

The Effect of Leader Humor on Subordinates' Working Status: A Meta-Analysis

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Abstract

Leader humor in workplace can change the working state of subordinates. However, existing empirical studies have failed to determine whether the effect of positive and negative leader humor on the working status of subordinates is normal, or whether the effect of leader humor in profit and non-profit organizations or under Eastern and Western culture background is also different. To answer these questions, literature on the relationship between Leader humor and subordinate working status from 2009 to 2020 was searched, and 56 effect values of positive leader humor (a total of 16544 samples) and 24 effect values of negative leader humor (a total of 7781 samples) were obtained. The results of meta-analysis show that: (1) There is a significant positive relationship between positive leader humor and subordinates' work status, while there is a significant negative relationship between negative leader humor and subordinates' work status; (2) Positive leader humor promotes the subordinates' behavior state improving by ameliorating their positive psychological state or attitude state in the workplace; (3) Negative leader humor inhibits the subordinates' behavior state improving by incurring their negative psychological state or attitude state in the workplace.

Keywords: leader humor, working status of subordinates, effect, meta-analysis

1. Introduction

At present, many firms have tried to change the "violation" of employees' physiology and psychology under the traditional "rigid" working atmosphere by implementing the happy atmosphere creation strategy in the workplace, hoping to enable employees to give play to their autonomy, enthusiasm, initiative and creativity advantages in the "happy and happy" working atmosphere. Management scholars put forward "Leader humor strategy" (Pundt et al., 2015), which is used to guide enterprise leaders to implement humor behaviors in the workplace reasonably, so as to stimulate subordinates' positive work emotions, attitudes and behaviors (Jiang Ping et al., 2020). The theoretical hypothesis that Leader humor has a significant positive effect on employees' working mood, attitude and behavior in the workplace has been confirmed by many scholars. For example, Leader humor can improve subordinates' work performance (Avolio et al., 1999; Lang & Lee, 2010) will improve subordinates' trust in the leader (Gkorezis & Bellou, 2016; Tremblay, 2017), may increase subordinates' organizational commitment (Hugh & Avey, 2009) and job satisfaction (Robert et al., 2016). In addition to playing a positive role in the workplace, the improper implementation of Leader humor may also have a negative effect. For example, scholars have demonstrated that mocking Leader humor induces a dysfunctional resistance to passive-aggressive behavior. On the other hand, aggressive Leader humor can produce high psychological pressure in subordinates, which in turn will cause subordinates to show a series of addictive behaviors, such as alcoholism, tobacco addiction and Internet addiction (Huo et al., 2012).

Therefore, this paper integrates all the empirical research literature on Leader humor and subordinates' working status from 2009 to 2020 for a meta-analysis, and intends to answer three specific questions about how Leader humor affects employees' working status: First, can both positive Leader humor and negative Leader humor

have a significant impact on subordinates' working status? Secondly, do employees' psychological state and attitude state play a mediating role between the humor of leaders and the behavior state of employees?

2. Theoretical Analysis and Research Hypothesis

2.1 *The Relationship Between Leader Humor and Subordinates' Work Behavior*

Positive Leader humor is helpful to stimulate innovation behavior, voice behavior, organizational citizenship behavior, etc. As a kind of "lubricant" for organizational relations, positive Leader humor can effectively shorten the psychological distance between superior and subordinate, which helps to form a good communication atmosphere between leaders and subordinates (Mao et al, 2017). Subordinates, as receivers, will think that leaders have strong personality attraction through perceiving the humorous language charm of leaders, and thus tend to interpret the humor of leaders as the existence of high-quality interpersonal relationship between themselves and leaders, thus stimulating subordinates to make extra-role behaviors (Cooper, 2005; Cooper et al., 2018). Arendt (2006) confirmed that the use of positive Leader humor leads to an increase in the creativity of subordinates. Cooper et al. (2018) confirmed that positive Leader humor is a unique and valuable interpersonal resource, which can promote subordinates to exhibit organizational citizenship behavior.

It can be seen that positive Leader humor can always motivate subordinates to do work behaviors beneficial to the organization. Therefore, hypothesis 1a is proposed in this paper.

H1a: Positive Leader humor can stimulate subordinates to do work behaviors beneficial to the organization.

Martin et al. (2003) divided negative Leader humor into self-mocking Leader humor and aggressive Leader humor according to whether the implementation object of Leader humor is self-focused or other-focused. Among them, self-deprecating Leader humor is a kind of self-focused negative Leader humor, in which leaders amuse their subordinates mainly by belittling and laughing at themselves. Self-deprecating Leader humor can relieve the tense interpersonal relationship with subordinates, but it will damage the leader's own image and authority, and further affect his future interaction with subordinates. Aggressive Leader humor is a kind of negative Leader humor used to focus on others, including sarcasm, ridicule, teasing and other behavior. Leader uses this type of humor to emphasize their own authority and superiority, so it is hard to ignore their subordinates' personal feelings and even hope to manipulate them (Romero & Cruthirds, 2006). It can be seen that negative Leader humor will lead subordinates to do work behaviors that are not conducive to the organization. Therefore, hypothesis 1b is proposed in this paper.

H1b: Passive Leader humor can stimulate subordinates to do work behaviors that are not conducive to the organization.

2.2 *The Mediating Effect of Subordinates' Psychological State and Attitude State*

The positive Leader humor implemented by leaders can create a relaxed and cheerful organizational atmosphere, which makes subordinates temporarily forget the unpleasant or unhappy things, and produce momentary pleasure, comfort, expectation and illusion in their minds (Robert & Yan, 2007; Peng Kunxia & Li Yingwu, 2017), when meeting the emotional and belonging needs of subordinates in the tense and high-pressure organizational situation, in order to return the good psychological and emotional experience brought by the leader's humor, subordinates will make behaviors such as helping others, being responsible, supporting the change and spreading the right ability. Cooper et al. (2018) believe that, based on the interpersonal enhancement theory, positive Leader humor mainly arouses subordinates' positive emotional state first, then changes subordinates' LMX and job burnout, and finally improves the probability of subordinates making OCB. Mesmer-magnus et al. (2012) proved that positive Leader humor can improve the quality of communication between superiors and subordinates, alleviate the boredom and frustration of subordinates at work, and thus change their attitude towards work, thus improving the overall production efficiency.

When leaders show negative humor, humor evolves into a workplace stressors (Huo et al., 2012). This not only can make employees feel the great psychological pressure, produce negative emotional experience, and will destroy the positive relationship of mutual benefit with subordinates the leadership of the (Shi et al., 2017), leads to the formation of a between leadership and subordinates "tit for tat" negative relationship of mutual benefit, and inspire subordinates negative attitude toward work, and eventually evolved into the organizational behavior.

According to the research results of the above scholars, Leader humor first affects the psychological state or attitude state of subordinates in the workplace and then affects the work behavior of subordinates, so hypothesis 2 is proposed.

H2a: The subordinate's psychological state plays a significant mediating role between the leader's humor and the subordinate's work behavior.

H2b: The attitude state of subordinates plays a significant mediating role between the humor of leaders and the work behavior of subordinates.

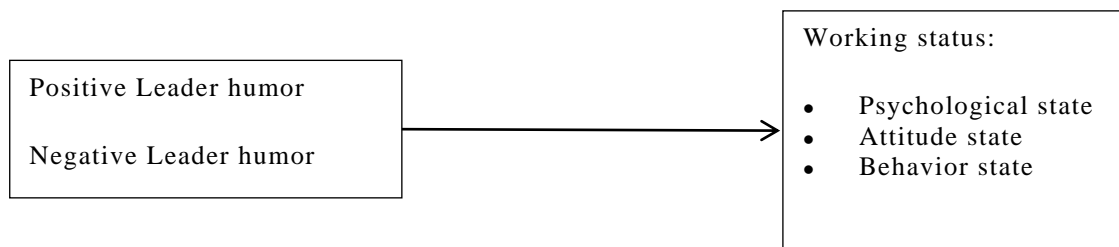


Figure 1. Theoretical model

3. Research Methods

3.1 Data Sources

The literature search time span of this study is from 2009 to 2020. 44 independent empirical articles were obtained for positive Leader humor, including 56 overall effect values, involving more than 16544 individuals. Negative Leader humor obtained 23 independent empirical articles, including 24 global effect values, involving a total of 7781 individuals.

3.2 Document Coding

In order to ensure the accuracy of the coding, two researchers must independently encode the literature in the database, which mainly includes the research description and the effect value statistics.

4. Meta-Analysis Process

Following the analysis steps of Schmidt and Hunter (2014), this paper firstly evaluates the sample data comprehensively, and then USES CMA3.0 software to process and analyze the data.

4.1 Effect Value Transformation

In this study, the correlation coefficient was used as the effect value. Before using CMA3.0 software, formula (1) was first used to modify the reliability of the correlation coefficient obtained in each empirical study to reduce the attenuation deviation caused by the scale reliability defects.

$$ES'r = ESr / \sqrt{r_{xx}r_{yy}} \quad (1)$$

4.2 Test for Publication Bias

In order to ensure the reliability of the experimental results, it is necessary to test whether the study samples are biased before the meta-analysis. As shown in Figure 2-9, it can be seen from the funnel plot generated by CMA 3.0 software in this paper that the scatter points are mostly concentrated at the top of the graph and more evenly distributed on both sides of the midline, indicating that there is basically no bias in the sample literature.

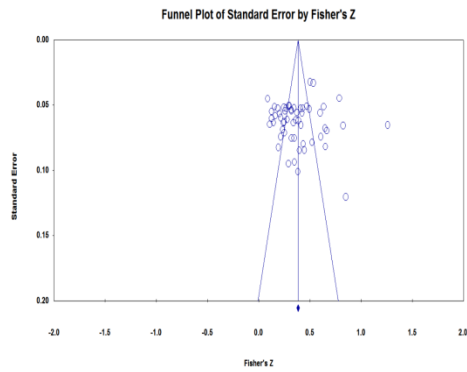


Figure 2. Positive Leader humor and subordinate work status effect value distribution

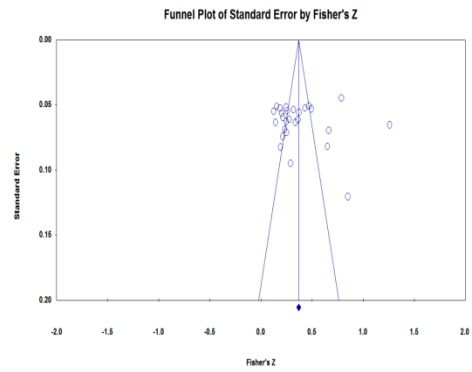


Figure 3. The effect value distribution of positive Leader humor and subordinate behavior state

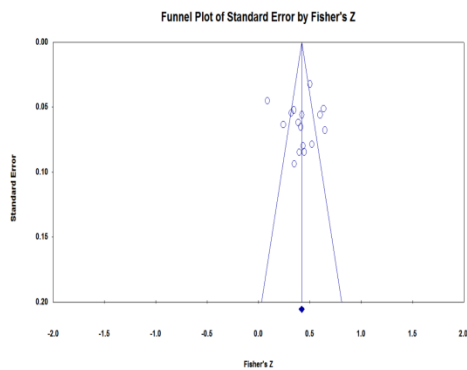


Figure 4. The effect value distribution of positive Leader humor and subordinates' psychological state

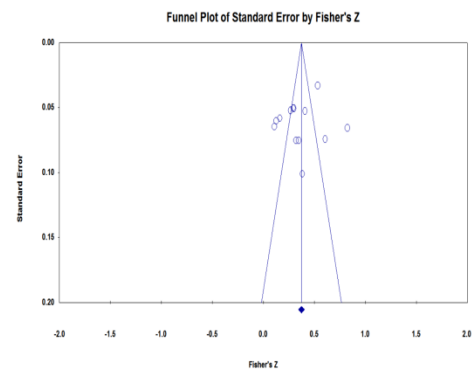


Figure 5. Effect value distribution of positive Leader humor and subordinates' attitude state

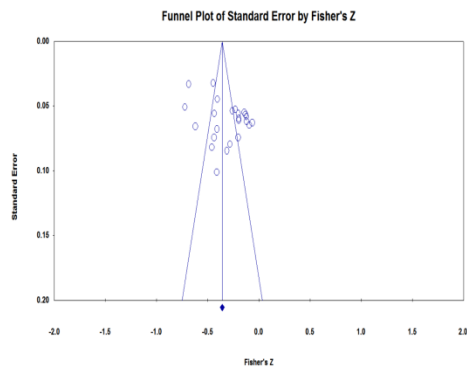


Figure 6. Negative Leader humor and subordinate work status effect value distribution

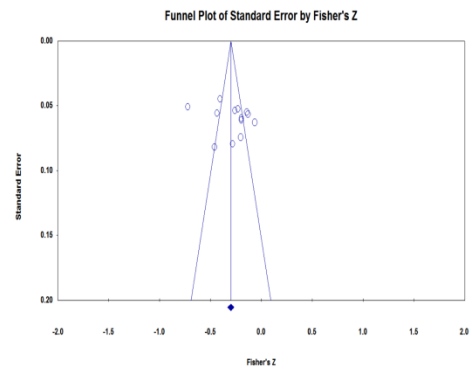


Figure 7. The effect value distribution of negative Leader humor and subordinate behavior state

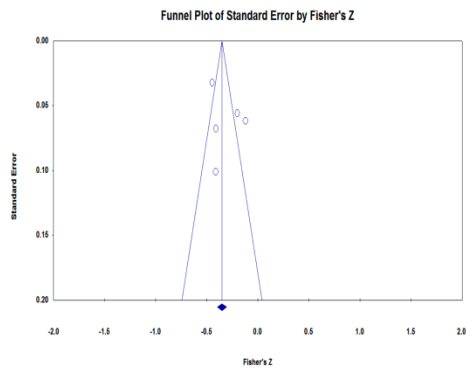


Figure 8. The effect value distribution of negative Leader humor and subordinates' psychological state

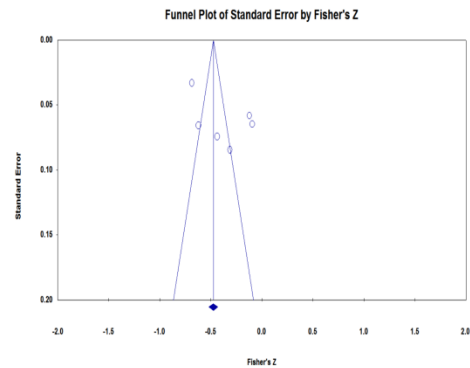


Figure 9. The effect value distribution of negative Leader humor and subordinate attitude state

4.3 Heterogeneity Test

In this paper, the heterogeneity test results of positive Leader humor and the overall working status of subordinates showed that (see Table 1), $Q = 702.191$ and $p = 0.000 < 0.001$, reaching the significance level, indicating that the variation between studies exceeded the interpretation range of sampling error. The heterogeneity test results of negative Leader humor and the overall working status of subordinates (see Table 2) showed that Q value = 318.762, $p = 0.000 < 0.05$, sample size was 24, and degree of freedom was 24. Looking up the table, the corresponding chi-square value was 36.415 at the level of 95% confidence interval. Therefore, this paper adopts the random effect model for analysis.

Table 1. Heterogeneity test between positive Leader humor and subordinate work status effect

Working state	Model	K	Homogeneity test				τ^2			
			Q-value	df	p-value	I ²	τ^2	SE	Variance	Tau
Overall state	Random	56	702.191	55	0.000	92.167	0.040	0.009	0.000	0.201
Behavior state	Random	27	440.344	26	0.000	94.096	0.058	0.018	0.000	0.241
Psychological state	Random	16	116.167	15	0.000	87.088	0.023	0.011	0.000	0.151
Attitude state	Random	13	137.276	12	0.000	91.258	0.034	0.017	0.000	0.185

Table 2. Heterogeneity test between negative Leader humor and subordinate work status effect

Working state	Model	K	Homogeneity test				τ^2			
			Q-value	df	p-value	I ²	τ^2	SE	Variance	Tau
Overall state	Random	24	318.762	23	0.000	92.785	0.041	0.015	0.000	0.202
Behavior state	Random	13	126.133	12	0.000	90.486	0.032	0.015	0.000	0.180
Psychological state	Random	5	30.869	4	0.000	87.042	0.022	0.020	0.000	0.147
Attitude state	Random	6	121.216	5	0.000	95.875	0.080	0.060	0.004	0.282

4.4 Main Effect Test

Based on the heterogeneity test results of inter-variable effects, this paper selects the random effects model for meta-analysis of sample data, and the results are shown in Table 3 and Table 4.

Table 3. The effect value test of the relationship between positive Leader humor and subordinate work status

Working state	K	N	Composite effect value	95% CI		Test of null (2-Tail)	
				Lower limit	Upper limit	Z-value	p-value
Overall state	56	16544	0.367	0.318	0.414	13.637	0.000
Behavior state	27	7519	0.353	0.275	0.439	7.839	0.000
Psychological state	16	4892	0.398	0.328	0.464	10.231	0.000
Attitude state	13	4133	0.357	0.248	0.435	6.617	0.000

Table 3 results show that the active humor and subordinate leadership overall work state, behavior, psychology and attitudes state relationship of effect value were 0.367, 0.353, 0.398 and 0.357, and four effect value of 95% confidence interval does not include the “0”, shows that humor and active leadership four variables have a strong positive correlation, hypothesis 1 a verified in the first place. In addition, the results also confirmed that the effect value between positive Leader humor and subordinate behavior state was smaller than that between positive Leader humor and subordinate psychological state or attitude state, indicating that there may be a mediating relationship.

Table 4. The effect value test of the relationship between negative Leader humor and subordinate work status

Working state	K	N	Composite effect value	95% CI		Test of null (2-Tail)	
				Lower limit	Upper limit	Z-value	p-value
Overall state	24	7781	-0.306	-0.381	-0.228	-7.328	0.000
Behavior state	13	3893	-0.279	-0.372	-0.182	-5.445	0.000
Psychological state	5	1870	-0.303	-0.428	-0.173	-4.381	0.000
Attitude state	6	2018	-0.346	-0.545	-0.147	-3.212	0.001

Table 4 results show that the passive humor and subordinate leadership overall work state, behavior, psychology and attitudes state relationship effect value were respectively 0.306, 0.279, 0.303 and 0.346, 95% confidence interval, and four effects do not contain “0”, passive Leader humor and four variables have a strong negative correlation, hypothesis 1 b also verified. In addition, the results also confirmed that the effect value between negative Leader humor and subordinate behavior state was greater than that between negative Leader humor and subordinate psychological state or attitude state, indicating that there may be a mediating relationship.

4.5 The Double Mediating Effect Test of Subordinate's Psychological State and Attitude State

In order to further clarify the mechanism of the influence of Leader humor on the working state of subordinates, the double mediating effect of the psychological state and attitude state of subordinates on Leader humor and behavior state of subordinates was tested. In this paper, the correlation coefficient matrix, mean value, standard deviation and sample number of variables were input into SPSS software (see Table 5 and Table 6). Then AMOS software was used to test the path coefficient of variables. The results are shown in Figure 10 and Figure 11. Since the structural equation model using meta-analysis correlation coefficient matrix is a saturation model, there is no measurement error and its fitting index is estimated to be meaningless, this paper will not report this result (Wei, 2016).

Table 5. The joint correlation matrix of positive Leader humor, mental state, attitude state and behavior state

Variable	Positive Leader humor (Independent variable)	Psychological state (Mediating variable)	Attitude state (Mediating variable)	Behavior state (Dependent variable)
1. Positive Leader humor	1.000			
2. Psychological state r(SE) N(K) 95% CI	0.435*** (0.011) 8189(26) 0.373, 0.492	1.000		
3. Attitude state r(SE) N(K) 95% CI	0.356*** (0.012) 5717(19) 0.305, 0.444		1.000	
4. Behavior state r(SE) N(K) 95% CI	0.360*** (0.018) 7519(27) 0.275, 0.439	0.549*** (0.029) 3297(10)	0.660*** (0.140) 1584(6)	1.000

Note: N is the sample size, K is the number of studies, 95% CI is the confidence interval, ***p < 0.001.

Table 6. The joint correlation matrix of negative Leader humor, mental state, attitude state and behavior state

Variable	Negative Leader humor (Independent variable)	Psychological state (Mediating variable)	Attitude state (Mediating variable)	Behavior state (Dependent variable)
1. Negative Leader humor	1.000			
2. Psychological state r(SE) N(K) 95% CI	-0.309*** (0.009) 3502(10) -0.380, -0.234	1.000		
3. Attitude state r(SE) N(K) 95% CI	-0.414*** (0.001) 2886(9) -0.530, -0.282		1.000	
4. Behavior state r(SE) N(K) 95% CI	-0.279** (0.015) 3893(13) -0.372, -0.182	0.675*** (0.014) 1489(4)	0.743*** (0.061) 1011(4)	1.000

Note: N is the sample size, K is the number of studies, 95% CI is the confidence interval, ***p < 0.001.

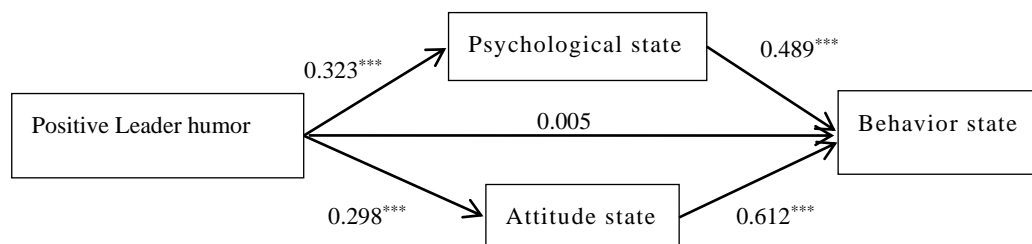


Figure 10. The positive Leader humor influences the behavioral state through the psychological state or attitude state

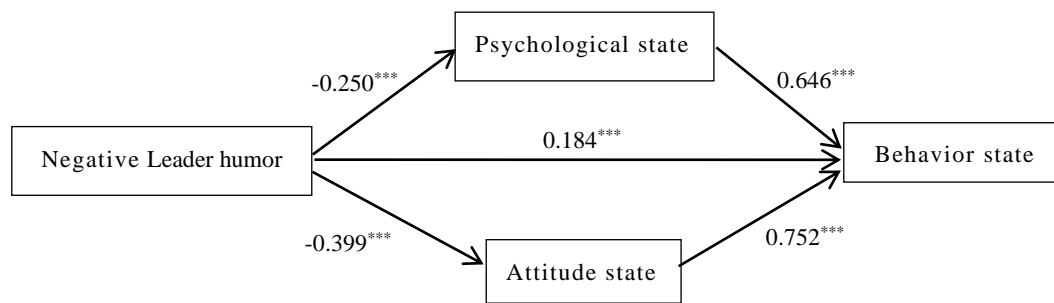


Figure 11. The negative Leader humor influences behavioral the state through psychological state or attitude state

It can be seen from Figure 10 that positive Leader humor positively affects the psychological state of subordinates ($B=0.323$, $p<0.001$), while the psychological state of subordinates positively affects their behavioral state ($B=0.489$, $p<0.001$). Similarly, positive Leader humor positively affects the attitude state of subordinates ($B=0.298$, $p<0.001$), while the attitude state of subordinates also has a positive impact on their behavior state ($B=0.612$, $p<0.001$). Finally, positive Leader humor positively affected the behavioral status of subordinates, but not significantly ($B=0.005$, $p>0.05$). Therefore, the psychological state and attitude state of subordinates can play a complete mediating role between the positive Leader humor and the behavior state of subordinates.

As can be seen from Figure 11, negative Leader humor negatively affects the psychological state of subordinates ($B=-0.250$, $p<0.001$), and psychological state positively affects the positive behavioral state of subordinates ($B=0.646$, $p<0.001$). Meanwhile, the negative Leader humor negatively affects the attitude state of subordinates ($B=-0.399$, $p<0.001$), and the attitude state positively affects the positive behavior state of subordinates ($B=0.752$, $p<0.001$). Finally, negative Leader humor has a significant positive impact on the behavioral status of subordinates ($B=0.184$, $p<0.001$). Therefore, psychological state and attitude state play a part of mediating role between negative Leader humor and behavioral state.

In conclusion, the psychological state and attitude state of subordinates play a mediating role between the humor of leaders and the behavioral state of subordinates. Hypothesis H2a and Hypothesis H2b have been confirmed.

5. The Research Conclusion

5.1 Positive Leader Humor Has a Positive Effect on the Working State of Subordinates

This paper confirms that positive Leader humor can positively influence subordinates' work behavior. First of all, as an important information source in a team, leaders, when they frequently display positive humorous behaviors, will convey to subordinates the information of supporting subordinates and being willing to establish social exchange relationship with subordinates (Cooper et al., 2018; Cooper, 2008), which will greatly promote the formation of interpersonal relationship between leaders and subordinates (Yam et al., 2018), thus improving subordinates' sense of security, trust and fairness in the workplace. Once a safe, trusting and fair working atmosphere is formed in the organization, the working attitude and behavior of subordinates will converge to the direction conducive to the development of the organization. Second, leaders with a strong positive sense of humor often encourage subordinates to question tradition and use creative and disruptive approaches to solve problems. They also help subordinates develop creative thinking to maximize their potential. Finally, because subordinates tend to have love preferences for information source, so it can effectively use active leadership leaders of humor, than those who do not use active leadership leaders are more likely to persuade subordinates to humor with organizational goals consistent activities (Morkes et al., 1999), which helps to subordinates with leadership in the organization to form a common value concept (Meyer, 1997).

5.2 Negative Leader Humor Has a Negative Effect on the Working State of Subordinates

This paper confirms that negative Leader humor can negatively affect the work behavior of subordinates. If the leadership in the process of interacting with subordinates frequent use of passive humor, such as adopt the way of ridicule, satire and belittling to make fun of the subordinate mistake, this negative type of humor is very

aggressive and offensive to subordinates (Martin et al., 2003), is a kind of to the detriment of positive and harmonious interpersonal relationships in the organization of the communicative behavior (Pundt & Herrmann, 2015). Martin (2003) believes that aggressive Leader humor is negatively correlated with subordinates' perception of leaders as amiable, and positively correlated with subordinates' anxiety, depression and burnout psychology. Decker and Rotondo (2001) also found in their study that subordinates who interact with leaders who use aggressive Leader humor report lower quality workplace interpersonal relationships.

5.3 Psychological State and Attitude State Are Mediating Variables That Leader Humor Affects the Behavior State of Subordinates

This paper confirms that psychological state and attitude state play a complete mediating role between positive Leader humor and subordinate behavior state, and play a partial mediating role between negative Leader humor and subordinate behavior state. The implementation of positive humorous behaviors by leaders will help improve subordinates' positive emotions, LMX, job satisfaction and organizational commitment, thus promoting organizational citizenship behaviors of organization members. However, the implementation of negative humorous behaviors by leaders will not only trigger the negative emotions of subordinates, reduce their work input, but also stimulate more counterproductive counter productive behaviors of subordinates. When subordinates are faced with highly uncertain work tasks, they need to process the social information conveyed by the leader's humor to shape their own psychological cognition and attitude cognition of the work environment, so as to adjust their own work behavior.

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