

# A Review of Research on Influencing Factors and Result Effects of Employee Green Behavior

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**Abstract.** At present, environmental protection and sustainable development are extremely important, whether at the national, organizational or individual level. Based on this, research on employee green behavior is gradually emerging. Foreign scholars have conducted in-depth research in this field, and the results are relatively abundant. However, domestic research on employee's green behavior is still in its infancy. Therefore, on the basis of sorting out and synthesizing relevant literature, this paper integrates and introduces the concept, measurement, theoretical basis, antecedent variables, action mechanism and result effects of employee green behavior, and on the basis of summarizing existing research, looks forward to future from aspects of scale localization, Chinese cultural context and result effect research, in order to provide inspiration for domestic follow-up research.

**Keywords:** Employee Green Behavior; Values; Green Human Resource Management; Responsible Leadership; Environmental Performance.

## 1. Introduction

Faced with the problems of haze, climate warming, ecological destruction and water pollution, China has raised environmental protection and ecological management to the national strategic level. The 18th National Congress of the Communist Party of China put forward to build a "beautiful China", and the concept of "green development" was put forward and attached importance to in the national 13th Five-Year Development Goals. Through efforts from all sides, the recently held Sixth Plenary Session of the 19th CPC Central Committee shows that the ecological environment protection in China is undergoing a turning, historic and overall change. Although China 's environmental protection has made great achievements, it still has a long way to go, and environmental protection should be a continuous work.

As an important promoter of the economy and society, enterprises are also the main producers of environmental problems. Facing the increasingly prominent environmental problems and the advocacy of national policies, enterprise organizations try to formulate corresponding strategies and systems in order to achieve sustainable development. Green behaviors of enterprises have emerged as the times require, such as green purchasing, green manufacturing and resource recycling, green product research and development and green human resource management. However, the implementation of enterprise strategies and policies depends largely on the recognition and cooperation of employees.

Based on this, the related research on employee green behavior has risen, which has attracted wide attention of scholars. At present, a series of researches on employee green behavior have been carried out abroad and rich achievements have been made. However, the research on employee green behavior in China is in the initial stage, and there is insufficient research on its concept, measurement, influencing factors outside and at the organizational level, and the results of employee green behavior. Therefore, on the basis of combing and synthesizing the relevant literature at home and abroad, this paper introduces the concept, measurement, influencing factors, action mechanism and result effects of employee green behavior, and on this basis, summarizes the shortcomings of previous research and looks forward to the future research direction, in order to provide enlightenment for domestic follow-up research.

## 2. Employee green behavior

### 2.1 Concept

"Green behavior" refers to the behavior of reducing the harm to the natural environment, including recycling resources and purchasing green products. Employee green behavior (EBG) is a concept developed by focusing on the concept of green behavior in the workplace. Some scholars also refer to employee green behavior as employees' pro-environmental behavior or citizens' behavior of environmental organizations. Different scholars have different opinions on the specific meanings of these similar concepts.

Based on the pro-environmental initiative, Ramus et al. (2000) tried to define the employee green behavior as a kind of voluntary behavior that employees show and think can help improve the environmental performance of the organization, such as recycling, pollution prevention and ecological efficiency improvement [1]. This definition holds that employee green behavior is a spontaneous behavior and can improve organizational environmental performance. However, there are some limitations, that is, the limited scope, such as employees sharing environmental protection knowledge with colleagues or putting forward environmental protection suggestions to the management, which have no direct impact on the environmental performance of the organization, are not included. On the basis of Ramus et al. 's research, Ones et al. (2012) think that employee green behavior refers to measurable behaviors that employees actively participate in and contribute to the sustainable development of the environment [2]. This definition considers the environmental performance and the voluntary nature of employee green behavior. At the same time, there are some controversial points in this definition, such as the measurability of behaviors in the definition. However, in reality, some green behaviors are often difficult to measure directly, such as the sharing of environmental knowledge. Therefore, it is unreasonable to exclude the green behavior which is difficult to measure directly from the concept category.

In the later period, the academic circles are more inclined to classify employees' voluntary and green behaviors caused by organizational regulations as employee green behaviors. For example, Kim et al. (2014) defined employee green behavior as a series of behaviors shown by employees in the organization aimed at reducing the adverse impact of individual behavior on the environment and protecting the ecological environment [3]. Xing Lu et al. (2017) put special emphasis on the social orientation of employees green behavior, arguing that its fundamental purpose is to improve social welfare [4]. Huang Liang et al. (2018) proposed that employee green behaviors in the workplace mainly include: saving resources, recycling and other environmental protection behaviors [5]. Liu Huanxin et al. (2018) defined employee green behavior as the positive organizational behavior of employees in the workplace that can help reduce environmental damage or contribute to the sustainable development of the environment by synthesizing the views of other scholars [6].

In summary, scholars for the definition of employee green behavior are roughly the same, there are also different emphasis and definition supplement. This paper more agrees with the definition of employee green behavior as all organizational regulations or spontaneous behaviors that employees show in the workplace to protect the natural environment or improve organizational environmental performance. This definition is more comprehensive, including the behavior of employees spontaneously or due to organizational regulations, and the behavior that can achieve the goal of protecting the environment or improving organizational environmental performance can be defined as employee green behavior.

### 2.2 Concept discrimination

In the process of searching and sorting out the literature, this paper found that there are two concepts similar to employee green behavior in the existing research: pro-environmental behavior and environmental organization citizenship behavior. Studies have compared these three concepts, but their specific connotations are still different.

Employee green behavior refers to any personal behavior that contributes to environmental sustainability goals in the workplace, including both passive and voluntary environmental behavior under organizational regulations. Employee pro-environmental behavior is more emphasis on personal will. Environmental organization citizenship behavior also emphasizes employees' autonomous behavior in the organizational environment. According to Tian Hong (2021) and other scholars, pro-environmental behavior compared to environmental organization citizenship behavior, due to the concept of individual pro-social behavior from sociology, also emphasizes pro-social attributes [7]. Therefore, there are some differences in the definition of employee green behavior, pro-environmental behavior and environmental organization citizenship behavior.

### 2.3 Dimensions

(1) Ones and Dilchert (2012), guided by behavior results, divided employee green behaviors into five dimensions: avoiding injuries (minimizing harm to the environment in the working environment), saving resources (reducing waste in production), sustainable work (creating working methods and processes that are conducive to environmental protection), influencing others (encouraging others to take environmental protection measures), and taking initiative (willing to take risks brought about by actions that are conducive to environmental protection)[2]. However, the definitions of these five dimensions are vague and overlap, and a specific green behavior may be classified into multiple dimensions.

(2) Bissing-Olson et al. (2013) divided employee green behavior into task-based green behavior and proactive green behavior considering both intra-task and extra-task situations. Employees' task-based green behavior refers to the behavior that employees use environmental protection to complete tasks required by organization; employees' proactive green behavior refers to employees' voluntary, environmentally friendly behavior beyond organizational requirements [8]. This division is the most common division of employee green behavior.

(3) Dumont et al. (2017) divided employee green behavior into extra-role employee green behavior and intra-role employee green behavior according to whether they are related to their own work. extra-role employee green behavior refers to the individual 's independent green behavior beyond the requirements of the organization, including making environmental protection suggestions and participating in related activities. intra-role employee green behavior refers to the green behavior within the scope of employees' responsibilities, including compliance with organizational sustainable development policies and resource conservation [9].

(4) Liu Huanxin et al. (2018), on the basis of previous studies, divided employee green behavior into three dimensions according to the unified standards of inside and outside tasks and task requirements [6]. When there are environmental requirements in organizational tasks, employees' behavior will be related to task performance and environmental performance, that is, intra-role employee green behavior; When there is no task requirement, the employee 's behavior of voluntarily completing the task in an environmentally friendly way is the task-related positive green behavior. However, green behaviors that are not related to the task and are not bound by the requirements of the organization, but that exceed expectations voluntarily, are gextra-role employee green behavior, environmental protection organization citizenship behavior or positive green behaviors, which are collectively called voluntary green behaviors.

### 2.4 Measurement

At present, the measurement of employee green behavior mainly includes one-dimensional and two-dimensional scales. Among them, the one-dimensional scale tends to equate employee green behavior with employees' voluntary green behavior for measurement; Two-dimensional scale is divided into voluntary and task-based measurement.

#### (1) One-dimensional scales

Roberston and Barling (2013) developed a one-dimensional employee green behavior scale based on previous researches on the motivation of pro-environmental behavior, which mainly tends to

measure employees' spontaneous green behavior, including seven items, such as "using recyclable daily necessities, such as mugs" [10].

Kim et al. (2014) focused on voluntary green behavior and developed a one-dimensional scale including 6 items, such as "I will avoid unnecessary printing to save paper" and so on [3].

#### (2) Two-dimensional scales

Bissing-Olson et al. (2013) developed the scale of employee's task-oriented green behavior and the scale of employee's proactive green behavior on the basis of previous scales. There are 3 questions in each of the two dimensions. The scale of employee's task-oriented green behavior is "Today, I have fully completed my assigned duties in an environmentally-friendly way", "Today, I have performed my duties in an environmentally-friendly way" and "Today, I have performed my tasks in an expected environmentally-friendly way"; The scale of employee's proactive green behavior is "Today, I have the opportunity to actively participate in environmental protection at work", "Today, I take the initiative to take environmental protection actions at work" and "Today, I did more environmental protection actions at work than expected" [8]. It is proved that the scale has high reliability and validity.

## 2.5 Theoretical basis

#### (1) Theory of planned behavior

The theory of planned behavior refers to the control of individual attitudes, values and perceived behaviors, which leads to the formation of individual intentions and then affects the adoption of behaviors. This theory emphasizes that individual behavior can be predicted by their behavioral intentions. However, it should also be emphasized that attitude is necessary, but the individual's behavior is not only influenced by attitude, but also requires the individual to have the belief of controlling behavior and be aware of the social norms existing in the situation. Therefore, based on the perspective of planned behavior theory, the research on employee green behavior not only pays attention to employees' attitudes, but also emphasizes other factors that affect personal behavior intentions, such as employees' values and understanding of social norms, and combines employees' own behavior control ability.

#### (2) Self-determination theory

Self-determination theory holds that the formation of individual behavior is the result of the interaction between individual self and external environment. Specifically, the individual's behavior is driven by his own will, and cannot be separated from the external environment. This theory is used to explain the motivation behind individual behavior. In the research field of employee green behavior, this theory emphasizes the motivation of driving green behavior. Graves et al. (2013) found that motivation can be divided into control motivation and autonomous motivation based on self-determination theory [11]. Control motivation refers to getting reward or escaping punishment in order to accomplish the task on which the organization is based; Self-motivation refers to green behaviors that are influenced by self-goals or self-values and emotions. Employee green behavior will be influenced by these two incentives.

#### (3) Social exchange theory

Social exchange theory emphasizes the influence of the reciprocal relationship between individuals and the outside on individual behavior. The research from this theoretical perspective emphasizes that perceived interests or emotions are the key factors affecting employee green behavior. For example, by changing the working environment and atmosphere of employees, employees' job satisfaction can be improved, thus promoting their green behaviors. Temminck et al. (2015) shows that when employees perceive those green behaviors are supported by organizations, leaders or colleagues, they will feel more care, and then increase their emotional commitment to the organization, and finally they are more willing to carry out green behaviors that the organization advocates [12].

#### (4) Social learning theory

According to social learning theory, individuals observe, learn and imitate the behavior of other individuals. Social learning theory believes that people have two kinds of learning methods: direct learning through practice and indirect observation and imitation of others' behavior. For example, green training can enhance employees' awareness of environmental protection and improve their environmental protection skills, which has a positive impact on employee green behavior. At the same time, as the manager of the organization, leadership can play an exemplary role in employees. Therefore, the leadership of green behavior will also promote employee green behavior.

#### (5) Normative behavior theory

The normative behavior theory emphasizes that individual behavior is attributed to the external environment. From the perspective of this theory, the influencing factors of employee green behavior will be more concentrated on the external environment and organizational factors. Such as social system, moral standards, environmental pressure, etc. Michale et al. (2010) explored the influence of social system on the green behavior of employees in organizations. Besides the above five theories, it also includes some other theories, such as organizational identity theory and affective event theory [13].

### 3. Influencing factors

#### 3.1 Personal influencing factor

In this paper, the influencing factors of employee green behavior are divided into personal factors, organizational internal factors and organizational external factors.

##### (1) Age

Wiernik (2016) divided employee green behavior into taking initiative, saving resources, influencing others, changing ways and avoiding harm. It also explores whether employee green behavior is influenced by age. It is found that employees' age has a significant positive impact on resource conservation, moderate impact on others, no impact on proactive behavior, and little impact on avoidance of harm and transformation [14].

##### (2) Personality traits

Employees' personality traits will influence their cognition and thinking, thus influencing their behavior. Kim et al. (2017) studied the influence of responsibility in personality traits on employee green behavior. The results show that employees with high responsibility and high self-control are more likely to have moral reflection, which has a significant positive impact on employee green behavior [15]. At present, there are few studies on other personal traits, and future studies can try to study the impact of other personality traits on employee green behavior.

##### (3) Values and norms

Values influence individual behavior and acceptable behavior patterns. Dumont et al. (2017), based on the supply value fit theory, proposed that if individual values fit with organizational values, the relationship between individuals and organizations will be closer, thus having a positive impact on employees' work attitude and behavior [9]. Therefore, if a green human resource management is implemented within an organization, employees with high green values will establish higher organizational identity with organizations, and more likely to produce green behavior. Individual norms are also important factors influencing employee green behavior. Individual norms play a guiding role in their own behavior. Some scholars have shown that personal norms of pro-environment will make them feel obliged to conduct pro-environment behavior.

##### (4) Environmental knowledge and attitude

Employee green behavior will be influenced by their environmental awareness and attitude. Employees are more willing to participate in activities that are consistent with their attitudes, so employees' environmental attitudes will have an impact on their green behaviors. Hu Yiping (2019), based on the theory of planned behavior and social exchange, found that environmental knowledge

positively influences environmental knowledge sharing and green behavior willingness, and indirectly positively influences green behavior through green behavior willingness [16].

#### (5) Emotion

Emotion is a key factor affecting employee green behavior. Studies have shown that anger, fear, sadness, joy and satisfaction have an impact on employee green behavior, and negative emotions have a greater impact. Bissing-Olson et al. (2013) used a multi-level analysis to find that when employees are in relaxed, calm and other emotional states, the possibility of completing organizational tasks in a green way is higher, that is, it positively influences the task-based green behavior of employees[8].

### 3.2 Organizational internal influencing factors

The organizational internal influencing factors are divided into organizational level and leadership level.

#### (1) organizational level

This paper divides the influencing factors into organizational behavior and organizational policy culture.

##### 1) organizational behavior

The influencing factors of organizational behavior mainly include organizational support, social responsibility, green human resource management practices, and enterprise incentives. Social interaction theory is based on the sense of support, including organizational support, and the sense of leadership support and colleagues support mentioned later. Paille et al. (2014) found through research that perceived organizational support has an impact on employee green behavior through organizational commitment; Perceived colleague support has an impact on employee green behavior through job satisfaction and commitment to colleagues [17].

Corporate social responsibility refers to the beneficial policies or measures those enterprises take the initiative to take responsibility for the society or the environment and implement. Tian et al. (2019) pointed out that employees' perceived corporate social responsibility will have an impact on employees' voluntary green behavior [18]. Zhang Na et al. (2021), based on moral decision-making, explored the influence of corporate social responsibility characteristics (corporate social responsibility culture, atmosphere and performance) on employee green behavior, and found that there was a positive correlation between them [19].

Green human resource management practice is actually a hard means of green management, which standardizes the management of green behavior of employees from the institutional and policy levels. It integrates green awareness into organizational management, improves employees' environmental awareness, enhances employees' environmental protection and encourages employee green behavior through human resource management measures such as environmental protection policies, training and incentives, so as to promote the realization of organizational green strategic objectives. In recent years, more and more scholars began to study the impact of green human resource management practice on employee green behavior. Dumont (2017) introduced green psychological climate as an intermediary variable from the perspective of social psychological process, and pointed out that green human resource management practice can stimulate extra-role and intra-role employee green behavior by creating a green climate of the organization [9]. Zhou Jinfan et al. (2018) examined the role of green human resource management practices in promoting task-based and voluntary green behavior of employees [20]. Zhao Sufang and other scholars (2019) have shown that employees' perceived human resource management practices can contribute to the formation of green behavior [21]. Tang et al. (2021), based on the context of the local hotel industry, found that green human resource management has a positive impact on the green behavior of hotel employees, in which green self-efficacy and intrinsic green motivation play a mediating role [22].

##### 2) organizational policy culture

The influencing factors of organizational policy culture mainly include organizational environmental policy, organizational culture and atmosphere. Organizational environmental protection policies are mainly reflected in the organization 's environmental protection practice

requirements for employees. Norton et al. (2014) showed that organizational sustainable development policies had a positive impact on employees' task-based and voluntary green behavior through perceived green working climate [23]. Graves et al. (2019) also explored and confirmed the impact of organizational environmental policies on employee green behavior.

The organization can create a specific organizational culture and atmosphere by formulating policies, systems, norms and management practices, so as to promote green behavior of employees. Green atmosphere refers to the atmosphere created by organizations through a series of environmental policies and measures. Green psychological climate is a hot variable in the field of employee green behavior research. Norton et al. (2014) research shows that organizational green climate can transfer organizational environmental attitudes and values to employees, thus promoting the formation of task-based green behavior [23]. Roberston et al. (2013) showed that the green climate formed between colleagues had a positive impact on employees' voluntary green behavior [10]. Culture is formed by long-term accumulation of the organization, which has a more profound impact on employee behavior. Xing Yijun (2017), starting from the cultural foundation, combines traditional Taoist thought with leadership, and finds that the organizational culture formed by the three characteristics of Taoist thought can cultivate employee green behavior [24].

#### (2) leadership level

It mainly Includes leadership support attitude, leadership behavior and leadership style, etc.

##### 1) leadership behavior

Leaders are at the management level of the organization, with high power, status and prestige, and are important reference objects for employees' attitudes, work and behaviors. Scholars such as Hou Nan (2019) believe that leadership behavior patterns tend to send signals to employees, which let employees think that leadership behavior is respected by the organization, and then learn to follow [25]. Social learning theory holds that human behavior can be acquired indirectly by observing others' behavior. Therefore, the green behavior of leaders and the following leadership style will directly or indirectly affect employees' behavior to some extent. Kim et al. (2017) found that the voluntary green behavior of leadership positively affects the voluntary green behavior of employees [15]. Robertson et al. (2013) based on social learning theory, the study suggests that in the interaction between employees and leaders, employees will observe the attitude and behavior of leaders, and produce imitation behavior, so the green behavior of leaders can promote the green behavior of employees [10].

##### 2) leadership support attitude

Leadership can also influence employee green behavior. The encouragement and support of leaders can not only directly contribute to the formation of employee green behavior, but also positively influence employee green behavior by stimulating their environmental commitment. Daily et al. (2009), based on the social exchange theory, thinks that leaders' supportive behavior can have a positive effect on employee green behavior [26]. However, some studies have found that the supportive behavior of leaders has a negative effect on employee green behavior, which will inhibit the generation of green behavior.

##### 3) leadership style

The leader 's style is an important factor that affects employee green behavior. According to the social learning theory, employees will observe and learn the behavior patterns of leaders. At present, there are many studies that focus on the influencing factor of leadership style. Among them, there are many researches on responsible leadership and green transformational leadership. Pan Zhichun et al. (2021) based on social learning theory and attribution theory, explored the influence mechanism of responsible leadership on employee green behavior, and studied the boundary effect of environmental psychological sources [27]. Green transformational leadership means that leaders encourage employees to pursue green goals, and motivate employees to make green behaviors that exceed the expected level. Peng Jian et al. (2020) at the same time, from the interaction between green transformational leadership and green human resource management practice, it is concluded that the clarity of goals positively affects employee green behavior [28]. In recent years, more and more

scholars have begun to introduce Chinese traditional Taoism and Confucianism into the study of leadership style. Zhang Jialiang and other scholars (2018), starting from the dual identities of "moral person" and "moral manager", found that ethical leaders would create moral models, implement ethical management and create ethical atmosphere in the organization, improve employees' awareness of environmental protection and enhance their awareness of environmental protection, thus promoting employees' learning and imitation [29]. Other scholars have studied humble leadership, spiritual leadership, Taoist leadership and moderate leadership.

### 3.3 Organizational external influencing factors

The organization external influencing factors pay more attention to the influence of social environmental pressure and institutional norms, moral norms and social cultural atmosphere on employee green behavior. This paper summarizes them into two categories: social environmental ethics and social environmental culture.

#### (1) social environmental ethics

For the study of social environmental ethics, the main theoretical basis is the social norm theory. Social norm theory pays attention to the socially acceptable degree of behavior, including descriptive norms and prohibitive norms, and guides behavior by emphasizing people's behavioral ethics and social consequences of participating (or not participating) in specific activities under normal circumstances. Marshall, Cordano and Silverman (2005) comprehensively analyzed the influence on employee green behavior from social environmental ethics and social environmental cultural atmosphere [30]; Michael et al. (2010) deeply discussed the degree to which employee green behavior in manufacturing enterprises is influenced by social system and other pressures [13].

#### (2) social environmental culture

According to Liu et al. (2018), the social environmental cultural atmosphere can be divided into social environmental atmosphere and social cultural atmosphere. The atmosphere of social environmental protection refers specifically to the atmosphere of social environmental protection created by the national environmental protection strategy and the spontaneous behavior of people beyond the strategy [6]. Ashkanasy et al. (2011) confirmed that social environmental climate will generally improve people's environmental awareness, and then have a positive impact on employee green behavior.

Social cultural atmosphere refers to the social atmosphere shaped by Chinese traditional culture, such as collectivism, Confucianism and so on. Wang Jing (2017) explores whether Chinese traditional culture will affect employee green behavior from the perspective of the essence of traditional Confucian culture, such as the doctrine of the mean, and the idea of clear rewards and punishments in Legalists, and the rule of law. Based on the theory of cultural capital [31]. Zhang Mingquan (2021) explores the influence of collectivism, the doctrine of the mean, long-term orientation, face need and harmonious orientation on employee's green behavior in the context of Chinese culture. The study finds that there is a positive correlation between these five cultural factors and employee green behavior. By combing the literature [32]. Song Weixuan (2021) divided the characteristics of Chinese traditional culture into "authority", "relationship", "altruism" and "morality" to analyze the impact of employee green behavior [33].

### 3.4 Literature review

By integrating and classifying the antecedent variables, it can be found that employee green behavior is not only employees' choice based on attitude, cognition and emotion, but also affected by the interaction between individual and external environment. At present, the research on the influencing factors of personal level and leadership style is relatively rich and perfect. The research scope at the organizational level is narrow, mainly including the cultural and institutional policies of the organization. Today, with more and more tasks completed in the form of teams, team and colleague-related factors also have a great impact on employee green behavior.



#### 4. Result effects

In the existing research, scholars generally take employee green behavior as a result variable to explore its influencing factors and mechanism. There are few studies on the result effect, which can be divided into the impact on individual employees and the impact on the organization.

Impact on individual employees. Employee green behavior may not only meet their task requirements and their green behavior intentions, but also make them feel satisfied, and the obtained satisfaction can stimulate employee green behavior again. Satisfaction and employee green behavior can become a virtuous circle. Some scholars have also explored whether employee green behavior will affect their career development. The results show that employee green behavior can gain social identity, enhance their image, and possibly get more opportunities for career development.

Impact on the organization. On the one hand, the image of employees can represent the image of the organization to a certain extent, affecting the reputation of the organization. Therefore, employee green behavior can help organizations establish a good social image and gain competitive advantage. On the other hand, employee green behavior can help organizations reduce resource waste and improve environmental performance. Pan Chulin et al. (2017) found that employee green behavior such as developing green products, adopting green production processes and recycling resources can promote the improvement of organizational environmental performance [34].

At the same time, some scholars have studied the influence of employee green behavior on leadership and team, such as shaping the team's environmental protection green atmosphere, but the research is less. At present, scholars' research on the result effect of employee green behavior involves a wide range, but the number and research results are less, and there is still a lot of research space at all levels.

#### 5. Intermediary variables and boundary conditions

This paper finds that the mediating variables of employee green behavior mechanism are mainly concentrated in the employee level, such as employee green values, organizational commitment, emotion, green behavior intention and motivation. At the organizational level, Paille et al. (2014) studied environmental attitudes and environmental support that support organizations, which positively influence employee green behavior through employee satisfaction and increased organizational commitment [17]. In the leadership level research, such as Xing Lu (2017) found that positive emotions and stakeholder values play a partial mediating role in the relationship between responsible leadership and subordinate green behavior, and the mediating effect of positive emotions is greater than that of stakeholder values [4]. In the study of employees' individual level, Kim et al. (2014) introduced moral reflection and employees' own values into the study of the influence mechanism of employees' sense of responsibility on employee green behavior, and found that both variables can play an intermediary role in the mechanism [3].

The influence of antecedents on employee green behavior will change due to different situations and characteristics. Through combing the related research, this paper finds that the moderating variables of the existing research are mainly concentrated in the employee level and the organization level. The moderating variables at employee level mainly include attitude and emotion, etc. Xing Lu et al. (2017), mentioned earlier, found the mediating role of stakeholder values and positive emotions, and found that positive emotions had a negative moderating effect on the relationship between stakeholder values and subordinate green behaviors [4]. The regulatory variables at the organizational level are mainly the organization's environmental attitudes and policies, etc. As some scholars have found, the organization's environmental attitude negatively regulates the relationship between employees' self-regulation and voluntary green behavior.

The influencing factors, mechanism and result effects of employee green behavior in the existing research is summarized as Figure 1.

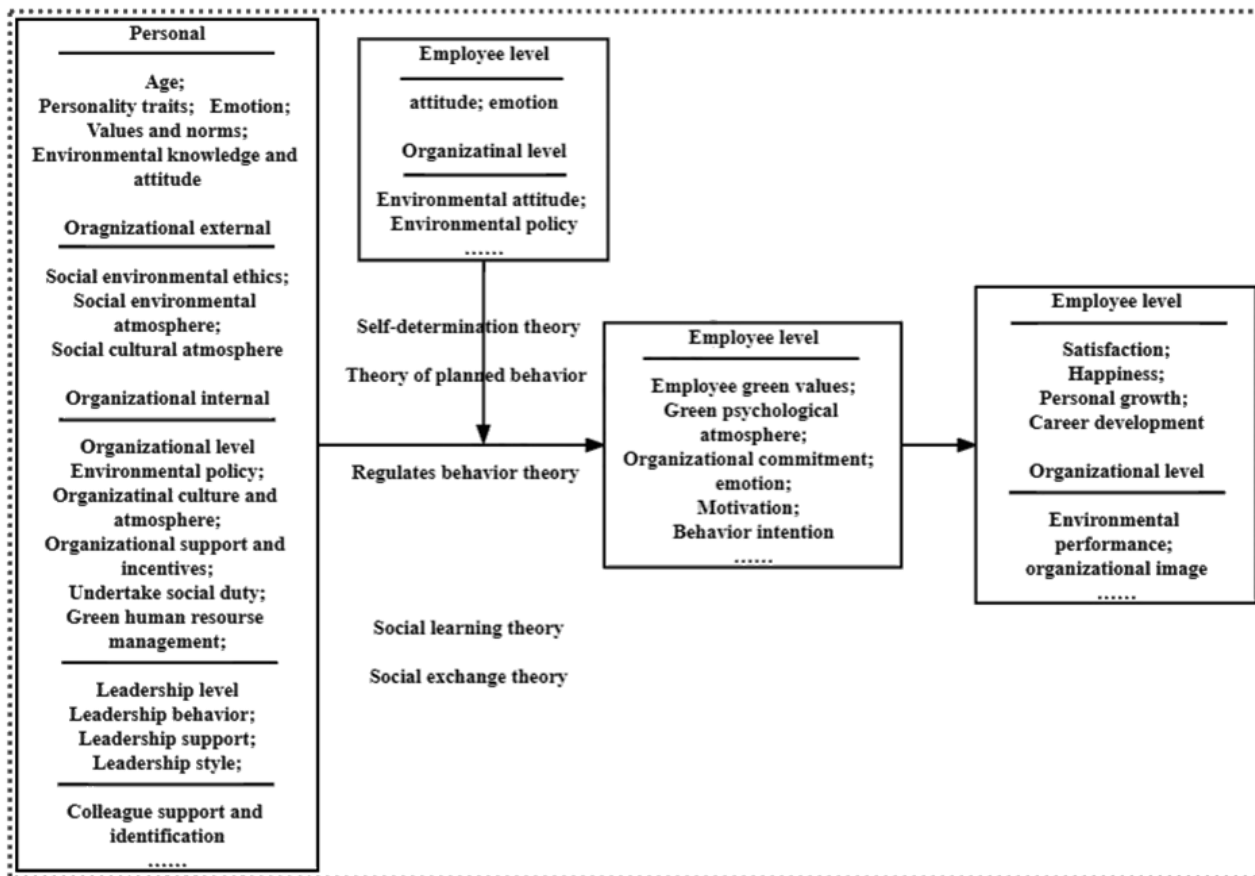


Figure 1. The influencing factors, mechanism and result effects of employee green behavior

## 6. Summary and future prospect

In summary, in the field of employee green behavior, the concept has not been unified definition, and the boundary with employee pro-environmental behavior and environmental organization citizenship behavior is not clear. The measurement of green behavior is mainly based on the research results of foreign scholars. The theoretical basis is mainly self-determination theory and planned behavior theory, social exchange and learning theory, and behavioral norms theory.

In the study of antecedents of employee green behavior, the study of influencing factors at the individual level is in-depth and wide range. There are also many studies on the leadership factors at the internal level of the organization, and the green transformational leadership style is currently a research hotspot. However, research from the organizational level and from the emerging team perspective is obviously inadequate. In the result effect of employee green behavior research, mainly concentrated in two aspects of employees and organizations, and the number of research is not much, less results, the impact on other aspects also needs to be explored. The mediating and moderating variables of employee green behavior related research mechanism design mainly focus on individual attitudes, values and organizational attitudes and systems, etc.

Therefore, on the basis of studying, sorting out and synthesizing relevant research results, this paper puts forward the following future prospects in view of the current research emphasis and shortcomings.

(1) Effective definition and scale localization.

At present, the definition of employee green behavior has not been unified, and foreign scholars define it from different perspectives. Chinese scholars should also integrate Chinese elements into Chinese context to make local and effective definition of employee green behavior. Although the existing measurement scale has been verified by research, the scope of environmental protection concepts and behaviors has gradually expanded over time, and the scale needs to be changed and

improved accordingly. At the same time, the scale is generally developed by foreign scholars, which is not well combined with China's local situation. Therefore, the follow-up study can try to develop a measurement scale of employee green behavior in line with modern concepts in the context of China.

(2) Strengthen the study on outcome variables

Most of the existing researches focus on the antecedent variables of employee green behavior, but the research on its effect is less and the research depth is insufficient. To what extent does green behavior affect employees' personal happiness, personal growth, career development, the image of the organization, environmental performance, and the environmental atmosphere of the team, etc., and which impacts can be quantified, these issues remain to be studied. Therefore, the follow-up research can focus on the research of employee green behavior efficiency and deepen the theoretical research on its efficiency.

(3) Try the cross-level analysis

According to the analysis of employee green behavior keywords by Tian Huirong and other scholars (2021), the current research is mostly based on different starting points and focuses. In general, the research content is not close enough and comprehensive [35]. However, through the above review, it can be found that employee green behavior is affected by individuals, organizations, and external environment. Therefore, the follow-up study can try to use cross-level analysis method to conduct a more in-depth and comprehensive analysis of employee green behavior.

(4) Combine with Chinese cultural context

Through the above analysis, it can be found that the current research related to employee green behavior is mostly based on the western context, without considering the local social culture in China. Therefore, in future studies, we can explore the impact of China's unique cultural characteristics, such as collectivism, the doctrine of the mean, ethics and power distance, on employee green behavior.

(5) Consider employees' non-green behaviors

At present, some scholars put forward the existence of the concept of employees' non-green behavior. Studies have shown that anti-production behavior will affect performance, and explore how it comes into being and how it affects organizational individuals. Then, in the field of employee green behavior, employees' non-green behavior may also have such problems. Therefore, the follow-up research can focus on the research of employees' non-green behaviors, so as to realize the perfect consideration of employee green behaviors.

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