

A study on Green behavior of Chinese College students from the Perspective of AMO

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Keywords: AMO, green self-efficacy, prosocial motivation, organizational green support atmosphere, green behavior

Abstract: Under the condition that the ecological pressure and environmental problems in China are becoming more and more serious, Chinese colleges and universities try to actively influence the green behavior of college students through the green development plan. Based on AMO theory, this paper discusses the mechanism of ability, motivation and opportunity on green behavior of 15 colleges and universities.

The results show that ability, motivation and opportunity have a positive effect on the green behavior of college students, and opportunity can not only directly and positively affect the green behavior of college students, but also have an indirect impact on the green behavior of college students through ability and motivation.

1. Background

Nowadays, the social ecosystem is deteriorating day by day, many countries and regions are facing important problems such as environmental pollution and resource depletion, how to alleviate the environmental pressure caused by mass production and consumption of human beings, and prevent the further deterioration of the ecosystem. Become a common problem facing all countries in the world[1].The Chinese government puts forward the construction of ecological civilization as an important part of the overall layout of socialism with Chinese characteristics, and puts forward the requirements of green development for building a beautiful China. As the most influential emerging economy, how to carry out the green sustainable development model has become an important issue of concern to the whole society[2].

Many scholars believe that environmental problems are caused by human bad behavior, and people save water, garbage classification and other green behavior plays an important role in environmental protection[3]. Environmental protection requires extensive participation from all walks of life, especially college students. It is not only the builder and creator of the country, but also the main force of environmental protection. Therefore, it is very necessary to explore the influence mechanism of college students' green behavior.

The existing research mainly focuses on the green behavior of employees, and there are many studies on the green behavior of employees abroad. The different categories, influencing factors and mechanism of green behavior of employees are discussed in detail. However, there is a relative lack of discussion on this topic in Chinese academic circles[4].This paper uses the theory framework of AMO to study the influence mechanism of three factors, such as capability, power and opportunity, on the green behavior of college students.

2. Theoretical basis and research hypothesis

In the field of behavioral science, it is considered that individual behavior is a function of ability and motivation. After that, some scholars (Blumberg & Pringle,1982) added the opportunity dimension to believe that even if the individual had the will and the ability to engage in an established activity, it was true that the activity also depended on the objective environment in which it was located, that is, the impact of the opportunity factor[5]. Appelbaum systematically puts

forward AMO theory, which holds that employee behavior and performance are affected by ability, motivation and opportunity. As shown in figure 1. Among them, ability refers to the information, knowledge and skills that help an individual to engage in an activity effectively; motivation refers to the internal and external motivation that affects an individual to engage in an activity; opportunity refers to the external environmental factors that promote or hinder the behavior of an individual[6].

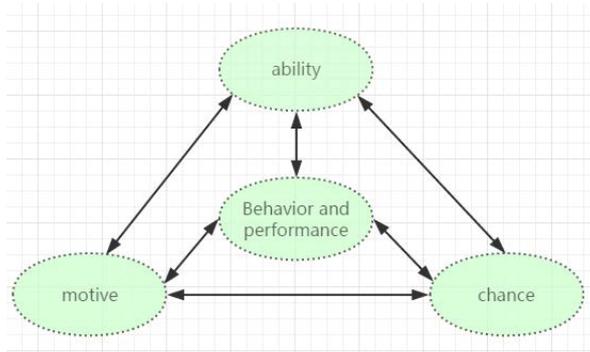


Figure 1. AMO model

Because of its simplicity and rigour, AMO theory has been applied in many fields. For example, to study the impact of "motivation, opportunity and ability" on the communication effect of advertising information by consumers[7]; This paper discusses the role of opportunity, motivation and ability in the process of intellectual capital portfolio exchange[8]. Based on the role of AMO theory in ability, motivation and opportunity on behavior and performance, this paper selects green self-efficacy and prosocial motivation from three dimensions: ability, motivation and opportunity. The model of green behavior is constructed by organizing green support atmosphere (figure 2), and the influence mechanism of green behavior is investigated.

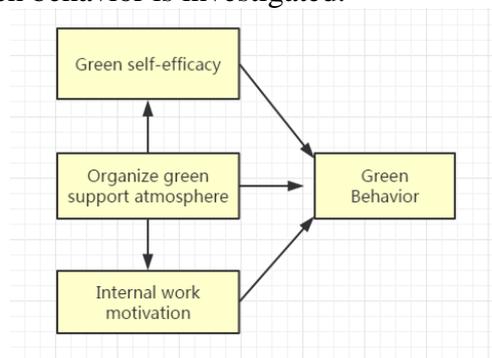


Figure 2. Green behavior model

2.1 Green behavior

The "green behavior", also called "environment-friendly behavior and pro-environmental behavior", refers to the behavior of people in favor of the environment, and is the act of the individual to actively protect the environment or to work hard to solve the environmental problems[9]. Hines et al. (1987) believe that green behavior is a kind of behavior aimed at protecting the environment or solving environmental problems, which is influenced by personal responsibility and values[10]. Sigg and Huntsord (1990) believe that the green behavior refers to the sustainable development of natural resources or the conservation of natural resources by individuals or groups[11]; and Stern (2000) is of the view that the green behavior refers to the activities of people in order to protect the environment or to prevent the deterioration of the environment[12]. In short, green behavior refers to the behavior of people trying to minimize the negative impact of their activities on the environment, which includes the purchase of environmental protection products, green travel, Recovery behavior, etc.

Based on AMO theory model, this paper holds that college students' green behavior is influenced by perceived green ability-green self-efficacy, prosocial motivation and organizational green support atmosphere.

2.2 Green self-efficacy

According to Bandura research, self-efficacy, as an important part of psychological capital, is a kind of self-belief in organizational members to stimulate their internal motivation and strive to complete challenging tasks through self-motivation. The self-efficacy proposed by Bandura and Johnson is the confidence perception of an individual when he is engaged in a special task and when he is engaged in a specific activity. Individuals with a sense of self-efficacy can weigh, integrate, and evaluate their abilities, and then choose goals and actions, and once they have enough faith in the ability to accomplish a particular behavior, they move forward bravely. Even if you face all kinds of difficulties and risks. Individuals with high self-efficacy have higher performance and goal commitment. The empirical results show that self-efficacy plays a positive role in promoting important work results and task performance[13].

In order to adapt to the trend of global green development, some scholars introduced the concept of green self-efficacy into the field of environment[14]. Green self-efficacy refers to the evaluation and judgment of the ability of the individual to organize and implement the ability to achieve the environmental goal[15]. After the concept of green self-efficacy was put forward, many scholars used green self-efficacy theory to explain various environmental problems in the workplace. It has been found that green self-efficacy has a positive impact on green performance, green creativity, and green behavior[16]. For example, the study of Meinhold and Malkus found that green self-efficacy has a positive effect on the environmental behavior of adolescents[17].

To sum up, this study puts forward the following assumptions:

H1: green self-efficacy positively affects College students' Green behavior

2.3 Motivation: Social affinity

Prosocial motivation refers to a person's motivation to help others or to contribute to others and society through his or her own efforts[18]. This motivation is a psychological state that emphasizes the consideration of others. The aim is to benefit others from[19].When a person has a strong prosocial motivation, he will be more broad-minded, considerate of others, and have a strong sense of responsibility. The study has shown that an individual with a pro-social motivation will more care for others, sense of responsibility, take care of the environment, hope to contribute to the organization of greening and environmental protection, and transform the potential attitude into practice, so that more green actions will be performed in their own work. Research has shown that pro-social motivation is a "catalyst" of the individual's many friendly behaviors, helping to predict individual creativity, green behavior, and so on [20]. Therefore, the present study proposes the following assumptions:

H2: prosocial motivation positively affects Green behavior of College students

2.4 Opportunity: organize a green support atmosphere

Organizational atmosphere is defined as an individual's common perception of their working environment, especially for formal policies and the translation of these policies into implicit guidelines and practical procedures (Norton,2012).Janes et al. (2008) believe that organizational atmosphere is usually achieved by measuring individual employees' perception and interpretation of organizational policies, procedures and practices, which are called psychological atmosphere (or psychological atmosphere).But individuals need to perceive and explain the objective working environment, that is, the organizational atmosphere, before they take action. In this study, the explanation of the organizational green support atmosphere is carried out from two levels: the school and the students, that is, the individual perceives the support from the school and the students to the green behavior.

According to the theory of social exchange, when an individual feels the concern, encouragement and trust from the outside world, the heart naturally produces the intention to give

back and shows the corresponding return behavior. The higher the level of organizational green support, the greater the importance the organization attaches to environmental protection issues, the extent to which formal "green policies" are adopted in different areas of operation and the higher the support of organizational procedures for sustainable action, The daily work practice of the organization will also reflect the environmental protection goals and values of the organization, and students will also be in an atmosphere of encouragement and support for environmental protection. In work or study, when individuals feel the above green concept of the organization, they generally think that the organization has a high demand for environmental protection, and they are aware that their organization is committed to environmentally friendly development. Therefore, it inspires their support and trust in the organization, agrees with the green values of the organization, and expresses the recognition and imitation of the green action style of the organization. In work or study, when individuals feel the above green concept of the organization, they generally think that the organization has a high demand for environmental protection, and they are aware that their organization is committed to environmentally friendly development. Therefore, it inspires their support and trust in the organization, agrees with the green values of the organization, and expresses the recognition and imitation of the green action style of the organization. These mental activities may have a certain guiding effect on the individual's green behavior, thus affecting their green behavior

In conclusion, the present study proposes the following assumptions:

H3: The green support atmosphere of the organization positively influences the green behavior of the college students

H4: The green support atmosphere of the organization positively influences the green self-efficacy of the college students

H5: The organizational green support atmosphere is positively affecting the college students' pro-social motivation

3. Research design

3.1 Data collection

Through on-site distribution and entrustment, questionnaires were sent to 15 college students in Hubei, Wuhan, Harbin, Guangdong, Jiangxi, Anhui and other provinces and cities. These schools cover national key, provincial key colleges and universities, as well as general undergraduate and vocational colleges. The data were collected from January to March 2019. 850 college students were given basic personal information and questions about green self-efficacy, prosocial motivation, organizing green support atmosphere and green behavior, and 765 questionnaires were actually collected. 728 valid questionnaires, the effective rate was 95.16%. Of the valid samples, 518 (71.5%) were undergraduate schools, 210 (28.85%) were college schools, 280 were boys (38.46%), 448 were girls (61.54%), 198 were freshmen, 195 were sophomores, 160 were sophomores and 175 were sophomores. 365 in liberal arts, 120 in science, 110 in engineering, 51 in agriculture, 26 in medicine, 56 in music, sports, art and so on.

3.2 Survey tools

(1) Green Behavior Scale

This variable was measured by Zhang Hongshao's pro-environmental behavior scale developed by Zhang Hongshao in China, with a total of seven items. The scale contains two dimensions: public domain pro-environmental behavior, private sector pro-environmental behavior, such as "I will turn off the faucet"[21].

(2) Green self-efficacy scale

The variable was measured by the green self-efficacy scale developed by Chen et al., with a total of 6 items. For example, I can creatively come up with solutions to environmental problems[22].

(3) Close to social motivation

Using Grant and Rothbard (2013) scale, a total of 5 items. I am passionate "and" it is important

for me to use my ability to benefit others. " I actively participate in the organization of environmental activities[23].

(4) Organize green support atmosphere

According to the scale of 8 items developed by Norton et al. (2014), the green support atmosphere of the organization was measured. The scale measures individual perception of organizational green support atmosphere from two dimensions of school support and classmate support. The items in the dimension of school support include: "our school pays attention to its own impact on the environment", "our school is committed to supporting the cause of environmental protection". "my school thinks it is very important to protect the environment" and "my school is keen on further environmentally friendly development"; The items in the dimension of student support include: "in my school, students pay attention to environmental problems", "in my school, students are keen to think about the solutions to environmental problems", "in my school," Students try to reduce the harm to the environment "and" in my school, students care about the environment. " The answer option is set from 1 (very disagreeable) to 5 (very agreeable) [24].

4. Analysis of results

In this study Partial Least Square, PLS path model is used to analyze the data to verify the proposed research hypothesis. PLS is a widely used, component-based analysis method. PLS path model includes two submodels: measurement model and structure model. The measurement model is used to represent the relationship between the potential variable and its measurement index, and the structural model is used to represent the relationship between the different potential variables. Firstly, the reliability and validity of the measurement model are analyzed, then the structural model is tested, the path coefficient and the degree of saliency are analyzed, and the hypothetical test is carried out.

A measurement model with reliability and validity is a necessary condition for obtaining the correct results. Table 1 shows the reliability and validity of each scale used in the study, as shown in Table 1. The value of the Cronbach's alpha and the combined reliability of all variables is greater than 0.7, which indicates that the measurement index system of this study has a good reliability. For the validity of the model, the average precipitation variance (AVE) is an important index, and the AVE value of the variable is greater than 0.5. As shown in Table 1, the mean precipitation variance of each variable exceeds the recommended minimum threshold value of 0.5, which provides support for the validity of the model. In addition, the factor loading of all the indicators is significant and greater than 0.7, which provides further support for the validity of the model.

Table 1. results of structural model analysis

variable	composite reliability	Cronbach's alpha	average variance extracted
Green self-efficacy	0.87	0.84	0.74
Green Behavior	0.91	0.93	0.85
Organize green support atmosphere	0.85	0.83	0.85
Prosocial motivation	0.92	0.84	0.71

The results of structural model analysis are shown in figure 2. The value on the path is the standardized path coefficient of the independent variable, which reflects the percentage of the variance of the dependent variable explained by the independent variable, and the value on the path is the standardized path coefficient of the path. In general, this model explains the 35.4% of the variance of green behavior of college students. The research hypothesis 1 suggests that the green self-efficacy of college students positively affects the green behavior. It can be seen from FIG.2 that the path coefficient is 0.19 and $p < 0.05$, so the study hypothesis 1 is confirmed. It is shown in Figure 3 that the path coefficient is 0.34 and $p < 0.001$, so the study hypothesis 2 is confirmed. In addition, the organization's green support atmosphere has a significant positive effect on the green behavior of college students (0.19, $p < 0.05$), so it is assumed that 3 is supported. The path

coefficient between organizational green support atmosphere and college students' green self-efficacy is 0.32 ($p < 0.001$), which provides support for hypothesis 4. The path coefficient of organizational green support atmosphere and prosocial motivation of college students was 0.31 ($p < 0.001$). Hypothesis 5 was confirmed.

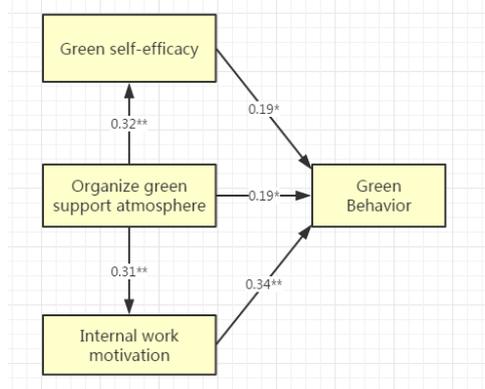


Figure 3. PLS analytic result

5. Conclusion and enlightenment

The results of empirical analysis show that the green behavior of college students is positively affected by green self-efficacy, prosocial motivation and organizational green support atmosphere, and green self-efficacy and prosocial motivation are positively affected by the organizational green support atmosphere. According to these results, when college students have green self-efficacy, prosocial motivation and perception of organizational green support atmosphere, they are more likely to form green behavior. The green support atmosphere perceived by college students also improves their green self-efficacy and prosocial motivation.

This study is of great theoretical significance, which is helpful to reveal and excavate the influencing factors of college students' green behavior and enrich the understanding of the mechanism of college students' green behavior. First, this study takes college students as the research object, establishes the influencing factor model of college students' green behavior, puts forward the research hypothesis, and carries on the empirical data collection and the empirical analysis. This makes up for the lack of research on the mechanism of green behavior of college students in the existing literature, and enriches the literature of green

This paper is of great practical significance and can provide practical guidance for college students to promote the green behavior of college students. First, according to the research results, in order to promote the college students to form the green behavior, it can enhance the college students' social motivation, arouse their moral responsibility and obligation to conduct the green behavior, and the second, it is also important to improve the green self-efficacy of the college students. The introduction of green general education in colleges and universities is the main measure to improve the green consciousness and the green literacy of the students, especially non-environmental subjects (Chen Ximing,1999). On the basis of imparting green knowledge, colleges and universities also need to help college students get some basic green abilities. Third, to improve the atmosphere of the organization's green support, to use the flexible and varied educational form of social practice education, to carry out the green practice activities aimed at improving the green consciousness and the green responsibility of the college students, and to promote the green behavior of the college students.

Acknowledgement

Key scientific research platforms and scientific research projects of colleges and universities in Guangdong Province in 2018(Young innovative talents): Research on the Influencing Factors of Employees' Green Behavior from the Perspective of AMO (Number: 2018WQNCX259)

The 2018 School-level Scientific Research Project of the Huali College Guangdong University

of Technology: Research on the Construction of Green Campus in Colleges and Universities—Taking Huali College of Guangdong University of Technology as an example, (Number:HLKY-2018-SK-04)

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