

The effect of involution in China society on vicious competition in the workplace --Leadership style as the mediating variable and Leadership-employee Collaboration as the moderating variable

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Abstract. This paper examines the influence of social involution on workplace competition in China, emphasizing the mediating role of leadership style and the moderating role of leadership-employee collaboration. This framework provides a foundation for understanding the Chinese context's complex interplay between social involution, leadership, and vicious competition in the workplace. In the workplace, competition is a motivating and innovative driver, but escalating internal competition can lead to negative consequences, such as heightened anxiety and unethical behavior. This study explores how leadership styles and leader-employee collaboration influence and potentially mitigate the harmful effects of intense internal competition. This study highlights the importance of leadership in managing the impact of social trends and provides insights for optimizing organizational dynamics.

Keywords: Involution, China society, leadership, workplace competition, collaboration.

1. Introduction

With the development of economics, the culture of competition has increasingly been prominent in modern society. According to Michael Apple (2005), competition has become "the dominant ethic of society." China, as well, is a diverse and highly competitive society. In the context of modern society, people aspire to attain higher social and economic status to gain more resources and improve their living conditions. China's mainstream cultural values predominantly emphasize parental authority, acceptance of hierarchical systems, and the importance of interpersonal relationships (Pun et al., 2000). However, in a society marked by hierarchy and significant stratification, opportunities to achieve high social and economic status are limited, with a disproportionately large representation of the lower classes. For most individuals' career development, competition with others is necessary to secure better job prospects and positions, undoubtedly intensifying social competition (Jiang Kai, 2012).

In the workplace, competition is employed by most companies as an effective management strategy as well. Fair internal competition can motivate employees to work harder to achieve goals, increase their motivation to take on challenging projects, foster positive relationships with colleagues (Tjosvold et al., 2006), and lead to higher levels of innovation and performance throughout the organization (Khoja, 2008). Additionally, internal competition can yield constructive organizational outcomes (Sutherland & Naidoo, 2016).

However, increasing research suggests that the growing intensity of internal competition within companies can have significant negative consequences. In a highly competitive internal corporate environment, employee anxiety levels significantly increase. Employees who perceive themselves as having no chance of winning lack motivation, while those who aggressively pursue victory at any cost become more confrontational, and instances of unethical behavior among employees also rise (Tjosvold et al., 2006; Birkinshaw, 2001). The destructive consequences of excessive competition are also noteworthy (Naidoo & Sutherland, 2016).

This study answered the question about the influence of the involution of Chinese society on vicious competition in the workplace, aiming to conduct an in-depth analysis of this phenomenon. Consequently, this study mainly contributes to the existing research as follows. Firstly, this research integrates a wide range of academic studies and formulates hypotheses at the theoretical level. The

study considers the Chinese leadership style as an intermediary role, closely linking it to social involution and the prevalence of vicious competition within the workplace. Secondly, the study introduces leader-employee collaboration as a moderating variable, seeking to explore whether leader-employee collaboration can mitigate the vicious competitive environment in the workplace by decentralizing employee power. Furthermore, this research can uncover and expand our understanding of the mechanisms through which leadership influences the vicious competitive atmosphere among employees in the current context.

This study holds significant practical implications. For employees, it enhances job satisfaction and loyalty by delving into internal vicious competition within companies. For leaders, this research can aid in improving their leadership effectiveness, providing insights into the factors influencing leadership's role in shaping the internal competitive atmosphere, which equips them to address competition among employees better and bolster organizational cohesion. From an organizational development perspective, this study assists organizations in formulating management strategies and measures more attuned to the Chinese social context, effectively addressing internal issues and contributing to long-term organizational growth. In the societal context, exploring how leadership can prevent or mitigate conflicts and disharmony resulting from internal competition is paramount in promoting social harmony and employee well-being. Therefore, a thorough examination of the influence of leadership on the vicious competitive atmosphere among employees within the backdrop of Chinese society plays a pivotal role in optimizing organizational management, elevating employee well-being, and fostering societal harmony.

2. Literature review

2.1 Involution

"Involute" is derived from a vague concept developed by Goldenweiser (1936). Involute refers to a situation in which there is no way to stabilize after reaching a particular final form. However, it is constantly becoming more complex internally (Jha, 2023; Niu& Yang, 2022). "Involution" is a concept first proposed by Geertz in 1963, first used in agricultural analysis, referring to the increasing labor force entering agricultural production in a limited land area. With the increase of input, the return of the unit labor force decreases; that is, the input is more and more, but the effect is lower and lower (Huang Zongzhi, 2000). In China, "involution" has gradually expanded from agriculture to analyzing industry, enterprise, society, and other fields (Li et al., 2000; Cheng Chen& Lei Bao, 2022; Liu Shiding& Qiu Zeqi). This study defines involution as the negative phenomenon of limited and closed resources due to fierce zero-sum competition in a specific social and economic background. Involution is a cutthroat competition (Lu, 2020; Niu& Yang, 2022) and is also reflected in the working environment. Affected by COVID-19, China's internal economic environment is highly under pressure, and many industries are struggling to develop (Meng et al., 2021; Li, 2021; Dou et al., 2022), the external competitive pressure of enterprises is constantly transformed into involution of employees, thus making the problem of vicious competition in the workplace (Dou et al., 2022). Employees no longer demand themselves according to the requirements of work but aggravate the vicious competition environment in the work environment by passive competition (Niu& Yang, 2022), and react with negative work behaviors (Lu, 2021; Niu& Yang, 2022). Employees' work motivation under the background of internalization will become more utilitarian, which leads to vicious competition in the workplace (Bianchi et al., 2017; Dou et al., 2022), which is also detrimental to the long-term development of the organization (Dou et al., 2022).

2.2 Vicious competition in the workplace

Vicious competition at work is an unhealthy competition phenomenon in the working environment (Li et al., 2010), which leads to a decline in employee happiness and affects team performance (Fischer et al., 2009; Buunk et al., 2020; Caring-Lobel, 2016). Competition is an inevitable relationship among employees (Bengtsson& Kock, 1999; Beer& Walton, 1990), whenever there is a

conflict of interest in a collective, competition will arise (Feng, 2015). While moderate competition usually means higher productivity (Aghion& Griffith, 2005; Bridgman, 2015; Van, 2011), as the external pressure continues to increase, more vicious competition appears in the work (Puaschunder, 2022). Vicious competition at work is the use of unfair means to gain advantage, resources, power, or success. Different types of leaders may intensify vicious competition (Jabbar& Creed, 2020). In the workplace, leaders are prone to create vicious competition (Dekoulou& Trivellas, 2014; Rowe et al., 2005).

2.3 The influence of leadership on enterprise management

2.3.1 Leadership style

Leadership style plays a crucial role in management and organizational behavior (Dulewicz & Higgs,2003; Mrwebi,2019). It is widely believed that leadership can be demonstrated at all levels within an organization (Alimo-Metcalf, 1995). Leadership is a process of social influence (Omolayo, 2007), and different leadership styles will have different impacts on organizations (Al-Malki& Juan, 2018). Transformational leaders can inspire innovation and improvement in employees and drive the organization to achieve long-term goals (Caldwell et al., 2012; Dun,2010). Transactional leaders, on the other hand, place more emphasis on task completion and reward systems (Obeidat & Zyod, 2015). Central to the leadership concept is understanding how to interact with employees, make decisions, harness the potential of team members, and influence the overall performance and culture of the entire organization (Al-Malki& Juan, 2018). Organizations require influential leaders who can lead the company well, manage employees, improve the competitive atmosphere of the company, and enhance the overall operational efficiency (Widyatmoko et al., 2020; Guzmán et al., 2020). When tasks are highly structured, and leaders maintain positive employee relationships, employee efficiency tends to be high (Nanjundeswaraswamy & Swamy, 2014).

2.3.2 Leadership-employee Collaboration

Leader-employee collaboration in this study refers to the establishment of positive relationships between leaders and employees in an organization to achieve common goals and tasks. Leader-employee collaboration can directly affect employee performance (Khasbulloh Huda, et al. 2023; Men & Stacks, 2013). This collaboration often includes interactions between leaders and employees, information sharing, shared decision-making, and resource allocation (Uhl-Bien et al., 2007; Moore et al., 2020). Leader-employee collaboration can effectively recover difficulties in the workplace (Yuan et al., 2022), improve employees' innovation performance, and build a good trust relationship and high interaction among employees (Mitchell et al., 2012, Zhou et al., 2018). Leader-employee collaboration also contributes to a positive organizational culture (Audenaert et al., 2018; Semedo et al., 2018), encouraging employees to be loyal to the organization and to succeed in a competitive marketplace. Therefore, the collaboration between leaders and employees is not just a way of working, it is an expression of the culture and values of the organization. Leaders and employees working together, through collaboration and collaboration, can improve the competitive atmosphere within the company, recognition from leaders can also alleviate employees' anxiety (Jiang et al.,2022; Gao et al., 2022), and create a more prosperous future for the organization (Baquero, 2023; Shah et al., 2021).

3. Rationale

In Chinese society, involution has become a social phenomenon that attracts much attention and affects the working environment (Liu et al., 2021; Bao, 2022; Duo et al., 2022). First, the limited resources within the company are intertwined with the growing competitive demand, so individuals may take unfair means to get promotions, high salaries, and other opportunities, resulting in vicious competition (Li, 2021). In a company's competitive atmosphere, employees may make great efforts to outdo their colleagues, resulting in less cooperation (Kumar Jha & Varkkey, 2018; Han et al., 2021), exacerbating vicious competition in the workplace. Secondly, the pressure from family and society

puts a heavy burden on individuals (Li, 2021; Si, 2022; Zhai et al., 2021). Some reports also argue that lifestyle is fundamentally limited by social hierarchy and socioeconomic status (Cockerham, 2009; Wang & Geng, 2019). To meet expectations, workers may resort to aggressive means, further intensifying vicious workplace competition (Dou et al., 2022). In addition, traditional Chinese social values emphasize fame and gain and face, which may lead to comparison psychology, making individuals take improper means to surpass others and weaken cooperation and coordination (Van den Bos, 2018; Fishkin, 1997). Therefore, it can be suggested that:

Hypothesis 1: Involution in Chinese society directly leads to vicious competition in the workplace.

A leader's style, values, and how he or she motivates employees directly affect employee behavior and attitudes (Schilke et al., 2009; Razak et al., 2018; Pfeffer, 1995). Assume that leaders encourage employees to learn and grow from each other with an open mind and emphasize the importance of teamwork and shared goals. In this case, employees may shift from vicious competition to active cooperation (Ye et al., 2020). If leaders show a positive competitive attitude, employees are more likely to be affected (Pfeffer, 1996) and form a positive view of workplace competition (Schilke et al., 2009). Secondly, enterprise leaders have a specific right to speak in resource allocation and promotion mechanisms, and their fairness and transparency will affect employees' perception of internalization. Suppose leaders can develop and enforce clear reward systems that ensure fair and transparent allocation of resources and opportunities (Hoole & Victor, 2017). In that case, the atmosphere of employee competition is good (Banks et al., 2016), thus reducing the incentive to create vicious competition. The role of the leader is also to determine the criteria and pathways for promotion, and employees are likely to pursue their careers in an atmosphere of healthy competition if they establish a promotion mechanism based on ability and contribution rather than purely interpersonal relationships (Saluy et al., 2018). In addition, the role model effect generated by leaders will also affect the value orientation of employees (Dietz et al., 2020; Brown & Trevino, 2014; Wen et al., 2017). In this case, employees may pay more attention to their career development and team success (Chen et al., 2021;). Thus, the vicious competition in the workplace can be reduced, and employees' happiness can be improved (Spence Laschinger et al., 2014). Finally, certain types of leaders can better adapt to vicious competitive work environments. For example, ethical climate and innovative work behaviors increase significantly under service-oriented leaders (Shim et al., 2023). To summarize:

Hypothesis 2: Leadership style plays an intermediary role in social involvements and vicious competition in work.

To a certain extent, involution in society affects the mentality and behavior patterns of leaders (Walton & McKersie, 1991). Leaders may feel intense pressure from superiors, colleagues, and subordinates (Asch, 1955). The need to succeed in a competitive environment can lead to an excessive focus on short-term goals and performance at the expense of the long-term development of the organization and the well-being of employees (Avery et al., 2011; Gollan, 2005; Birkinshaw & Gibson, 2004). Leaders may overemphasize performance result in incentives and encourage employees to engage in excessive competition, potentially ignoring the importance of cooperation and teamwork (Endres & Weibler, 2017; Sims et al., 2007). Such a cultural atmosphere will intensify involution among employees and inhibit innovation (Bamber et al., 2017; Von Treuer et al., 2012). From a personality perspective, internal competition can also affect leaders, who exhibit a tendency toward excessive individualism (Kaufman, 2015). In an environment marked by involution, the pursuit of personal success and status may become a primary goal, which may lead leaders to prioritize personal interests when making decisions (Booth, 2015). In view of this situation, the research hypothesis is proposed:

Hypothesis 3: Involution in Chinese society directly affects the leadership behavior of leaders.

Leader-employee collaboration can lead to greater employee participation in decision-making and resource allocation, reducing the possibility of concentrated competitive pressure (Hollander & Offermann, 1990). First, when employees feel they have greater autonomy and influence at work,

they may be more inclined to cooperate, reduce vicious competition for limited resources (Li & Liu, 2021), and enhance employees' creativity and psychological empowerment at work (Zhang & Bartol, 2010). Second, when employees and leaders cooperate, employees generally have a higher sense of trust in the leader (Mastrangelo et al., 2014). This trust can make employees more willing to share information, knowledge, and resources (Seppala et al., 2012). The sharing of knowledge may lead to more effective teamwork and problem-solving, thereby reducing the tension caused by competition (Wiewiora et al., 2014; Imam & Zaheer, 2021). Finally, leaders can steer employees away from individual competition and toward teamwork, thereby reducing the tendency for vicious competition (Brandts et al., 2016). Therefore, we can propose.

Hypothesis 4: By delegating power to employees and reaching active cooperation, enterprise leaders can act as a moderating variable to alleviate vicious competition in work.

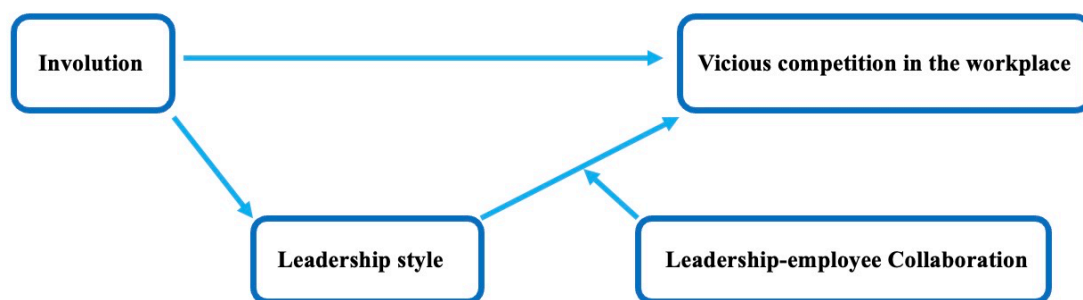


Figure 1: The above describes the relationship between involution and vicious competition. in relation, involution positively influences leadership style, and leadership style positively influences vicious competition in the workplace. Besides, leader-employee collaboration mainly plays a negative moderating role in the relationship between leadership style and vicious competition in the workplace

4. Method

Questionnaires were distributed to workers over the age of 18 on the Chinese questionnaire system "Wenjuanxing", and the research was assisted by workers from all over the country who were interested in "vicious competition in the workplace" and "social inclusion". The questionnaire mainly measures the relationship between vicious competition and leadership in the workplace. The questionnaire was distributed on August 11, 2023. All questionnaires were filled in anonymously to ensure the privacy factor of the questionnaire filling. Retrieved on September 1, 2023, with a total of 303 questionnaires. The scale items are shown in the figure:

Dimension scale and questionnaire survey questions		
Dimension	Serial Number	Problem Description
Involution	ssb1	When I see others working hard, I will force myself to work hard.
	ssb2	Social involution is prevalent around me
	ssb3	I think social involution has a negative effect on society as a whole.
Vicious competition in the workplace	vcw1	In my work team (or work environment), there is cutthroat competition among employees.
	vcw2	I think the competition among employees has a negative effect on my work performance.

	vcw3	I think the cutthroat competition in the work environment makes me no longer satisfied with my job.
	vcw4	I think the cutthroat competition in the work environment has affected my life.
Leadership style	ls1	I think the leadership style of a leader will affect the competitive atmosphere among employees
	ls2	My leader encourages competition among employees.
	ls3	I believe that leaders can change the cutthroat competition problem in the work environment.
Leader-employee collaboration	ce1	My leader plays an important role in creating an atmosphere of positive cooperation among employees.
	ce2	My leader will delegate decision-making power to employees and encourage team members to participate in making project plans.
	ce3	My leader focuses on teamwork and collaboration.
	ce4	I think the Chinese cultural background emphasizes individual success and competition rather than teamwork and collaboration.

The scale reliability of this study is 0.878, and the dimension reliability is between 0.805 and 0.895 (Appendix 1), indicating that the research scale has high reliability and good stability and consistency.

5. Empirical Analysis

5.1 Validity analysis

The factor analysis method in SPSS software is generally used for validity analysis. Factor analysis refers to the use of several factors to express the relationship between several factors, the relatively related and closely related variables into a class so that these fewer factors can summarize and reflect the vast majority of the original data information. First of all, before the factor analysis, KMO value test and Bartlett ball test is mainly used to verify whether each item in this paper can be factor analyzed.

The validity of this analysis was 0.872, indicating that the data were suitable for factor analysis (Appendix 2). The Chi-square value of the Bartlett sphericity test is 2036.960, $p < 0.01$, indicating that the relationship between the items is good, and factor analysis can be carried out.

In this study, principal component analysis was adopted. According to data analysis, it is found that the common factor variance of all variables ranges from 0.674 to 0.796, all of which are greater than 0.2, indicating high commonality between variables, which is suitable for factor analysis (Appendix 3). In this study, a total of 4 factors were extracted using factor analysis, which explained 72.917% of the total variance, greater than 50%, in line with the requirements of factor analysis (Appendix 4).

5.2 Mean analysis

After obtaining the data from the measurement scales, to assess various dimensions including involution, vicious competition at work, leadership styles, and leader-employee collaboration, a systematic approach is required to capture the central tendencies within the collected data. Therefore, this study employed mean analysis.

Mean of Variables					
	N	Mean	Standard deviation	Skewness	Kurtosis
Involution	303	3.371	967.	- 140.	- 831.
Vicious competition in the workplace	303	3.296	939.	047.	- 935.

Leadership style	303	3.387	988.	- 068.	1.031
Leader-employee collaboration	303	2.929	1.102	273.	1.157
Number of valid cases (In columns)	303				

As can be seen from the table: As can be seen from the table above, the mean value of each item ranges from 2.929 to 3.387, indicating a balanced distribution, the standard deviation of each item ranges from 0.939 to 1.102, indicating a small dispersion of sample data. Klein (1998) believed that when the absolute value of skewness of sample data is <3 and the absolute value of kurtosis is <10 , The observed variables can be basically in line with normal distribution. However, from the above statistical results, the absolute value of skewness of all items is <3 and the absolute value of kurtosis <10 , which is far smaller than the reference value proposed by Klein (1998). Therefore, it can be considered that the shape of large sample data is basically in line with normal distribution, meeting the basic requirements of the research hypothesis for analyzing data in this paper.

5.3 Descriptive statistics analysis

In the study, there were 50 people aged 18-25, accounting for 16.5%; There were 103 people aged 26-35, accounting for 34%; There were 104 people between 36 and 45 years old, accounting for 34.3%, and 46 people over 46 years old, accounting for 15.2%, as shown in the following figure:

Age

		Frequency	Percentage	Effective percentage	Cumulative percentage
Valid	18-25 years old	50	16.5	16.5	16.5
	Ages 26-35	103	34.0	34.0	50.5
	36-45 years old	104	34.3	34.3	84.8
	Age 46 +	46	15.2	15.2	100.0
	Total	303	100.0	100.0	

Among them, 143 were male, accounting for 47.2%; There were 160 women, accounting for 52.8%.

Gender

		Frequency	Percentage	Effective percentage	Cumulative percentage
Valid	Male	143	47.2	47.2	47.2
	Female	160	52.8	52.8	100.0
	Total	303	100.0	100.0	

In the test group, there are 93 people in the manufacturing industry, accounting for 30.7%; There are 106 people in the service industry, accounting for 35%; Technology/information technology has 62 people, accounting for 20.5%; Finance/banking has 42 people, accounting for 13.9%,

Industries

		Frequency	percent	Effective percentage	Cumulative percentage
Valid	Manufacturing	93	30.7	30.7	30.7
	Services	106	35.0	35.0	65.7
	Technology/Information Technology	62	20.5	20.5	86.1
	Finance/Banking	42	13.9	13.9	100.0
	Total	303	100.0	100.0	

As can be seen from the following table, there are 20 subjects with less than 1 year of work experience, accounting for 6.6%; There were 66 people with 1-3 years of study, accounting for 21.8%; 52 people with 3-5 years of study, accounting for 17.2%; 76 people with 5-10 years of study, accounting for 25.1%; 89 people with 10 years or more, accounting for 29.4%.

Working year

		Frequency	Percentage	Effective percentage	Cumulative percentage
Valid	Less than 1 year	20	6.6	6.6	6.6
	1-3 years	66	21.8	21.8	28.4
	3-5 years	52	17.2	17.2	45.5
	5-10 years	76	25.1	25.1	70.6
	10 years and older	89	29.4	29.4	100.0
	Total	303	100.0	100.0	

5.4 Correlation analysis

In the correlation analysis between various numerical variables, the commonly used statistical analysis method is the Pearson correlation coefficient, which is used to measure the correlation between various things or variables and reveals and reflects the strength of the correlation between different things or variables through numerical quantification. The Pearson correlation coefficient is a statistical tool used to measure the strength of a linear relationship between two continuous variables. This study uses this analytical method to explore the relationship between social introversion, vicious competition at work, leadership style, and cooperation between leaders and employees.

Correlation

		Involution	Vicious competition at work	Leader style	Work with employees
Involution	Pearson relevance	1	383.	345.	312.
	Sig. (Double tail)		000.	000.	000.
	Number of cases	303	303	303	303
Vicious competition in the workplace	Pearson relevance	383.	1	381.	398.
	Sig. (Double tail)	000.		000.	000.
	Number of cases	303	303	303	303
Leadership Style	Pearson Relevance	345.	381.	1	400.
	Sig. (Double tail)	000.	000.		000.
	Number of cases	303	303	303	303
Leader-employee collaboration	Pearson Relevance	312.	398.	400.	1
	Sig. (Double tail)	000.	000.	000.	
	Number of cases	303	303	303	303

**. At level 0.01 (two-tailed), the correlation is significant.

As can be seen from the table, there is a significant correlation between the four variables: Involution, Vicious competition at work, leadership style, and Leader-employee collaboration., and the correlation coefficient is between 0.312 and 0.400.

5.5 Baseline results

			coef f	se	t	p	R-sq	F
Model 1	Vicious competition in the workplace	constant	2.04 2	0.18 1	11.25 9	0 0	0.14 7	51.78 6

Involutio 0.37 0.05 7.196 0
n 2 2

In Model 1, the R-squared value is 0.147, indicating that the independent variables explain 10.5% of the variance in the dependent variable, leaving a portion of the variance unexplained. Meanwhile, the F-statistic is 51.786, significant at the 0.001 level, signifying the presence of significant effects from at least one independent variable in the model, thus confirming the model's acceptance. It's noteworthy that the impact of involution on vicious competition in the workplace is statistically significant ($P < 0.05$), with a regression coefficient of 0.372. This suggests that, while holding other factors constant, an increase in societal involution is positively associated with an increase in vicious competition in the workplace. In essence, a rise in involution could potentially exacerbate the occurrence of vicious competition in the work environment, hypothesis 1 is valid.

			coeff	se	t	p	R-sq	F
Model 2	Leader Style	constant	2.199	0.194	11.335	0	0.345	40.596
		Involution	0.353	0.055	6.372	0		

In Model 2, the R-squared value is 0.345, indicating that the independent variables account for 34.5% of the variance in the dependent variable, while a portion of the variance remains unexplained. Additionally, the F-statistic is 40.596, significant at the 0.001 level, suggesting the presence of significant effects from at least one independent variable in the model, thus confirming the model's acceptability. Of particular note, the impact of involution on leadership style is statistically significant ($P < 0.05$), with a regression coefficient of 0.353. This implies that, when holding other factors constant, an increase in involution is positively associated with changes in leadership style. In essence, an increase in involution may exert a more substantial influence on leadership behavior, hypothesis 3 is valid.

5.6 Mechanism analysis

5.6.1 Mediating effects of leadership style

Regression analysis of mediating effect

			coeff	se	t	p	R-sq	F
Model 3	Vicious competition in the workplace	constant	1.453	0.208	6.988	0	0.466	41.542
		Involution	0.278	0.053	5.253	0		
		Leadership style	0.268	0.052	5.182	0		

In Model 3, the R-squared value of 0.466 indicates that the independent variables account for 46.6% of the variance in the dependent variable; however, there remains a portion of the variance unexplained. Moreover, the F-statistic of 41.542, significant at the 0.001 level, signifies that at least one independent variable has a significant impact on the model, thereby supporting the model's acceptability. The impact of societal involution and leadership style on vicious competition in the workplace is statistically significant ($P < 0.05$). Their regression coefficients are 0.278 and 0.268, respectively. This suggests that, while holding other factors constant, more pronounced societal involution and a positive leadership style are associated with a greater influence on vicious competition in the workplace.

As a statistical tool, the Bootstrap method can effectively deal with situations where the sample size is small or the data does not conform to the normal distribution, to provide a more accurate estimation of the intermediary effect. In this study, we will apply the Bootstrap method to explore the mediating effect of leader variables in involution and vicious competition in the workplace.

Bootstrap intermediation effect

	Effect	BootSE	BootLLCI	BootULCI
Total Effect	0.372	0.052	0.270	0.474
Direct effect	0.278	0.053	0.174	0.382
Indirect effects	0.095	0.023	0.053	0.143

The results of the Bootstrap mediation analysis are as follows:

Total Effect: The total effect of societal involution on vicious competition in the workplace is 0.372, with a confidence interval ranging from 0.270 to 0.474.

Direct Effect: The direct effect of societal involution on vicious competition in the workplace is 0.278, with a confidence interval ranging from 0.174 to 0.382.

Indirect Effect: Through the mediation of leadership behavior, the indirect effect of societal involution on vicious competition in the workplace is 0.095, with a confidence interval ranging from 0.053 to 0.143.

These results collectively suggest that leadership behavior mediates the relationship between societal involution and vicious competition in the workplace. The fact that the confidence interval of the indirect effect does not include zero indicates that the mediation effect is statistically significant. Therefore, hypothesis 2 is valid, Leadership style plays an intermediary role in involution and vicious competition in the workplace.

5.6.2 Moderating effects of Leader-employee collaboration

Regression analysis of the moderating effect

	coeff	se	t	p	R-sq	F
constant	3.365	0.051	65.824	0.000	0.247	32.597
Leader style	0.222	0.053	4.212	0.000		
Leader-employee collaboration	0.278	0.047	5.858	0.000		
Int 1	0.157	0.046	3.426	0.001		

As can be seen from the table:

1) The R-sq of the model is 0.247, indicating that the explanatory power of the corresponding variables of the independent variable is 24.7%, and some differences cannot be explained; F-value was 32.597, which was significant at 0.001 level, indicating that at least one independent variable was significant and acceptable to the model.

2) The influence of leadership style and cooperation with employees on vicious competition at work was statistically significant ($P < 0.05$). The regression coefficient was 0.222 for leader style and 0.278 for employee cooperation. This means that, other things being equal, the more approachable a leader's style is and the more harmoniously and closely he or she works with employees, the greater the impact on the vicious competitive atmosphere at work. This result highlights the critical role of cooperation and mutual understanding between leaders and employees in mitigating or intensifying vicious competition at work.

3) the significance of Int_1 on the vicious competition in the job ($P < 0.05$), and the regression coefficient was -0.157, indicating that Int_1 had a significant impact on the vicious competition in the job, indicating a significant moderating effect.

Bootstrap adjustment effect

Work with employees	Effect	se	t	p	LLCI	ULCI
-1SD	0.395	0.067	5.891	0.000	0.263	0.527
Mean	0.222	0.053	4.212	0.000	0.118	0.326
1SD	0.049	0.079	0.618	0.537	0.106	0.203

From the table above, the following conclusions can be drawn:

Under the moderation of collaborating with employees, there are differences in the moderation effect at different levels (-1SD, Mean, 1SD):

1) At the low level (-1SD), the moderation effect is 0.395 with a 95% confidence interval of (0.263, 0.527), indicating the presence of a moderation effect at low levels of collaboration with employees.

2) At the mean level (Mean), the moderation effect is 0.222 with a 95% confidence interval of (0.118, 0.326), indicating the presence of a moderation effect at the mean level of collaboration with employees.

3) At the high level (1SD), the moderation effect is 0.049 with a 95% confidence interval of (-0.106, 0.203), indicating that the moderation effect is not significant at high levels of collaboration with employees.

In conclusion, as the level of collaboration with employees increases, the moderation effect decreases gradually, indicating the presence of a negative moderation effect. These results provide strong evidence for the existence and characteristics of the moderation effect.

5.6.3 Mediated effect of being moderated

		Mediated effects			
	Working with employees	Effect	BootSE	BootLLCI	BootULCI
Direct Effects		0.222	0.052	0.120	0.323
Be mediated effect	-1SD	0.116	0.032	0.056	0.181
	Mean	0.059	0.021	0.020	0.102
	1SD	0.002	0.023	0.043	0.046

In the moderated mediation analysis, we examined the mediated effect under the moderation of collaborating with employees. The following are the key findings of the analysis:

1) Direct Effect: The direct effect is 0.222 with a 95% confidence interval of (0.120, 0.323). Since the confidence interval does not include 0, this indicates the presence of a significant direct effect.

2) Moderated Mediation Effect: The moderated mediation effect varies across different levels of the moderator: At the low level (-1SD), the moderated mediation effect is 0.116 with a 95% confidence interval of (0.056, 0.181). This suggests that the moderated mediation effect is significant when the moderator is at a low level. At the mean level (Mean), the moderated mediation effect is 0.059 with a 95% confidence interval of (0.020, 0.102). This indicates the presence of a significant moderated mediation effect at the mean level of the moderator. At the high level (1SD), the moderated mediation effect is 0.002 with a 95% confidence interval of (-0.043, 0.046). This implies that the moderated mediation effect is not significant when the moderator is at a high level.

In summary, through the moderation of collaborating with employees, we found that the moderated mediation effect varies across different levels of the moderator. Specifically, the moderated mediation effect is significant at low and mean levels of the moderator, while it is not significant at a high level.

To sum up, the four hypotheses of this study were tested since questionnaire retrieval, and the test results showed that a direct effect existed, an intermediate effect existed, a moderating effect existed, H1, H2, and H3 hypothesis was valid, and H4 hypothesis was valid.

6. Discussion

6.1 Conclusion

This paper has explored the impact of involution in Chinese society on workplace vicious competition and examined the mediating role of leadership styles and how leaders are influenced by involution. By proposing a set of hypotheses, the study has highlighted the critical role of leaders in mitigating vicious competition, mainly through delegating power, encouraging employee collaboration, and implementing reward systems that promote teamwork.

In summary, the hypotheses put forth a comprehensive framework to examine the intricate connections between involution in Chinese society, leadership styles, and workplace competition. Firstly, this study establishes a direct link between involution and workplace competition, indicating the potential negative impact of societal trends on professional environments. Secondly, this study introduces the notion that leadership styles may mediate this relationship, suggesting that the way

leaders manage their teams can either exacerbate or mitigate the effects of involution. Thirdly, this study highlights that involution can shape leadership behavior, creating a feedback loop where societal factors influence leadership within organizations. Lastly, the study suggests that leaders, by delegating power to employees and fostering active cooperation, can act as a moderating force to alleviate the detrimental effects of workplace competition resulting from involution. These hypotheses collectively form a framework for exploring and understanding the intricate dynamics between societal involution, leadership, and workplace competition in China.

6.2 Implication for theory

This study enriches our comprehension of how leadership, social involution, and workplace competition intersect in the current Chinese context. First, this study answers the relationship between China's involution and vicious competition in the workplace. The study centered around the notion of Chinese leadership style acting as a crucial intermediary, bridge the gap between the concept of social involution and the emergence of cutthroat competition within professional environments. This theoretical framework not only sheds light on the intricacies of the Chinese societal context but also provides a foundation for understanding the complex dynamics at play. Furthermore, this research extends its focus by introducing the concept of leader-employee collaboration as a moderating variable. This innovative approach aims to explore the potential of leader-employee collaboration in mitigating the highly competitive environment in the workplace. By decentralizing power among employees, it seeks to identify whether this collaborative dynamic can alleviate the adverse consequences of vicious competition. This addition to the research landscape is of particular significance, as it delves into practical strategies that may help foster a more harmonious and productive work atmosphere.

6.3 Implication for practice

This study holds significant practical significance. Within the context of Chinese society, an in-depth exploration of the impact of leadership on the vicious competitive atmosphere among employees is not merely an academic pursuit. It plays a pivotal role in optimizing organizational management, enhancing employee well-being, and fostering social harmony. Its implications extend far beyond the realm of research, providing practical guidance for individuals, leaders, organizations, and society. This study contributes to enhancing employee job satisfaction and loyalty. By conducting an in-depth examination of vicious competition within companies, it empowers employees to gain a better understanding of the dynamics in their workplace. For leaders, it offers valuable insights into the factors influencing leadership's role in shaping the internal competitive atmosphere. With this knowledge, leaders can effectively address competition among employees, nurturing a culture of cooperation, productivity, and strengthening organizational cohesion. From an organizational development perspective, the findings of this research have immense value. They assist organizations in formulating management strategies and measures that are finely tuned to the unique social environment of China. This, in turn, enables organizations to effectively address internal issues and, in the long term, contributes to sustainable organizational development. Beyond the workplace, this study holds broader societal significance. It explores how leadership can prevent or alleviate conflicts and disharmony often resulting from internal competition.

6.4 Limitation

While this study has provided some insights into the phenomenon of involution, leadership styles, and vicious competition in the workplace, there are limitations to consider. Firstly, leadership style is a complex concept, and this study did not delve deeply into the impact of different leadership styles on vicious competition. Moreover, different leadership styles may have varying effects in other contexts. Further research is needed to comprehensively explore the influence of various leadership styles and account for contextual factors. Additionally, this study did not extensively investigate external factors beyond those directly related to involution and workplace competition. Policy

changes and industry-specific characteristics can also significantly impact these phenomena. Future research should consider a broader range of variables to provide a more comprehensive understanding.

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Appendix:

Appendix 1:

	Reliability statistics	
	Cronbach's Alpha	Number of terms
Scale	878.	14
Involution	805.	3
Vicious competition in the workplace	849.	4
Leadership style	822.	3

Appendix 2:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		872.
Bartlett's Test of Sphericity	Approx. Chi-Square	2036.960
	df	91
	Sig.	000.

Appendix 3:

Common factor variance

	Initial	Extraction
ssb1	1.000	733.
ssb2	1.000	733.
ssb3	1.000	701.
vcw1	1.000	708.
vcw2	1.000	674.
vcw3	1.000	702.
vcw4	1.000	684.
ls1	1.000	711.
ls2	1.000	764.
ls3	1.000	741.
ce1	1.000	764.
ce2	1.000	796.
ce3	1.000	760.
ce4	1.000	737.

Extraction method: principal component analysis.

Appendix 4:

Total variance interpretation

Components	Initial eigenvalues			Extract the sum of squares of loads			Rotate the load sum of squares		
	Total	Percent variance	Cumulative %	Total	Percent variance	Cumulative %	Total	Percent variance	Cumulative %
1	5.444	38.889	38.889	5.444	38.889	38.889	3.042	21.730	21.730
2	1.838	13.132	52.021	1.838	13.132	52.021	2.770	19.783	41.513
3	1.529	10.920	62.941	1.529	10.920	62.941	2.220	15.855	57.368
4	1.397	9.976	72.917	1.397	9.976	72.917	2.177	15.549	72.917
5	520.	3.716	76.633						
6	451.	3.223	79.856						
7	448.	3.201	83.056						
8	422.	3.011	86.067						
9	413.	2.950	89.017						
10	352.	2.515	91.532						
11	339.	2.420	93.952						
12	312.	2.229	96.181						
13	281.	2.005	98.185						
14	254.	1.815	100.000						

Extraction method: principal component analysis.