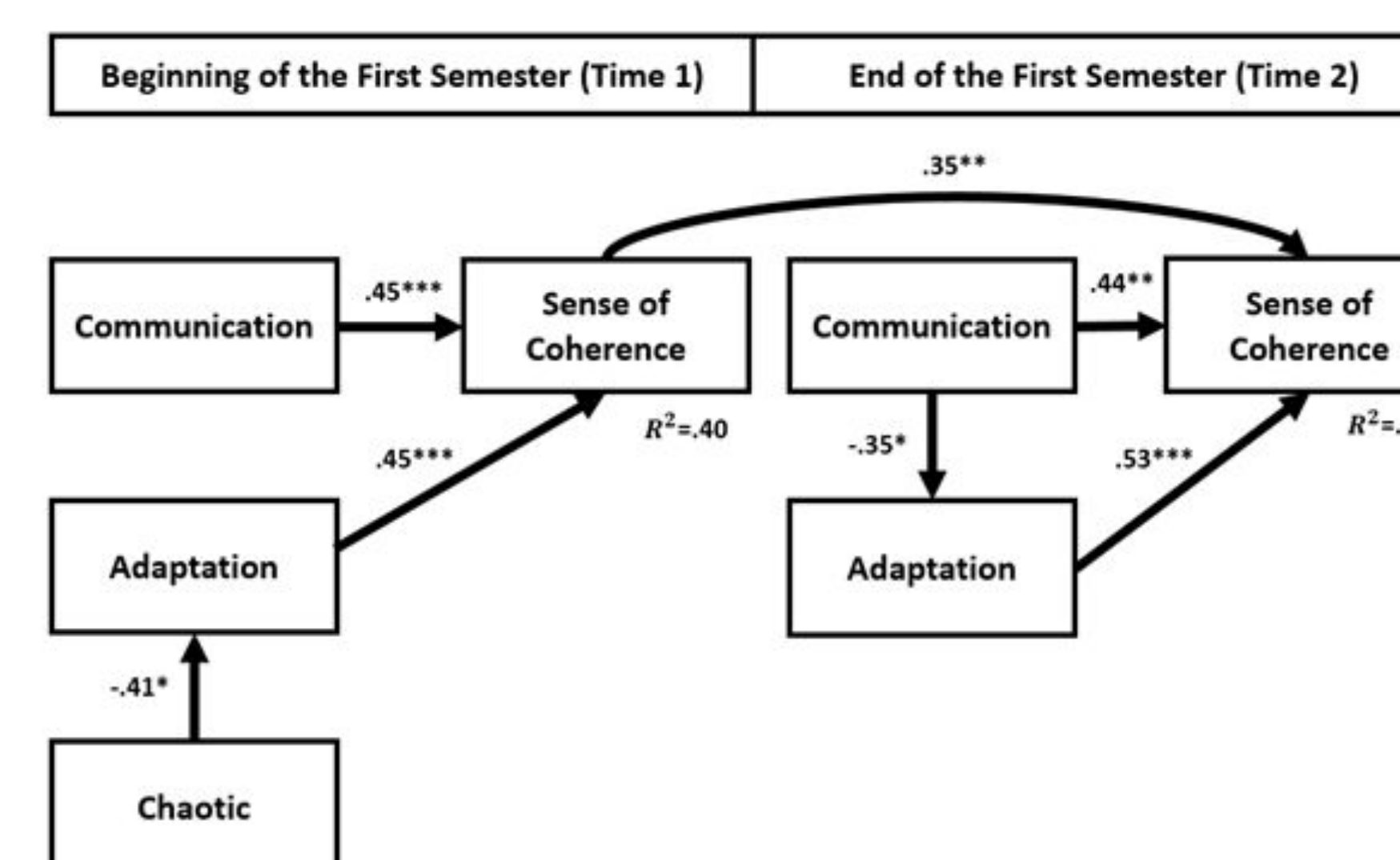


Table #2

Variable	Time 1		Time 2		t(34)	P	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Balanced Scales									
Flexibility	3.46	0.48	3.42	0.68	0.29	0.774	-0.25	0.34	0.07
Cohesion	3.92	0.56	3.65	0.66	2.09	0.044	0.01	0.54	0.44
Unbalanced Scales									
Disengaged	2.44	0.56	2.85	0.74	-2.77	0.009	-0.7	-0.11	0.62
Enmeshed	2.74	0.51	2.94	0.65	-1.49	0.146	-0.48	0.07	0.34
Rigid	3	0.45	3.24	0.6	-2.22	0.034	-0.45	-0.02	0.45
Chaotic	2.38	0.57	2.95	0.66	-4.64	0	-0.82	-0.32	0.92
Satisfaction	3.72	0.86	3.59	0.63	1.01	0.322	-0.14	0.4	0.17
Communication	3.68	0.69	3.55	0.64	0.89	0.379	-0.17	0.42	0.2
Adaptation	2.77	0.48	2.56	0.64	2.35	0.025	0.04	0.62	0.37
Sense of Coherence	4.41	0.5	3.77	0.4	7.36	0	0.47	0.83	1.41

Note. CI=confidence interval; LL= lower limit; UL= upper limit

Table #3

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Time 1																					
1. Flexibility	1																				
2. Cohesion	.50**	1																			
3. Disengaged	-.022	-.56**	1																		
4. Enmeshed	-.002	-.024	.46**	1																	
5. Rigid	.51**	0.19	0.09	0.14	1																
6. Chaotic	-.07	-.027	.34*	.40*	0.11	1															
7. Satisfaction	.48**	.65***	-.46**	0.03	0.21	0.07	1														
8. Communication	.48**	.66***	-.34*	0.15	0.28	0.16	.79***	1													
9. Adaptation	0.32	0.23	-.011	-.033	0.23	-.41*	0.02	0.06	1												
10. Sense of Coherence	.69***	.47**	-.35*	-.018	.42*	-.016	.47**	.47**	.47**	1											
Time 2																					
11. Flexibility	-.004	0.1	-.026	-.005	0.04	0.12	0.21	0.09	0.15	0.3	1										
12. Cohesion	-.01	0.22	-.025	0	-0.01	0	0.26	0.18	0.11	0.2	.71***	1									
13. Disengaged	-.03	-.032	0.16	-.01	0.16	0.29	-.017	-.022	-.001	-.01	.35*	-.006	1								
14. Enmeshed	-.001	-.028	0.07	0.08	0.27	0.29	0.04	-.004	0.06	0.17	.56**	0.07	.81***	1							
15. Rigid	0.08	0.12	-.01	-.008	0.33	0.12	0.23	0.1	0.21	0.3	.84***	.48**	.31**	.72***	1						
16. Chaotic	-.013	-.34*	0.07	-.001	0.11	0.34	0	-.011	-.002	-.005	.48**	-.004	.75***	.82***	.69***	1					
17. Satisfaction	-.01	0.22	-.009	0.24	0.17	.44**	.59**	.37*	-.35*	0.09	0.3	.38*	0.13	0.2	0.26	0.09	1				
18. Communication	0.12	0.15	-.35*	0.04	-.008	0.14	0.27	0.21	-.012	0.2	.84***	.78***	0.18	.34*	.57***	.033	.44**	1			
19. Adaptation	0.02	0.15	0.32	0.21	0.16	-.009	0.14	0.2	0.06	-.011	-.50***	-.011	-.03	-.45**	-.46**	-.47**	0.02	-.35*	1		
20. Sense of Coherence	0.18	0.24	-.017	0.11	0.24	-.004	.36*	.47**	0.15	.38*	0.08	0.28	-.01	-.001	-.005	-.017	.34*	0.32	0.34	1	

Note. \* p < .05, \*\* p < .01, \*\*\* p < .001.

## Conclusions

In conclusion, this study demonstrates the impact of family relations on SOC in the sample of first-year Chinese international students. One who exposure a healthy parent-child relationship, as well as one who could better adapt to the U.S. college, tends to have a higher SOC. Family relationship is a potential predictor of Chinese international students' SOC through their first semester while the process of acculturation is predictive of their SOC and mediated the impacts of parent-child relationship on students' SOC. There are several implications that current research showed the need for more research: 1) International students' SOC. 2) Factors that contribute to mental health. Besides, the current study provides the university with a better understanding of Chinese international students' mental state in relation to their adjustment level for the sake of students' health development.