

# A Review of Related Research on Knowledge Hiding Behavior

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**Abstract.** The widespread existence of knowledge hiding will not only affect the employees themselves, but also affect the organization. In this paper, the concept and structural dimensions of knowledge hiding behavior are studied by combing the previous literature, and the antecedent variables such as job characteristics, leadership factors, interpersonal factors and the outcome variable of individual level are studied to summarize the current deficiencies in knowledge hiding behavior and the future research direction.

**Keywords:** Knowledge Hiding Behavior, Leadership Factors, Interpersonal Factors.

## 1. Introduction

In today's era of knowledge economy, knowledge is an important factor to promote social development and the key for organizations to obtain competitive advantages. Knowledge management plays a crucial role in promoting the success of organizations and maintaining long-term sustainable development of organizations. Therefore, scholars pay more attention to the study of knowledge hiding behavior. Foreign scholars have studied knowledge hiding behavior relatively early. Connelly et al. (2012) proposed the concept of knowledge hiding early, and he defined knowledge hiding behavior as an individual intentionally concealing or concealing knowledge required by others [1]. However, the domestic research on knowledge hiding behavior has gradually emerged in recent years, and the domestic scholars' research on the influencing factors of knowledge hiding behavior is mainly carried out from the aspects of organizational situation factors, interpersonal factors, leadership factors and so on. At the organizational level, Chen Yang et al. (2018) studied the influence mechanism of competitive atmosphere on employees' knowledge hiding behavior from the perspective of organizational scenarios [2]; in terms of interpersonal factors, Jiang Rongping et al. (2013) discussed the influence of interpersonal distrust, negative reciprocity and organizational atmosphere in the workplace on employees' knowledge hiding behavior [3], Zhao Hongdan et al. (2019) discussed the mediating role of negative emotion in the relationship between interpersonal distrust and employees' knowledge hiding behavior, and the moderating role of employees' knowledge psychological ownership in the relationship between interpersonal distrust and employees' knowledge hiding behavior [4]; at the leadership level, Yuan Ling et al. (2018) analyzed the influence of humble leadership on employees' knowledge hiding under the background of the Doctrine of the Mean [5], Zhang Xiaofeng et al. (2016) discussed the influence mechanism of ethical leadership on employees' knowledge hiding from the perspectives of social exchange, social learning and regulation focus theory [6]; in terms of job characteristics, Fu Ye et al. (2020) studied the influence of job autonomy on employees' knowledge hiding behavior from the perspective of job characteristics, and discussed the mediating role of organizational obstruction perception [7]. There are many researches on the antecedents of knowledge hiding behavior in previous literatures, but relatively few researches on the outcome variables of knowledge hiding behavior.

As a hot topic of knowledge management, knowledge hiding has been attracting researchers' attention. Knowledge hiding is a common phenomenon, especially in organizations, where there is competition between employees and employees, which makes employees tend to hide their knowledge more intentionally than to share it with others. However, knowledge hiding behavior among employees will not only affect employees themselves, but also affect the organization. Through the study of knowledge hiding behavior, this paper finds out the influencing factors of

knowledge hiding behavior and reduces the knowledge hiding behavior in organizations. At the same time, it is beneficial for employees to acquire new knowledge, and it can also improve their creativity and promote the performance of the organization. Therefore, as mentioned above, the study of knowledge hiding behavior is of great significance.

This paper systematically combs and classifies the relevant literatures of knowledge hiding behavior from four aspects of its concept and connotation, structural dimension, antecedent variables and structural variables, and summarizes the deficiencies in the research of knowledge hiding behavior and its future prospects.

## 2. Connotation and structural dimension of knowledge hiding behavior

### 2.1 The concept and connotation of knowledge hiding behavior

The concept of knowledge concealment was first proposed by Connelly, who divided knowledge concealment into three dimensions of reasonable concealment, pretending to be silly and hiding by evading, and gave a clear definition of knowledge concealment, namely, knowledge concealment is the intentional behavior of individuals to retain and conceal knowledge required by others. Lin Lingna et al. (2014) defined knowledge hiding behavior as the behavior that members do not share all the knowledge that they are fully capable of sharing, and this behavior is carried out in the process of knowledge sharing [8]. Guo Mengyao et al. (2020) defined knowledge hiding behavior from two aspects: knowledge seekers and knowledge concealers. When the knowledge seekers seek knowledge from the knowledge owners, the knowledge owners will intentionally retain or conceal knowledge from the knowledge seekers [9]. To sum up, most scholars believe that knowledge hiding behavior refers to a behavior in which knowledge hiders intentionally hide their knowledge when others want to share knowledge with them.

Sorted out based on related literature, found that there are multiple and knowledge hidden behavior of related concepts, such as knowledge hoarding and counterproductive workplace behavior, workplace aggression, social undermining in the workplace, workplace incivility and deception in the workplace, lack of knowledge sharing, knowledge hidden under the relation and distinction between behavior and the related concept has carried on the summary (table 1).

**Table.1.** The relation and difference between knowledge hiding behavior and related concepts

Related concept	Hidden connections and differences with knowledge
Knowledge hoarding	both can be classified as knowledge retention behaviors. But while knowledge hoarding can be shared, knowledge hiding is intentional hiding.
Counterproductive workplace behavior	Counterproductive workplace behavior is behavior that adversely affects an organization and its members. Knowledge hiding is not necessarily an act intended to cause harm to others.
Workplace aggression	Both are aimed at individuals. But workplace aggression can cause harm to people or work, and knowledge hiding is not necessarily an act intended to cause harm to others.
Social undermining in the workplace	They can all hinder employees from building and maintaining positive relationships. But social undermining in the workplace is not a solitary act, whereas knowledge hiding is a solitary act when it is used to undermine competitors.
Workplace incivility	Workplace incivility is rude behavior that violates workplace norms of mutual respect, and hiding knowledge is not necessarily impolite.
Deception in the workplace	Deception in the workplace is deceptive and can occur between organizations and individuals, while knowledge hiding may or may not be deceptive and occurs between individuals.
Lack of knowledge sharing	Behaviorally, the variables are similar. However, the lack of knowledge sharing may not be the subjective reluctance of employees to share, or the knowledge hiding may be the subjective reluctance of employees to share.

Data source: collated according to relevant data

## 2.2 Structural dimensions of knowledge hiding behavior

The measurement of knowledge hiding behavior in existing studies includes single dimension, two dimension, three dimension and four dimension (see Table 2). Lin Lingna et al. (2015) used four questions to measure knowledge hiding behavior and pointed out that knowledge hiding behavior is a single dimensional concept [8]. Zhao Ting (2013) explained knowledge hiding behavior through two-factor structure: active hiding and passive hiding. Active concealment refers to the behavior of knowledge concealment that an individual takes from others due to his own reasons, while passive concealment refers to the behavior of knowledge concealment that an individual shows to others out of his own willingness[10]. Three-dimensional structures developed by Connelly et al. (2012): evasive concealment, silliness, rational concealment. Evading concealment is when the concealer provides incorrect information or misleading promises of complete answers about the future, even though the concealer does not actually intend to provide this information to others; the act of playing dumb refers to the act of pretending not to know relevant knowledge; reasonable concealment refers to that the concealer provides reasons for failing to provide the required knowledge by implying that the other party is unable to provide the required knowledge, or by blaming the other party [1]. Jiang Rongping et al. (2013) verified Connelly's three-dimensional structural dimension through empirical analysis [3]. Jha and Varkkey (2018) measured knowledge hiding behavior from four dimensions: evasive hiding, pretending to be stupid, reasonable hiding, and questioning hiding. Evasive hiding refers to individuals using avoidance strategies to avoid sharing. Playing dumb is when the hider pretends not to understand the question, avoids answering it, or ignores the request when the knowledge seeker asks for help; rational hiding means that hidere tend to justify their responses to hidden knowledge and tend to be more tactful in their answers to knowledge seekers; rhetorical concealment refers to that knowledge seekers like concealers speak first, add some information according to their answers, and then reverse question knowledge seekers, prompting them to collect the rest of the information from other sources [11] At present, most scholars use the three-dimensional scale developed by Connelly.

**Table.2.** Structural dimensions of knowledge hiding behavior

<u>Author</u>	<u>Structural dimension</u>
Lin Lingna et al. (2015)	Knowledge hiding behavior
Zhao ting (2013)	Active hiding, passive hiding
Connelly et al (2012)	Hide, pretend to be stupid, reasonable hide
Jha. Varkery(2018)	Evasive hiding, pretending to be silly, reasonable hiding, rhetorical hiding

Data source: collated according to relevant data

## 3 Antecedent variables of knowledge hiding behavior

Based on the previous literature research, this paper classifies the summary of knowledge hidden action before, it is concluded that knowledge hidden behavior of the antecedent research mainly from the situational factors, individual factors, leading to explore several aspects, such as (figure 1), situational factors mainly include interpersonal atmosphere of distrust, organizational atmosphere, organizational justice, etc; interpersonal factors include interpersonal distrust, negative reciprocity rules, workplace exclusion, etc; the main factors of organizational leadership include communication among members of organizational leadership and superior attitude.

### 3.1 The influence of job characteristics on knowledge hiding behavior

Job autonomy has a negative impact on knowledge hiding. Fu Ye et al. (2020), based on the theory of social exchange, mentioned the exchange relationship of individuals, when receiving favors from others, individuals need to repay those who sent favors, so as to maintain the exchange relationship

between the two sides; meanwhile, job autonomy can help employees to share knowledge. Therefore, empirical research is conducted to test the relationship between job autonomy and knowledge hiding, and it is concluded that the higher the job autonomy, the lower the implementation degree of knowledge hiding behavior of employees [7].

Task interdependence can weaken the relationship between job insecurity and knowledge hiding. Job insecurity refers to an individual's persistent fear for his or her job because of a bad situation. Huang Aihua et al. (2016) proposed that when task interdependence is low, employees may hide knowledge from others in order to consolidate their own value based on the theory of resource conservation. Empirical analysis shows that when task interdependence is low, job insecurity has a significant positive impact on knowledge hiding [12].

### **3.2 The influence of individual level on knowledge hiding behavior**

Employee territoriality has positive influence on knowledge hiding behavior. Territoriality is a psychological state in which individuals own the ownership of the object, which will lead to the occurrence of knowledge hiding behavior. Guo Mengyao et al. (2020) believe that when personal territory is violated by others, employees will worry about their position and status in the organization, thus hiding knowledge from others. Empirical studies show that territoriality leads to more knowledge hiding behaviors [9].

Ownership has positive influence on knowledge hiding behavior, such as knowledge ownership and psychological ownership. Pan Wei et al. (2016) tested the survey data of 344 people nested in 23 teams, and the research results showed that the perceived knowledge ownership of individuals in the team had a significant impact on knowledge hiding behavior. Among them, perceived personal ownership of knowledge has a significant positive effect on knowledge hiding; perceived ownership of knowledge organization has a significant negative effect on knowledge hiding. Knowledge power loss has a positive impact on knowledge hiding and plays a completely mediating role in the relationship between perceived knowledge ownership and knowledge hiding [13]. Jiang Rongping et al. (2014) studied people engaged in knowledge work and taking knowledge as their profession, and showed that the stronger the individual's sense of knowledge ownership, the more likely he or she is to take knowledge hiding behavior [14]. Jiang Rongping et al. (2020) investigated knowledge workers, and based on social exchange theory and resource conservation theory, found that organizational psychological ownership can reduce employees' knowledge hiding behavior by influencing organizational citizenship behavior and citizen fatigue [15].

The uncertainty of human capital property right can affect the behavior of knowledge hiding. The uncertainty of human capital property right mainly includes the uncertainty of human capital profit right, the uncertainty of human capital control right and the uncertainty of human capital use right. He Yiming et al. (2016) supported by transaction cost theory and affective event theory, showed that the uncertainty of human capital earnings rights in the Internet industry greatly promoted knowledge hiding behavior; the uncertainty of human capital power in Internet industry has positive influence on knowledge hiding; the uncertainty of the right to use human capital also has a positive impact on knowledge hiding [16].

### **3.3 The influence of leadership factors on knowledge hiding behavior**

Ethical leadership consists of two dimensions: moral and moral manager. Zhang Xiaofeng et al. (2016) studied the influence of ethical leadership and ethical leadership activities on knowledge hiding behavior from the perspectives of social exchange theory, social learning theory and regulatory focus theory; through theoretical research, based on social exchange theory research, positive moral management of ethical leadership can reduce employees' knowledge hiding behavior by reducing the negative reciprocity among employees; based on social learning theory, ethical leadership can reduce knowledge hiding behavior by influencing employees' moral sense; based on the moderating focus theory, the employees whose facilitative traits regulate focus can be stimulated by the incentive measures of ethical leaders, so as to suppress the knowledge hiding behavior of employees [6].

Humble leadership can reduce employees' knowledge hiding behavior. Humble leadership is a kind of leadership that is modest and able to seek advice from others with an open mind and face up to their own shortcomings. Yuan Ling et al. (2018) studied the relationship between humble leadership and employees' knowledge hiding behavior under the traditional background of Zhongyong. Through questionnaires and other research methods, it is proved that humble leadership is negatively correlated with employee knowledge hiding, and there is a non-linear U-shaped correlation between the two [5].

Inclusive leadership has positive influence on knowledge hiding. Leaders with inclusive leadership style will pay more attention to communication with employees and their needs, making employees believe that they can be supported in implementing knowledge hiding behavior in the organization [17].

Supervisor's territorial behavior has positive influence on knowledge hiding. Wei Feng et al. (2018) collected relevant data of 120 team leaders and 390 employees from 8 enterprises in the Yangtze River Delta region, and found that leaders with higher territorial behavior tend to reduce knowledge sharing activities among members, that is, increase knowledge hiding behaviors [18].

Abusive supervision has positive influence on knowledge hiding behavior. Abusive management is generally regarded as interpersonal abuse by employees, He Pei-xu et al. (2018) found in their empirical study that Chinese employees will conserve resources, relieve pressure, relieve psychological discomfort and increase knowledge hiding behaviors when facing abusive management from superiors [19].

### **3.4 The influence of interpersonal factors on knowledge hiding behavior**

Interpersonal factors include interpersonal distrust, negative reciprocity rules, interpersonal trust and leader-member exchange ambivalence, etc. Interpersonal distrust refers to the lack of confidence in others and the negative attitude towards others, which is an ineffective social exchange. The norm of negative reciprocity is vindictive, resulting in a negative response to betrayal. Negative reciprocal experiences among employees have an impact on knowledge hiding behavior. Jiang Rongping et al. (2013) concluded through empirical research that interpersonal distrust and negative reciprocity rules have a significant positive impact on knowledge hiding behavior, and regression analysis proved that interpersonal relationship is an effective predictor of knowledge hiding behavior [3]. Wang Peng et al. (2019), from the perspective of social exchange, showed that the stronger interpersonal trust among employees, the less employees' knowledge hiding behavior [20]. Shi Feng et al. (2021) conducted a study on employees in knowledge-intensive industries and found that the experience of contradictory relationship between superiors and subordinates would have a negative impact on individuals, thus affecting knowledge hiding by damaging interpersonal trust [21].

Negative workplace relationships will have a negative impact on knowledge hiding, such as workplace humor attack, workplace negative gossip and workplace ostracism. Yin Hang (2021), based on the social exchange theory, found that humorous attacks in the workplace would cause bad interpersonal relationships among employees, thus increasing employees' knowledge hiding behaviors [22]. Du Hengbo et al. (2020) confirmed through longitudinal research that negative gossip in the workplace will easily cause conflicts among employees, and employees will increase knowledge hiding behaviors for their own interests [23]. Gao Tianru et al. (2019) found through empirical research that the more serious employees perceive workplace exclusion, the more likely they are to have knowledge hiding behavior, moreover, relationship identity and psychological distress can influence the relationship between workplace exclusion and knowledge hiding as mediating variables [24].

### **3.5 The influence of organizational situational factors on knowledge hiding behavior**

Organizational climate includes sense of belonging, sense of innovation and sense of fairness, all of which have negative influence on knowledge hiding behavior. Through empirical research, Jiang Rongping et al. (2013) concluded that employees who have a strong sense of belonging, fairness and

innovation atmosphere in the organization are less likely to have knowledge hiding behavior [3]. The incentive climate at team level has a significant impact on individual knowledge hiding, and the performance climate has a significant positive impact on knowledge hiding. Control atmosphere has a significant negative impact on knowledge hiding [13].

Organizational motivation atmosphere can significantly influence employees' knowledge hiding behavior. Wang Chengjun et al. (2021) studied the influence of organizational motivation climate on knowledge hiding behavior from two dimensions: mastery climate and performance climate. Through data collection and analysis of knowledge workers as research objects, the results show that control atmosphere has a significant negative impact on employees' knowledge, and performance atmosphere has a significant positive impact on employees' knowledge hiding [25].

Zhong-yong thinking has a negative influence on knowledge hiding behavior. Wu Shi-jian (2020) in the Chinese cultural context, such as in the high and new technology enterprises in national employees as investigation object, and the results show that the doctrine of the mean thought can make employees is given priority to with the interests of the organization, clear understanding of the relationship between personal development and organizational interests, avoid to have the knowledge hidden behavior between members, is beneficial to the organization's behavior to do [26].

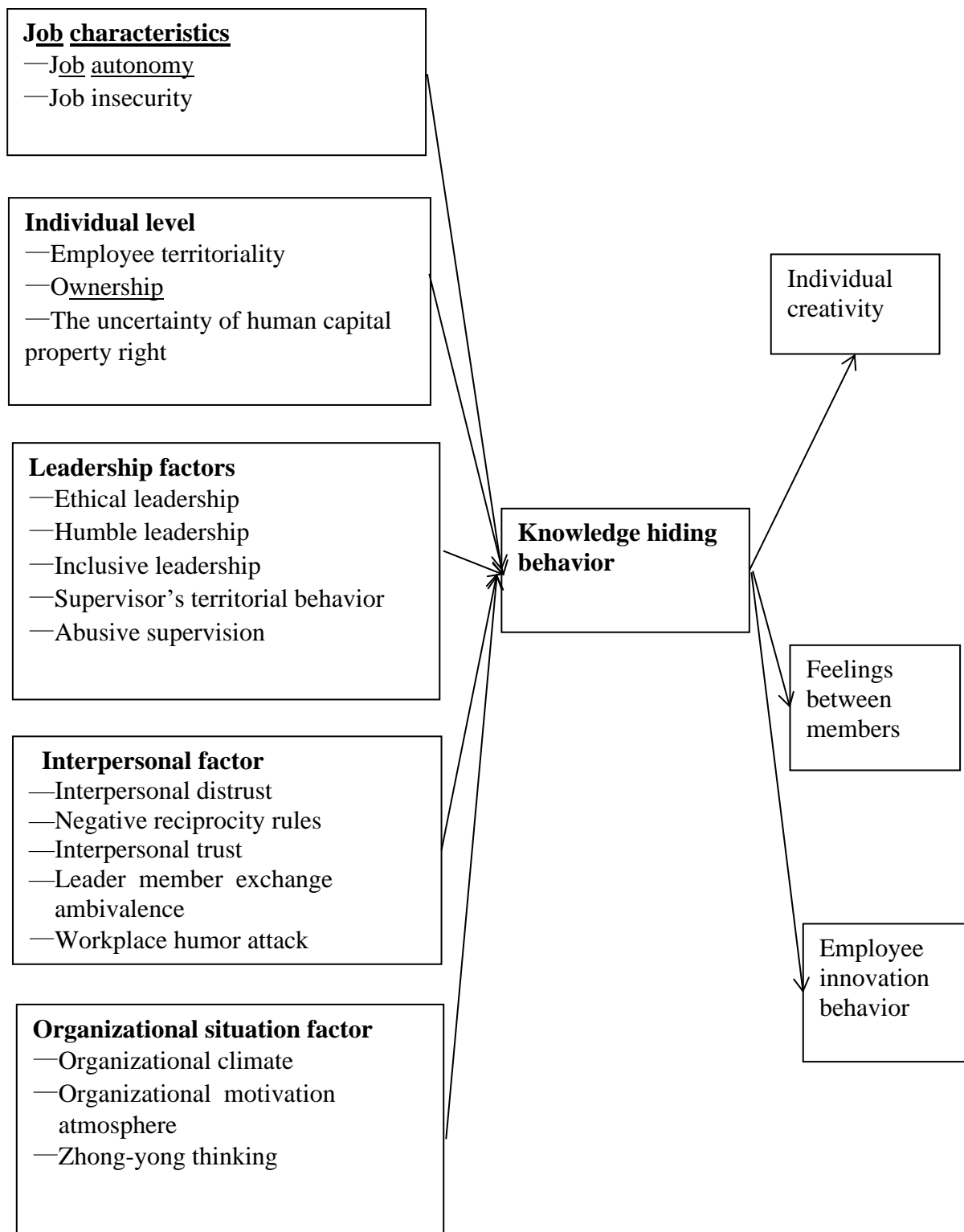
Workplace stress has a significant positive effect on knowledge hiding behavior. Li Xiyuan et al. (2021) took knowledge workers as the research object and found that knowledge workers would carry out knowledge hiding when faced with time pressure of innovation [27]. Yang Gang et al. (2021), based on 342 questionnaire data, found that both challenging stressors and obstructive stressors had significant positive effects on knowledge hiding [28].

## **4 Result variables of knowledge hiding behavior**

Most of the exploration on the outcome variables of knowledge hiding behavior is conducted from the individual and organizational levels. At the organizational level, knowledge hiding will affect organizational performance. At the individual level, knowledge hiding will affect individual creativity and employee innovation behavior.

### **4.1 Individual level**

Knowledge hiding behavior will make individual creativity decline. Individual creativity refers to the new ideas and viewpoints generated by individuals through the connection and combination of the existing knowledge and the knowledge of others. Wang Tianli (2019) based on knowledge, such as coupling theory and social exchange theory, explains the knowledge hidden in the knowledge and knowledge hidden calculated cycle will affect and produce distrust between ring, will this distrust ring by influencing the interpersonal interaction to affect individual creativity, individual knowledge hidden behavior, the more the deeper, The greater the decline of individual creativity [29]. Wu Shijian et al. (2020) studied the relationship between knowledge hiding and its three dimensions and employee creativity in the context of Chinese culture, and the results showed that knowledge hiding behavior, evasive hiding, pretending to be stupid hiding and reasonable hiding all had a significant negative impact on employee creativity [26]. In addition, the empirical study of Bai Jing et al. (2021) also shows that colleagues' knowledge hiding behavior will affect employees' creativity [30].



**Figure.1.** Theoretical model of knowledge hiding behavior

Knowledge hiding can influence employees' innovation behavior through distrust of knowledge seekers. Guo Mengyao et al. (2020) concluded through empirical research that when the knowledge requester requests knowledge from the knowledge hider, the knowledge hider hides his knowledge, which makes the knowledge seeker distrust the knowledge hider and retaliate against the knowledge hider, thus weakening his own innovation behavior [9].

Knowledge hiding behavior will have a negative effect on the emotion among members. Li Hao et al. (2019), based on social exchange theory, explained and verified that team knowledge hiding

would have a negative impact on the interactive memory system, and team knowledge hiding would also have a negative impact on the establishment of a good emotional trust relationship between members [31].

## 5 Conclusion

This paper discusses the antecedent and outcome variables of knowledge hiding behavior from theoretical and empirical research. It is found that the research on antecedent variables is mainly carried out from the aspects of job characteristics, leadership factors, interpersonal factors and organizational situation factors, while the research on outcome variables is mainly from the individual level, and the research on the organizational level is less. Although scholars have gradually improved the research of relevant theories and enriched the content of antecedent variables and outcome variables in the exploration of knowledge hiding behavior. But in the process of combing of literature found some shortages existing in the research, the previous studies in the literature is mainly between employers and employees knowledge hiding behavior, but few have the organization between, between employees and organization to explore knowledge hidden behavior, future research could investigate the influence of these two aspects of mechanism, Enable knowledge sharing to be transmitted between organizations and between organizations and employees.

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