The Constructs and Measurement of Leader-Subordinate Relational Identity

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Based on the theoretical model regarding Leader-Subordinate Relational Identity (LSRI) from the work of Tsai, Cheng, and Chou (2015), we developed the construction and measurement of LSRI scale. We also explore the relationships between leader's LSRI and leadership behavior, subordinate's LSRI and subordinate effectiveness to further verify the validity of the scale. There were four studies conducted in this research: Study 1, we used Critical Incident method to collect the contents of LSRI and creat the items of LSRI based on inductive approach. Study 2, employed the Proportion of Substantive Agreement method to verify the content validity of the scale. Study 3, based on the scale from Study 1 and Study 2, the Exploratory Factor Analysis (EFA) was conducted for leader sample to filter items and to test its internal consistency and reliability. Besides, Confirmatory Factor Analysis (CFA) was used with subordinate sample to verify the fitness index to ensure the discrimination among four constructs. Study 4, with the sample of 350 subordinates and 58 leaders, the effects of subordinate's LSRI on subordinate's effectiveness and leader's LSRI on leader's leadership behavior were examined to verify the relational validity of the scale. Lastly, the major findings, contributions, limits, and future directions of this research were also discussed.

Keywords: *leader-subordinate relational identity, employee effectiveness, leadership, relational schema*

Extended Abstract

This study develops a Leader-Subordinate Relational Identity (LSRI) scale for use in future research as a measure of the relational identity of leaders and subordinates, based on the theoretical model proposed by Tsai, Cheng, and Chou (2015). It further explores the relationship between leaders' LSRI and their leadership behavior, and the relationship between subordinates' LSRI and their work behavior and performance, and tests the criterion-related validity of the scale.

Tsai et al. (2015) divided leader-subordinate relational identity into two basic dimensions: the vertical axis is the equal-unequal dimension and the horizontal axis is the close-distant dimension. Tsai further explored the connotations of the four kinds of leader-subordinate relational identity constituted by the intersection of the two axes as follows.

(1) The equal and close dimension forms the communal affection relational identity. It is defined as a relationship formed between leaders and subordinates based on mutual care and emotional sharing. Therefore, it is considered that the interaction between leaders and subordinates should be an emotional exchange similar to that between friends. Both sides identify their relationship as one of commonality, intimacy, care and cooperation. The interactions between leader and subordinate are motivated by emotional reciprocity and based on the principles of social exchange. Both sides follow the norm of responding to the other's emotions.

(2) The equal and distant dimension forms the instrumental exchange relational identity. It refers to a relationship between leaders and subordinates based on the exchange and coexistence of interests. Therefore, it

is considered that the interaction between leaders and subordinates should be of a purely computational and utilitarian kind. Both sides identify their relationship as one of self-orientation, rational analysis and competitiveness. The interactions are motivated by mutual economic benefit and based on the principles of economic exchange. The sides respond to each other through the exchange of interests.

(3) The unequal and close dimension forms the care-repay relational identity. It is defined as a relationship between leaders and subordinates formed by providing resources or assistance with non-job requirements based on the traditional Chinese norms for interaction between leader and subordinates, according to which leaders offer care and subordinates give something in return for that care. The leaders identify the relationship as one of offering care to subordinates and the subordinates identify it as one of offering gratitude to their leaders. The motivation is the traditional requirements for interaction between the leader and the subordinate, and the interaction is based on the principle of role obligation. The two sides respond to each other by following the leader-subordinate interaction norms.

(4) The unequal and distant dimension forms the authority-obedience relational identity. It is defined as a relationship between leaders and subordinates based on their level on a power hierarchy. Therefore, it is believed that the interaction between leaders and subordinates should have a clear hierarchy, with leaders identifying the relationship as one of giving orders and subordinates identifying it as one of obedience. The interaction is motivated by the control of subordinates by their more powerful leaders, and is based on the principle that the leader is superior to the subordinate. The sides respond to each other based on a strict hierarchy between leaders and subordinates (Tsai, Cheng, & Chou, 2015). The conceptual framework for these four types of LSRI is shown in Figure 1.

Research Method

Four studies were carried out to construct and validate the LSRI scale. Study 1 collected statements on LSRI from 104 research questionnaires on key cases. The collected statements were then classified and the items of the LSRI scale were compiled accordingly. Study 2 developed questionnaires based on the items compiled in Study 1. Seventy-eight college students were recruited to make judgments, and the content validity of the scale was tested using the proportion of substantive agreement. Study 3 carried out an exploratory factor analysis (EFA) and item screening of the interim scale with a sample of 59 business leaders, while testing the reliability and internal consistency. In addition, confirmatory factor analysis (CFA) was performed on a sample of 251 enterprise subordinates to derive the fit
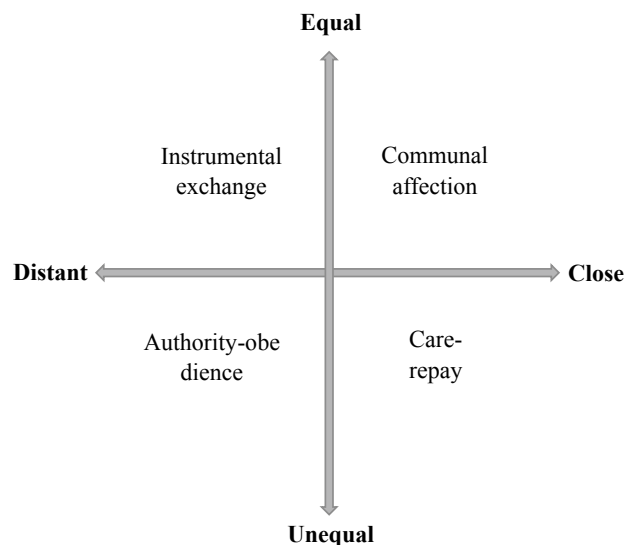

Figure 1. **The Model of Leader-Subordinate Relational Identity**

indices of the constructs and confirm their discriminatory validity. Study 4 collected data from samples in sets, with each set comprising one department supervisor and 3-8 direct subordinates. A total of 80 sets of questionnaires were distributed (80 leaders' questionnaires and 450 subordinates' questionnaires), of which 72 sets were collected (72 leaders' questionnaires and 423 subordinates' questionnaires). After removing questionnaires with blanks, too many missing answers, random answers and those with an obvious reaction tendency, 58 sets of valid questionnaires (58 leaders' questionnaires and 350 subordinates' questionnaires) were retained for data analysis. The data from these questionnaires were used to test the impact of the subordinates' LSRI on their work behavior and performance and the impact of the leaders' LSRI on their leadership behavior, and to further verify the relevance validity of the scale.

Research Results

1. Results of Study 1: Development of constructs and compilation of scale items

After the responses were collected, the content analysis was carried out by referring to the analysis steps documented by Farh, Zhong and Organ (2004). Through case interpretation, a total of 403 descriptive sentences were collected, 37 categories were obtained initially, 19 sub-categories were obtained after repeated confirmation, and finally 4 meaningful dimensions were arrived at. These four dimensions were consistent with the four categories in the theoretical model of LSRI proposed by Tsai (2015). After defining the contents of each of the dimensions based on the theoretical definition, items were compiled and a content validity test was conducted based on the contents of each dimension and the constructed case question bank. The results of the analysis of key

Table 1. **Key Case Analysis of Leader-Subordinate Relational Identity**

Dimension	Definition	Category	Content summary	Total frequency
Identity of instrumental exchange	The relationship between superiors and subordinates formed based on the exchange and coexistence of interests	Working relationship	*Supervisors and subordinates should work together in a logical way, so both sides need to constantly examine the connotation of the relationship and avoid too much intervention of personal emotions (092-5-01).* *Professional public-private distinction. Don't mix too much personal emotions, so as not to interfere with the progress of public affairs (071-3-01)*	13%
		Interest relationship	*Supervisors make use of subordinates' abilities and subordinates make use of supervisors' powers (094-4-01)* *It's almost impossible to open hearts to other; both sides take advantages of each other (059-3-01)*	
		Competitive relationship	*Collusion and struggles for interests Working together for the common interests of the department, with harmony on the surface but competing behind the scenes and criticizing each other for power and interests (030-4-01)*	
Identity of communal affection	The relationship formed between superiors and subordinates based on mutual care and emotional sharing	Friend relationship	*Can provide helps and care like in time friends beyond the scope of work (086-2-01)* *Friend relationship –can talk like friends in private occasions other than working relationships, (025-5-01)*	35%
		Family relationship	*Brothers and sisters – guide and support each other and care for each other like family members; learn and grow together in a harmonious atmosphere (025-2-01)* *Family - people are connected with each other. A workplace is like a big family with members coming from all sides, so people will help each other (029-2-01).*	
		Mutual respect	*Mutual respect - Every position has its own importance, regardless of dignity and inferiority, and thus there should be mutual respect (025-3-01)*	
		Support and encouragement	*Encourage each other during frustrations (001-1-02)*	

Table 1 (continued).   **Key Case Analysis of Leader-Subordinate Relational Identity**

Dimension	Definition	Category	Content summary	Total frequency
		Mutual trust	*Mutual trust and mutual assistance are the foundation of the relationship if it is to be effective in the organization (058-1-01)*	
		Care and concern	*Appropriate care and dependence, just as the supervisor will take care of the work progress and even emotions of the subordinate and the subordinate will also care and rely on the supervisor (094-3-01).*	
		Share happiness and hardships	*Share happiness and hardships and strive together for tough tasks (087-2-02)* *Face work challenges together (067-1-01)*	
Identity of care-repay	The relationship between superiors and subordinates formed by providing resources or assistance for non-job requirements based on the interaction norm between superiors and subordinates	Mutual promotion during teaching and learning	*Supervisors should have the obligation to guide their subordinates so that the subordinates could accumulate experience and grow (090-1-01)* *Subordinates have the obligation to learn, adapt and complete their practice (063-1-02)*	30%
		Exemplary motivation	*Supervisors need to be able to take the lead to solve problems in all cases, setting examples to their subordinates. (052-3-01)*	
		Tolerance and magnanimity	*Supervisors should have the magnanimity to accept different opinions and criticisms from their subordinates (043-2-01)*	
		Offering advices	*Subordinates should make appropriate suggestions and discuss with their supervisors if they find any inadequacies in their supervisors' policies (073-3-03).*	
		Compassion for subordinates	*Strive for the welfare of the subordinates so that they can keep their minds on the work (006-2-01)*	
		Supporting the supervisor	*Subordinates should try to understand where the supervisor's pressure is and do their best within their capabilities (06-3-01)*	
Identity of authority-obedience	The relationship between superiors and subordinates formed based on the level of work power	Obedience to the supervisor	*Only complete obedience can achieve absolute execution and goals (053-1-01)* *Strictly follow orders of the supervisor. As a subordinate, I just want to obey orders and keep a job. When the sky falls, the supervisor will carry it. It has nothing to do with me (062-4-01).*	22%
		Authoritarian supervisor	*In order to achieve company (department) goals, supervisors need authoritarian leadership to achieve goals more easily (019-2-01)* *The traditional class system still needs to exist in order to effectively manage subordinates in emergency periods (021-4-01)*	

cases are as follows (see Table 1), and the definitions of the dimensions, the content summary and the total frequencies are collated in Table 1.

2. Results of Study 2: Scale content validity test

As shown in Table 2, all questions were correctly classified into their corresponding dimensions, but two items making up less than 60% of the total responsiveness of the question were deleted (Schriesheim & Hinkin, 1990). The classification results for all dimensions generally confirmed the validity of the constructs of LSRI and there was a certain degree of stability. The 27 questions on the interim LSRI scale compiled in Study 1 were analyzed using the proportion of substantive agreement, following which two questions that could not be clearly distinguished as one of the four dimensions were removed. A factor analysis of the scale was carried out on the remaining 25 items, which were found to be clearly distinct in terms of semantic content, as shown in Table 2.

Table 2.　**Content Validity Evaluation Results of Items of Leaders' Leader-Subordinate Relational Identity (*N* = 78)**

Scores in content analysis of each item Method for calculating the scores of each dimension of each question: (Frequency of Score 2 * Frequency of 2 + Score 1 * Frequency of 1 + Score 0 * Frequency of 0)	Communal affection sharing	Instrumental exchange	Care-repay	Authority-obedience	None of the above
1 Supervisors and subordinates should be work partners with hearts open to each other.	**133**	21	31	1	0
7 Supervisors and subordinates should share their thoughts and feelings.	**146**	12	22	1	1
9 Supervisors and subordinates should be emotionally close to each other.	**149**	7	21	2	3
14 Supervisors and subordinates should be able to show each other sincere emotions, whether happy or sad.	**147**	1	16	2	8
18 Supervisors and subordinates should help and care for each other like friends.	**142**	1	29	2	1
25 Supervisors and subordinates should be able to share happiness and hardships with each other.	**138**	14	27	1	3
27 Supervisors and subordinates should show mutual concern and compassion.	**134**	8	33	2	3
24 Supervisors and subordinates should cooperate with each other regardless of hierarchy.	**79**	46	35	5	12
2 Supervisors and subordinates need to take advantages of each other to bring substantive benefits to each other.	4	**145**	18	8	4
5 The relationship between the supervisor and the subordinate is nothing more than an exchange of interests at work.	4	**145**	8	15	6
10 Supervisors and subordinates should be equal but exchange the interests of different tasks in different positions.	18	**117**	17	6	13
15 The relationship between the supervisor and the subordinate should be to utilize each other's abilities or resources to accomplish their tasks.	7	**141**	23	5	3
20 The supervisor provides the resources that the subordinate lacks after making estimation, and the subordinate decides the work performance according to the resources provided by the supervisor.	4	**121**	32	4	9
21 The relationship between the supervisor and the subordinate should be a trade between work performance and reward and punishment.	0	**114**	8	48	4
26 The relationship between the supervisor and the subordinate is to meet both parties' working requirements conditionally after calculation.	5	**140**	16	10	5
3 The relationship between the supervisor and the subordinate should be that the supervisor takes care of the subordinate unconditionally and gives the subordinate performance opportunities, while the subordinate feels grateful and repays the supervisor with loyalty.	23	10	**138**	12	2
6 The supervisor should help the subordinate solve all kinds of difficulties unconditionally, while the subordinate shows positive behavior in return for the supervisor.	14	14	**142**	9	3
11 The relationship between supervisors and subordinates should be that the supervisor should guide the subordinate privately, while the subordinate should study hard to repay the supervisor.	18	30	**126**	4	1
17 The relationship between the supervisor and the subordinate should go beyond the scope of work. The supervisor selflessly gives the subordinate any necessary resources and the subordinate finds opportunities to repay the supervisor's assistance beyond work.	50	11	**108**	4	8
23 The relationship between the supervisor and the subordinate should be the obligation relationship between the supervisor's care to the subordinate and the subordinate' repay to the supervisor.	6	25	**116**	32	2
16 The relationship between the supervisor and the subordinate should be like that between parents and children, in which the supervisor cares for the subordinate unconditionally, while the subordinate pay him back with respect.	69	4	**103**	5	1

Table 2 (continued). **Content Validity Evaluation Results of Items of Leaders' Leader-Subordinate Relational Identity ($N = 78$)**

Scores in content analysis of each item Method for calculating the scores of each dimension of each question: (Frequency of Score 2 * Frequency of 2 + Score 1 * Frequency of 1 + Score 0 * Frequency of 0)	Communal affection sharing	Instrumental exchange	Care-repay	Authority-obedience	None of the above
4　The relationship between the supervisor and the subordinate is the relationship between position and power, in which the supervisor gives orders and the subordinate obeys orders.	1	22	3	**148**	7
8　The relationship between the supervisor and the subordinate should have a clear hierarchy. Whether the supervisor's order is reasonable or not, his subordinates should obey it.	0	13	8	**139**	11
12　Supervisors have more powers, and subordinates should obey them to avoid punishment.	0	15	5	**148**	7
13　The relationship between the supervisor and the subordinate is the power relationship between upper and lower hierarchies.	2	15	2	**154**	5
19　The relationship between the supervisor and the subordinate should be the relationship between management supervision and compliance.	8	22	9	**137**	3
22　Supervisors should maintain authority over their subordinates, while subordinates should obey their supervisors.	0	14	9	**152**	3

Note. The words in bold type are the dimensions of the original concept of each item, and the words with bottom lines are the items finally retained.

3. Results of Study 3: Scale validity and reliability test

Principal component analysis was used as the estimation method for the EFA. Considering the psychological attributes of relational identity, correlations between factors were thought to be likely. Therefore, the optimal skew method (Promax, Kappa=3) was used to estimate the rotation axis. Questions with a factor loading of less than 0.4 or a significant loading on multiple factors were deleted. The results of the EFA and the internal consistency of the final 19 items are shown in Table 3.

CFA was carried out on the 19-item version using the EQS 6.1 statistical software to calculate the fit indices of the scale. The results indicated acceptable levels of distinctness between variables, with the factor loadings of the items shown in Table 4. The fitness indices were [$N = 221$, $\chi^2 = 205.55$, $df = 98$, CFI = .94, GFI = .90 (AGFI = .86), IFI = .94, NFI = .89/NNFI = .93, SRMR = .063, RMSEA = .071.] Assessment of the construct reliability (CR) of the four dimensions obtained the following results: communal affection = .83, instrumental exchange = .84, care-repay = .87 and authority-obedience = .89. For the aggregate validity of the four dimensions, the average variance extracted (AVE) ranged from .50 to .67. These figures indicate that the four sub-scales of LSRI in this version of the scale are clearly distinct and have good reliability.

4. Results of Study 4: Test of criterion-related validity of the scale

Study 4 further examined the relevance validity of the scale, for both leaders and subordinates. The scale was used to test the relationship between subordinates' LSRI and five features of their work behavior and outcomes: prosocial behavior to the leader, obedience to the leader, commitment to the leader, emotional exhaustion and work performance. It was also used to test the relationship between leaders' LSRI and their leadership behavior as defined by representative forms of paternalistic leadership taken from the Chinese leadership literature.

Table 3. **Exploratory Factor Analysis of Items of Leaders' Leader-Subordinate Relational Identity (*N* = 59)**

Items	Mean	SD	Communal affection	Instrumental exchange	Care-repay	Authority-obedience
Communal affection (Cronbach's α = .80)						
Supervisors and subordinates should be able to show each other sincere emotions, whether happy or sad.	4.31	1.12	**.82**	.03	-.17	.13
Supervisors and subordinates should show mutual concern and compassion.	5.24	0.63	**.64**	-.01	.21	.12
Supervisors and subordinates should be able to share happiness and hardships with each other.	4.98	0.78	**.75**	.06	-.01	-.12
Supervisors and subordinates should be work partners with hearts open to each other.	3.69	1.09	**.66**	-.18	.14	-.01
Supervisors and subordinates should be emotionally close to each other.	4.08	0.95	**.82**	.11	.04	-.13
Instrumental exchange (Cronbach's α = .78)						
Supervisors and subordinates need to take advantages of each other to bring substantive benefits to each other.	3.08	1.21	.25	**.63**	.07	.05
Supervisors and subordinates should be equal but exchange the interests of different tasks in different positions.	3.68	1.27	-.13	**.67**	.41	-.25
The relationship between the supervisor and the subordinate should be to utilize each other's abilities or resources to accomplish their tasks.	3.90	1.26	.04	**.81**	.07	-.02
The relationship between the supervisor and the subordinate is nothing more than an exchange of interests at work.	2.90	1.11	-.03	**.74**	-.14	.23
The relationship between the supervisor and the subordinate is to meet both parties' working requirements conditionally after calculation.	3.25	1.17	-.04	**.78**	-.19	-.01
Care-repay (Cronbach's α = .86)						
The relationship between supervisors and subordinates should be that the supervisor should guide the subordinate privately, while the subordinate should study hard to repay the supervisor.	4.97	0.85	-.02	.18	**.55**	.10
The supervisor should care for the subordinates unconditionally, and the subordinates should respect the supervisor.	4.07	1.17	.03	-.02	**.81**	.03
The relationship between the supervisor and the subordinate should be that the supervisor takes care of the subordinate unconditionally and gives the subordinate performance opportunities, while the subordinate feels grateful and repays the supervisor with loyalty.	4.22	1.04	-.09	-.08	**.92**	.08
The supervisor should help the subordinate solve all kinds of difficulties unconditionally, while the subordinate shows positive behavior in return for the supervisor.	4.46	1.07	.06	-.03	**.85**	-.08
The relationship between the supervisor and the subordinate should be the obligation relationship between the supervisor's care to the subordinate and the subordinate' repay to the supervisor.	3.86	1.01	.15	.02	**.71**	.10
Authority-obedience (Cronbach's α=.87)						
Supervisors should maintain authority over their subordinates, while subordinates should obey their supervisors.	3.37	1.03	.02	.00	.07	**.90**
The relationship between the supervisor and the subordinate is the power relationship between upper and lower hierarchies.	3.19	0.96	.03	-.12	.15	**.73**

Table 3 (continued).   Exploratory Factor Analysis of Items of Leaders' Leader-Subordinate Relational Identity (N = 59)

Items	*Mean*	*SD*	Communal affection	Instrumental exchange	Care-repay	Authority-obedience
The relationship between the supervisor and the subordinate is the relationship between position and power, in which the supervisor gives orders and the subordinate obeys orders.	3.17	1.07	.02	.01	-.13	**.88**
The relationship between the supervisor and the subordinate should be the relationship between management supervision and compliance.	3.63	1.02	-.12	.17	.13	**.81**
Eigenvalue			2.31	1.89	4.71	3.32
Variance Explained before rotation (%)			12.16	9.90	24.78	17.49

Note. Using the principal component analysis as factor analysis to estimate (promax, Kappa=3).

Table 4.   Mean, Standard Deviation and Confirmatory Factor Loadings of Items of Leaders' Leader-Subordinate Relational Identity (N = 250)

Items	*Mean*	*SD*	Factor loadings
Communal affection (CR=.83, AVE=.50)			
Supervisors and subordinates should be able to show each other sincere emotions, whether happy or sad.	4.34	1.08	**.70**
Supervisors and subordinates should show mutual concern and compassion.	5.08	0.68	**.53**
Supervisors and subordinates should be able to share happiness and hardships with each other.	4.93	0.81	**.55**
Supervisors and subordinates should be work partners with hearts open to each other.	4.04	1.11	.83
Supervisors and subordinates should be emotionally close to each other.	4.13	1.07	.85
Instrumental exchange (CR=.84, AVE=.51)			
Supervisors and subordinates need to take advantages of each other to bring substantive benefits to each other.	3.29	1.24	.63
Supervisors and subordinates should be equal but exchange the interests of different tasks in different positions.	3.82	1.19	.60
The relationship between the supervisor and the subordinate should be to utilize each other's abilities or resources to accomplish their tasks.	3.92	1.18	.70
The relationship between the supervisor and the subordinate is nothing more than an exchange of interests at work.	3.33	1.18	.87
The relationship between the supervisor and the subordinate is to meet both parties' working requirements conditionally after calculation.	3.54	1.20	.75
Care-repay (CR=.87, AVE=.59)			
The relationship between supervisors and subordinates should be that the supervisor should guide the subordinate privately, while the subordinate should study hard to repay the supervisor.	4.87	0.80	.54
The supervisor should care for the subordinates unconditionally, and the subordinates should respect the supervisor.	4.25	1.08	**.88**

Table 4 (continued). **Mean, Standard Deviation and Confirmatory Factor Loadings of Items of Leaders'**
Leader-Subordinate Relational Identity (*N* = 250)

Items	Mean	SD	Factor loadings
The relationship between the supervisor and the subordinate should be that the supervisor takes care of the subordinate unconditionally and gives the subordinate performance opportunities, while the subordinate feels grateful and repays the supervisor with loyalty.	4.28	1.06	.91
The supervisor should help the subordinate solve all kinds of difficulties unconditionally, while the subordinate shows positive behavior in return for the supervisor.	4.33	1.07	.86
The relationship between the supervisor and the subordinate should be the obligation relationship between the supervisor's care to the subordinate and the subordinate' repay to the supervisor.	4.04	1.09	.56
Authority-obedience (CR=.89, AVE=.67)			
Supervisors should maintain authority over their subordinates, while subordinates should obey their supervisors.	3.59	1.08	.69
The relationship between the supervisor and the subordinate is the power relationship between upper and lower hierarchies.	3.65	1.13	.83
The relationship between the supervisor and the subordinate is the relationship between position and power, in which the supervisor gives orders and the subordinate obeys orders.	3.63	1.10	.89
The relationship between the supervisor and the subordinate should be the relationship between management supervision and compliance.	3.77	1.04	.84

The results reported show significant positive correlations between the subordinates' LSRI of communal affection and prosocial behavior to the leader, obedience to the leader, commitment to the leader and work performance ($r = .29$, $p < .01$; $r = .24$, $p < .01$; $r = .32$, $p < .01$; $r = .15$, $p < .01$). Significant positive correlations were also found between the subordinates' LSRI of instrumental exchange and obedience to the leader and emotional exhaustion ($r = .12$, $p < .05$; $r = .14$, $p < .01$). Significant positive correlations were also found between the subordinates' LSRI of care-repay and prosocial behavior to the leader, obedience to the leader, commitment to the leader and work performance ($r = .24$, $p < .01$; $r = .26$, $p < .01$; $r = .19$, $p < .01$; $r = .14$, $p < .05$). Finally, significant positive correlations were found between the subordinates' LSRI of authority-obedience and prosocial behavior to the leader, obedience to the leader and commitment to the leader ($r = .20$, $p < .01$; $r = .39$, $p < .01$; $r = .20$, $p < .01$).

The results of a sectional regression analysis of subordinates' LSRI on their work behavior and outcomes are shown in Table 5. The results showed significant positive effects of the subordinates' LSRI of communal affection on prosocial behavior to the leader, obedience to the leader, commitment to the leader and work performance ($\beta = .26$, $p < .01$; $\beta = .20$, $p < .01$; $\beta = .34$, $p < .01$; $\beta = .13$, $p < .05$). The results also showed significant positive effects of the subordinates' LSRI of instrumental exchange on obedience to the leader and emotional exhaustion ($\beta = .13$, $p < .05$; $\beta = .11$, $p < .05$). The subordinates' LSRI of care-repay showed significant positive effects on prosocial behavior to the leader, commitment to the leader and work performance ($\beta = .23$, $p < .01$; $\beta = .19$, $p < .01$; $\beta = .11$, $p < .05$). The subordinates' LSRI of authority-obedience showed significant positive effects on prosocial behavior to the leader, obedience to the leader and commitment to the leader ($\beta = .19$, $p < .01$; $\beta = .40$, $p < .01$; $\beta = .20$, $p < .01$), The standardized regression coefficients further indicate that subordinates with an LSRI of authority-obedience showed higher levels of obedience to the leader than of prosocial behavior to the leader or commitment to the leader.

We further tested how the leaders' LSRI affected their paternalistic leadership behavior. A correlation analysis was first conducted to identify the correlations between the variables. As shown in Table 6, there was a significant negative correlation between the LSRIs of

Table 5. **Block Regression Analysis for Subordinate's Leader-Subordinate Relational Identity and Work Efficiency（N = 344）**

	Prosocial behavior to the leader	Obedience to the leader	Commitment to the leader	emotional exhaustion	Work performance
Control variable					
gender	-.09	-.05	-.02	.02	-.02
age	.05	.04	.01	.03	.21
degree	.10	.05	.16*	-.10	.00
tenure	-.04	.02	.00	-.26*	.02
Co-work time	.04	-.02	.00	.17*	.05
social desirability	-.05	-.08	-.12**	.25**	-.11
（ΔR^2）	(.02)	(.01)	(.03)	(.10)**	(.08)**
Sub. LSRI					
Communal affection	**.26**	**.20**	**.34**	-.07	**.13***
Instrumental exchange	-.04	**.13***	.00	**.11***	.05
Care-repay	**.23**	.07	**.19**	.10	**.11***
Authority-obedience	**.19**	**.40**	**.20**	-.07	-.05
（ΔR^2）	(.12)**	(.21)*	(.16)*	(.02)+	(.02)+
R^2	.14	.22	.19	.12	.10
Adjuster R^2	.11	.20	.17	.09	.08
df	4, 333	4, 333	4, 333	4, 334	4, 334
F value	5.43**	9.3**	7.8**	4.58**	3.8**

Note. The value without parentheses is the standard coefficinet.
+p < .10. *p < .05. **p < .01. ***p < .001.

Table 6. **Leadership and Subordinate's Control Variables' Mean, S.D., Correlation Coefficient. (N = 250)**

variable	*Mean*	*SD*	1	2	3	4	5	6	7	8	9	10
Control variable												
1. gender	**0.39**	**0.49**										
2. age	**35.24**	**7.55**	-.07									
3. degree	**2.78**	**0.86**	-.18**	-.25**								
4. tenure	**6.37**	**8.74**	.01	.47**	-.05							
5. job grade	**2.22**	**0.56**	-.07	.25**	-.03	.12						
6. co-work time	**3.93**	**7.20**	.07	.15*	.02	.81**	.06					
7. power distance	**3.05**	**0.67**	.09	-.02	-.15*	.00	-.22**	-.02				
Leadership												
8. benevolence	**3.72**	**0.93**	-.04	-.10	.17**	.02	.01	.07	-.27**	(.92)		
9. Shang-Yang	**4.10**	**1.02**	-.03	.02	-.18**	-.10	.09	-.06	.13*	.04	(.87)	
10.Juan-Chiuan	**2.30**	**1.00**	-.06	.13*	-.15*	.04	-.02	.02	.35**	-.48**	.25**	(.89)

Note. Gender：male is 0, female is 1. Degree：1.below high school or vocational high school, 2. associate degree, 3. Bachelor degree, 4.master degree, 5.doctoral degree.
*p < .05. **p < .01.

communal affection and care-repay ($r = .41$, $p < .01$), a significant negative correlation between benevolent leadership and juan-chiuan leadership ($r = -.48$, $p < .01$), and a significant positive correlation between shang-yan leadership and juan-chiuan leadership ($r = .25$, $p < .01$).

To understand the influence of leaders' LSRI on their leadership behavior, a hierarchical linear model (HLM) analysis was conducted . The sample size was 247 subordinates spread across 58 groups, with each group having 3-8 subordinates and 1 leader. For the subordinate variables in Level 1, the variables related to leadership behavior, such as the subordinates' rank, seniority and time spent with their supervisors, were used as control variables. For the leader variables in Level 2, the variables that could interfere with their attitudes towards the relationship with subordinates, such as education level, rank and seniority, were used as control variables. A significance level of $p < .1$ was used for the

HLM analysis. According to the results shown in Table 7, leaders' LSRI of instrumental exchange had a significant negative effect on benevolent leadership, a significant positive effect on juan-chiuan leadership ($\gamma_{05} = -.19$, $p < .05$, $\gamma_{05} = .16$, $p < .05$) and a significant negative effect on shang-yan leadership ($\gamma_{05} = -.14$, $p < .10$), which indicates that leaders holding an LSRI of instrumental exchange will more often exhibit the juan-chiuan leadership style, and less often exhibit the benevolent and shang-yan leadership styles. The leaders' LSRI of care-repay had a significant positive effect on shang-yan leadership ($\gamma_{06} = .16$, $p < .05$), which indicates that leaders holding an LSRI of care-repay will more often exhibit a shang-yan leadership style. The leaders' LSRI of authority-obedience had a significant positive effect on juan-chiuan leadership ($\gamma_{07} = .20$, $p < .05$), which indicates that leaders holding the LSRI of authority-obedience will more often interact with their subordinates in a juan-chiuan leadership style.

Table 7. **HLM Analysis for Leader's LSRI and Paternalistic Leadership**

	Leadership		
	Benevolence	**Shang-Yang**	**Juan-Chiuan**
Intercept γ_{00}	2.85***	4.69***	3.05***
Control variable (subordinate)			
Job grade γ_{10}	.09	.11	-.05
Tenure γ_{40}	-.02*	.01	.02
Co-work with leader γ_{50}	.00	-.00	-.00
Control variable (leader)			
Degree γ_{01}	.24**	-.20**	-.21*
Job grade γ_{02}	-.15	-.05	.01
Tenure γ_{03}	.01	-.02*	-.00
Leader's LSRI			
Communal affection RI γ_{04}	.09	-.16	.09
Instrumental exchange RI γ_{05}	**-.19***	**-.14+** (p-value =.070)	**.16***
Care-repay RI γ_{06}	.05	**.16***	-.11
Authority-obedience RI γ_{07}	-.05	**.14**	**.20***
Pseudo R^2	*.03*	*.08*	*.15*

Note. Individual level sample number $n = 247$；group level sample number $N = 58$. Coefficients are test by robust standard errors.
$^+ p < .10$. $*p < .05$. $** p < .01$.

Discussion

Based on the four dimensions of LSRI held by leaders and subordinates (communal affection, instrumental exchange, care-repay and authority-obedience), four studies were conducted to collect different samples, and rigorously compile appropriate measurement tools. According to the theory of cognitive schema, this study explored how leaders and subordinates' different LSRIs affect leaders' behavior toward subordinates and subordinates' behavior toward leaders and work outcomes, with the goal of constructing and validating an LSRI scale for use in future research.

The constructed LSRI scale can measure the LSRIs of both leaders and subordinates, and further predict leaders' leadership behavior and subordinates' work behavior. Therefore, it could have practical use as a reference for the recruitment of leaders and subordinates. In addition, it was confirmed through Study 4 that individuals with different LSRIs will adopt correspondingly different principles of interaction and norms of response. For example, leaders and subordinates with an LSRI of communal affection will respond to each other emotionally and maintain a good quality relationship; those with an LSRI of instrumental exchange will interact on the basis of interests; those with an LSRI of care-repay will follow the behavioral pattern of the leader offering care to their subordinates and the subordinates giving something in return to the leader; those with an LSRI of authority-obedience will interact through orders issued by the leader to their subordinates and obedience on the part of the subordinates to their leader. Therefore, in terms of management practice, LSRI can predict the interaction mode between leaders and subordinates, and predict the effects of the interaction mode. It can also predict the contribution of the interaction effect to the theory of Chinese organizational behavior, and provides a valuable reference for management practices in enterprises (Tsai et al., 2015).

The results of this research also point to potential cross-cultural research. While the LSRI dimensions of care-repay and authority-obedience are important in Chinese organizations due to cultural influences, in Western cultural contexts, and especially in North American business organizations, communal affection and instrumental exchange might receive better support from cultural factors. Therefore, cross-cultural comparisons would be valuable to answer the question of whether the LSRIs of care-repay and authority-obedience are easier to develop and maintain among leaders and subordinates in cultures marked by collectivism and high power-distance, such as in the Middle East, Asia-Pacific and Latin America (Aycan, 2006; Pellegrini & Scandura, 2008), and of whether LSRIs of communal affection and instrumental exchange are correspondingly more prevalent and more likely to be effective in Western cultures.