

Social capital at work and sick leave in Chinese enterprise employees: A validation study

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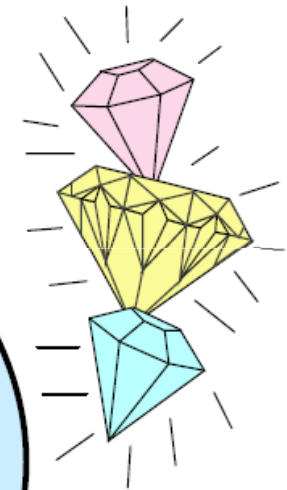
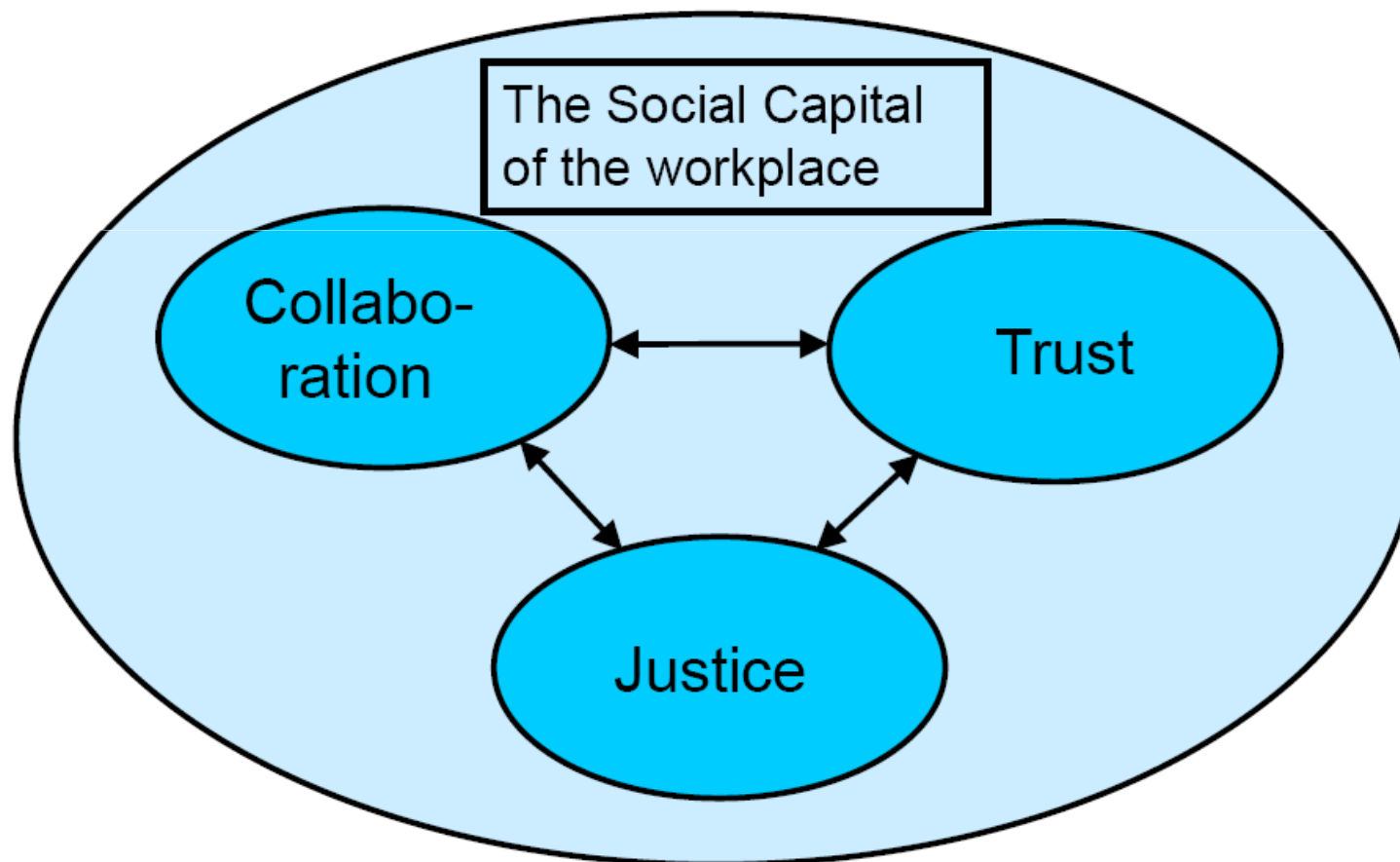
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Background

The road to a good workplace: "The three diamonds"



Background

Literature Review

Cross-sectionally and prospectively, social capital at work is found to be associated with:

■ Health related risk behaviors:

- Kouvonen A, et al. Work-place social capital and smoking cessation: the Finnish Public Sector Study. *Addiction*, 2008, 103 (11): 1857-1865. (Finland)
- Väänänen A, et al. Workplace social capital and co-occurrence of lifestyle risk factors: the Finnish Public Sector Study. *Occup Environ Med*, 2009, 66 (7): 432-437. (Finland)
- Suzuki E, et al. Multi-level, cross-sectional study of workplace social capital and smoking among Japanese employees. *BMC Public Health*, 2010, 10: 489. (Japan)

■ Self-rated health:

- Kouvonen A, et al. Psychometric evaluation of a short measure of social capital at work. *BMC Public Health*, 2006, 6: 251. (Finland)
- Oksanen T, et al. Social capital at work as a predictor of employee health: multilevel evidence from work units in Finland. *Soc Sci Med*, 2008, 66 (3): 637-649. (Finland)
- Suzuki E, et al. Does low workplace social capital have detrimental effect on workers' health? *Soc Sci Med*, 2010, 70 (9): 1367-1372. (Japan)

■ Depression:

- Kouvonen A, et al. Low workplace social capital as a predictor of depression: the Finnish Public Sector Study. *Am J Epidemiol*, 2008, 167 (10): 1143-1151. (Finland)
- Oksanen T, et al. Prospective study of workplace social capital and depression: are vertical and horizontal components equally important? *J Epidemiol Community Health*, 2010, 64 (8): 684-689. (Finland)

■ All-cause mortality:

- Oksanen T, et al. Workplace social capital and all-cause mortality: a prospective cohort study of 28,043 public-sector employees in Finland. *Am J Public Health*, 2011, 101 (9): 1742-1748. (Finland)

**However, - no study from developing country;
- no study examining association with productivity.**

Objectives



Objectives

- To validate a short measure of social capital at work in Chinese enterprise employees;
- To explore the association between social capital at work and sick leave.



Methods



- **Study design:**
 - Cross-sectional study
- **Subjects:**
 - **953** Chinese enterprise employees working in 18 companies (chemical factory, tobacco company, glass company, mechanical company, pesticide company, paper factory, paint company, fertilizer company, perfume company, cement factory, materials company, and aluminum company) (response rate: **97.37%**).



Methods



■ **Measurement:**

➤ Social capital at work

(derived from Copenhagen Psychosocial Questionnaire)

Trust:

T1: Does the management trust the employees to do their work well?

T2: Can you trust the information that comes from the management?

Justice:

J1: Are conflicts resolved in a fair way?

J2: Is the work distributed fairly?

Collaboration:

C1: Is there good co-operation between the colleagues at work?

C2: Do you feel part of a community at your place of work?

Response categories: 5-point Likert scale

➤ Sick leave

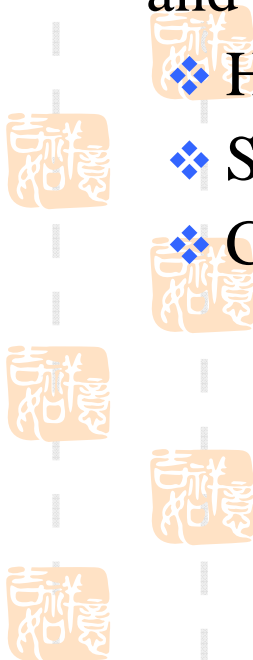
During the past 4 weeks, how many days were you absent from work because of your health problems?

Being dichotomized as “*No any day*” and “*One day or more*”

Methods

■ Data analysis:

- Internal consistency reliability: item-total correlations and Cronbach's alpha coefficients
- Structural validity: confirmatory factor analysis
- Criterion validity: association between social capital at work and sick leave (multilevel logistic regression modeling)
 - ❖ Hierarchically structured data
 - ❖ SAS 9.2: Glimmix procedure
 - ❖ Consecutive models tested:
 - ✓ Null model
 - ✓ Adding individual-level social capital at work
 - ✓ Adding company-level social capital at work (aggregated mean scores at company level)



Results

Results

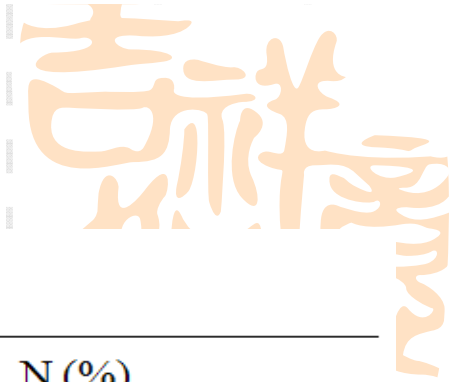


Table 1 Characteristics of study subjects (n=953)

Variables		N (%)
Age (years)	(mean \pm SD)	34.82 \pm 8.97
Work tenure (year)	(mean \pm SD)	13.96 \pm 9.98
Gender	Men	698 (73.24)
	Women	255 (26.76)
Marital status	Single	255 (26.76)
	Married or cohabitated	698 (73.24)
Education	Middle school or below	236 (24.76)
	High School	505 (52.99)
	University or above	212 (22.25)
Income (yuan / month)	< 1000	118 (12.38)
	1000 – 2000	442 (46.38)
	> 2000	393 (41.24)
Sick leave	No	827 (86.78)
	Yes	126 (13.22)

Results

Table 2 Means, SDs, item-total correlations and Cronbach's alpha coefficients of the short measure of social capital at work

Items	Mean \pm SD	Item-total correlation	Alpha if item is deleted	Alpha of scale
Social Capital at Work	64.96 \pm 21.69			0.88
T1	70.70 \pm 25.62	0.66	0.86	
T2	66.00 \pm 29.34	0.69	0.86	
J1	68.36 \pm 27.78	0.79	0.84	
J2	66.13 \pm 27.98	0.73	0.85	
C1	57.56 \pm 26.14	0.56	0.88	
C2	61.02 \pm 27.77	0.68	0.86	

Results

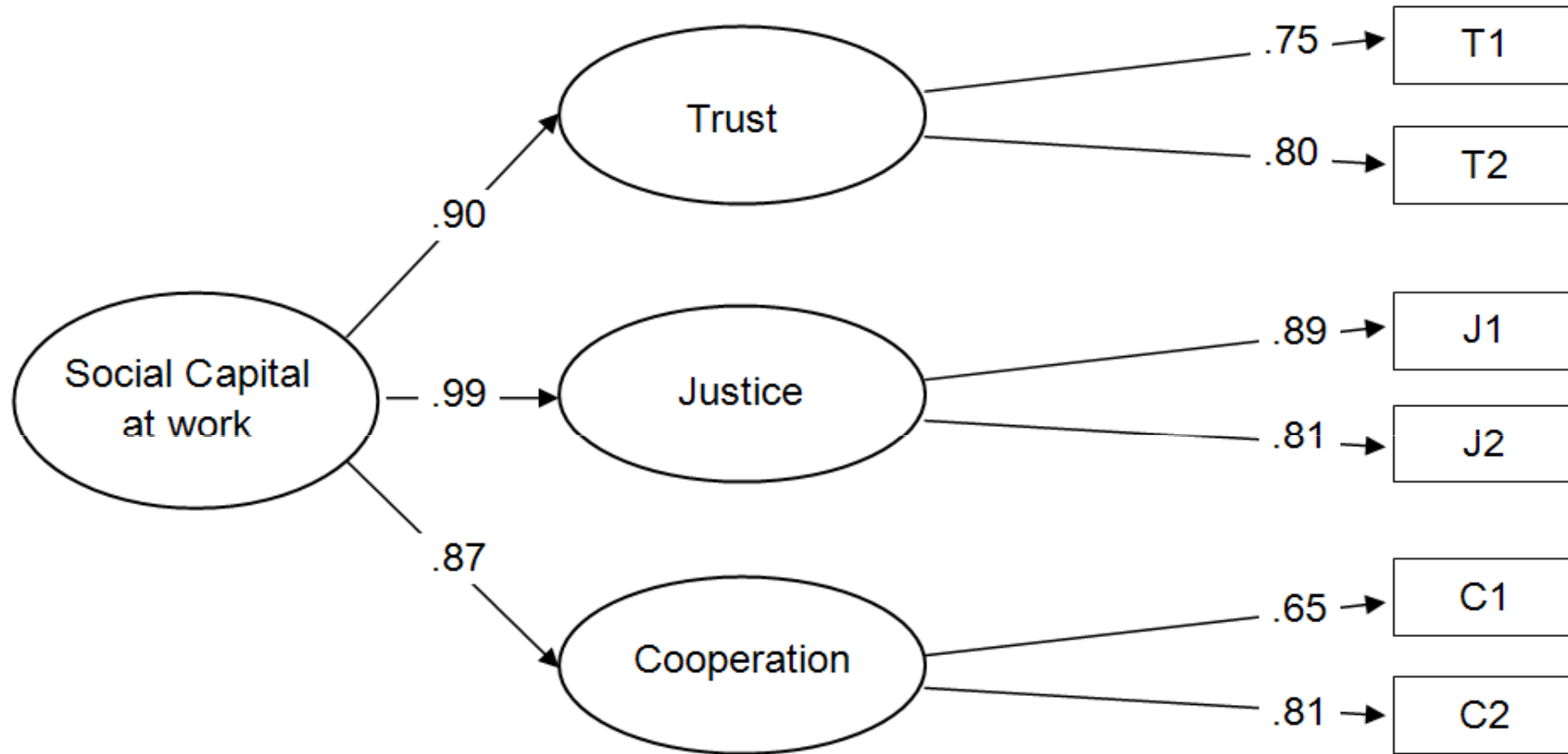


Figure 1 Confirmatory factor analysis testing the theoretical construct underlying the short measure of social capital at work

GFI: 0.99, AGFI: 0.98, RMSEA (90% CI): 0.03 (0.00, 0.07), CFI: 0.99, CAIC: 0.08

Results

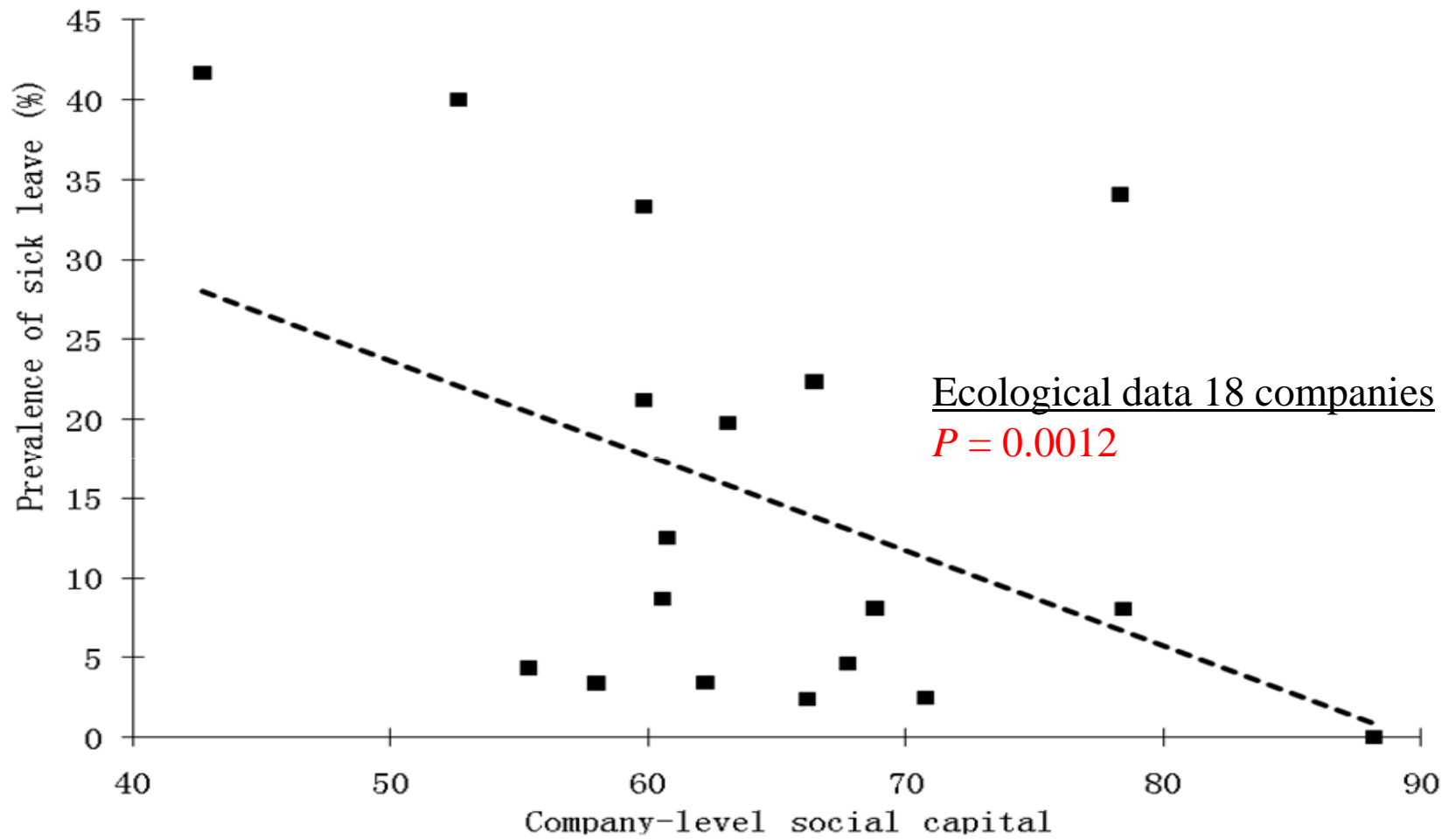


Figure 2 Relation between aggregate company level social capital at work and sick leave

Results



- **Multilevel logistic regression modeling:**

- Null model

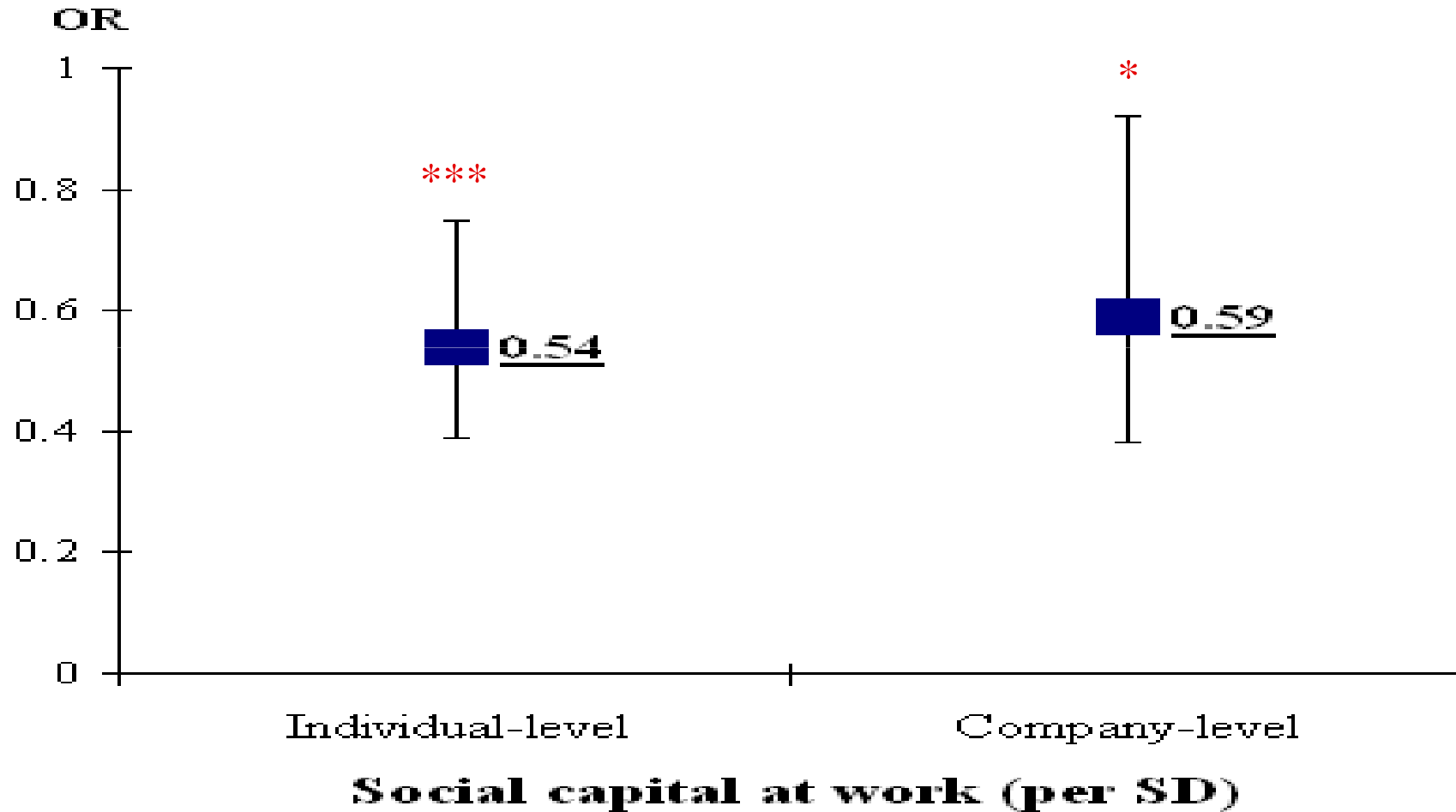
- ❖ Intra Class Correlation (ICC) = 10.2% ($P < 0.001$)



- ❖ the percentage of the total variance in sick leave can be attributed to differences between the companies

Results

- **Multilevel logistic regression modeling:**
- Full model



Adjusted for age, gender, marital status, work tenure, education, and income

* $P < 0.05$, *** $P < 0.001$



Conclusions

- Psychometric findings show the measure of social capital in workplace is a reliable and valid tool for work stress research in China.
- Workplace social capital at both individual- and aggregate- company levels is associated with low risk for sick leave.



köszönöm !תודה *dekuji*

mahalo 고맙습니다

thank you TAK

merci 谢谢 *danke*

Ευχαριστώ شڪرا

どうもありがとう *gracias*