Comparative Analysis of Environmental Identity and Animal Attitude Between Male and Female

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Abstract. This study investigated the contrast of environmental identity and animal attitudes between male and female. A total of 387 participants (170 males and 217 females) were selected by snowball sampling for online questionnaires. Questionnaire survey method was adopted, T test and Pearson correlation analysis method were used to obtain the results. Result shows that: (1) the environmental identity of the male group was slightly lower than that of the female group with a significant difference. (2) There was no significant difference on animal attitudes between male and female. (3) The correlation between environmental identity and animal attitudes was significant. Nowadays, environmental identity and animal attitude have received increasing attention in China. This study only carries on the comparative analysis from the male and female difference. We can study the age, education level, urban and rural differences and other situational factors, which is also a good research direction in the future.

1. Introduction

Environmental identity is the new direction of psychology and has become the focus of foreign academic attention [1]. In 1997, American psychologist Weigeit first proposed environmental identity in the book Self, Interaction and Natural Environment: Reorienting Our Vision [2]. In the last few years, the concept of environmental identity has not attracted the attention of other scholars. Up to 2003, another American scholar Clayton believed that environmental identity was a consciousness associated with natural environment in individual’s self-definition [3]. In the same period, American scholars Stets & Biga gradually broke the psychological research tradition of environmental identity and paid attention to the social attributes of environmental identity. They argued that environmental identity was a series of meanings given to themselves when people were associated with natural environment [4]. Environmental identity was associated with some pro-environmental behaviors [5], which can well explain environmental behaviors [3]. Previous foreign studies have shown that environmental identity is influenced by gender, urban-rural differences and other factors [6]. This study focuses on analyzing the gender difference on environmental identity in China.

With the development of environmental protection and animal rights campaigns, more concerns and thinking about animal problem have been aroused. Since the 1990s, scholars have become more and more interested in the study of animal attitudes [7-9]. In a series of studies, Hills has discussed attitudes towards animals, indicating that specific factors such as empathy are directly related to...
attitudes towards animals [10]. Furthermore, he proposed that females were more sympathetic to animals than males [11]. Furnham and Pinder studied the attitudes of 250 Britons and found that they were strongly opposed to animal experiments and suggested that stricter control should be given to the use of animals in laboratories [12]. Arluke’s animal research explored that people's attitudes and their behavior towards animals may be largely influenced by the subculture of their work [13]. Past researches show that many variables such as gender, science education, vegetarianism and religiousness, would be related to attitudes to animals [14].

In this study, a total of 387 Chinese participants were selected by snowball sampling. Through the comparative analysis of environmental identity and animal attitudes among 170 males and 217 females, gender differences in environmental identity and animal attitudes, and the degree of correlation between the two were discussed.

2. Hypotheses and methods

2.1. Variables and hypotheses

2.1.1. Environmental identity. Environmental identity has been defined as a specific behavior label used to describe oneself [15][16]. Furthermore, environmental self-identity was defined as the degree to which people consider themselves to be a behavior-environment-friendly person [17]. People with a strong environmental self-identity are more likely to consider themselves as the kind of people who will take environmental action. So, these concepts lead us to think about whether male and female are different in environmental identity.

This study focuses on the analysis of gender differences in environmental identity in China. Based on the current research status of environmental identity, the following hypothesis is proposed: H1: Female have higher environmental identity than male.

2.1.2. Animal attitudes. Animal attitude refers to the attitude of individuals to the relationship between human beings and animals. Besides, this attitude includes people’s attitude to pets, wildlife, and the ethical attitude to the use of animal products.

The following hypothesis is proposed: H2: There was a significant difference on animal attitudes between male and female. H3: The correlation between environmental identity and animal attitudes was significant.

2.2. Questionnaire survey

The environmental self-identity scale is compiled by Fanghella and Tavoni [18]. The scale uses a Likert7 point score (1 for complete disapproval and 7 for full approval) and contains 3 test questions.

The animal attitude Scale (AAS) [19] is compiled by the Herzog, which is one of the most widely used measures of general attitudes toward animal protection. AAS is a Likert5 review subscale (1 for complete disapproval and 5 for complete approval) with a total of 5 test questions, which contains 2 reverse scoring questions.

2.3. Experimental design

2.3.1. Experimental material. For adult (over 25 years old with higher purchasing power), online questionnaire survey method was adopted and 387 questionnaires were obtained. All of them were valid (including 170 males and 217 females).

2.3.2. Experimental procedures. First of all, 30 adult participants were randomly selected as seed participants to take an online questionnaire survey about environmental identity and animal attitudes in the MBA classroom in an advanced college in Beijing. Secondly, they were asked to provide additional participants belonging to the overall target of the study and to select participants for
subsequent investigation based on the clues provided. This process will continue to form a snowball effect. Thirdly, 387 questionnaires were obtained, and all of them were valid (including 170 males and 217 females). Finally, experimental data were collected and inputted into SPSS22. After relevant analysis, statistical results were obtained to explore the contrast of environmental identity and animal attitudes between male and female.

### 3. Results

**3.1. Reliability and validity test of the questionnaire**

The reliability of the environmental identity questionnaire (Cronbach’s = 0.768) and animal attitudes questionnaire in this study (Cronbach’s = 0.756) were both fine.

**3.2. Comparative analysis of environmental identity and animal attitudes between male and female**

A total of 387 data were collected in this study. The environmental identity’ mean of all subjects was 5.79 (SD = 0.99), and the animal attitudes' mean of all subjects was 3.89 (SD = 0.56). Independent sample T-test was conducted in male group and female group on environmental identity and animal attitudes separately, as shown in Table 1. The results show that the environmental identity of the male group (M = 5.57, SD = 1.07) was slightly lower than that of the female group (M = 5.84, SD=0.97), with a significant difference t (385) = -2.064, p < 0.05, which supported the H1 hypothesis. In contrast with the H2 hypothesis, there was no significant difference on animal attitudes between male and female (M male = 3.88, SD = 0.60, M female = 3.89, SD = 0.55, t (385) = -0.009, p > 0.05).

|                  | male group | female group | t     | p     |
|------------------|------------|--------------|-------|-------|
| environmental    | 5.57       | 5.84         | -2.064| 0.040 |
| identity         |
| animal attitudes | 3.88       | 3.89         | -0.009| 0.993 |

**3.3. The correlation analysis between environmental identity and animal attitudes**

We used the Pearson correlation analysis method to test the correlation between environmental identity and animal attitudes, and the results showed that the correlation between the two was significant (r = 0.14, p < 0.01), which also provided support for the H3 hypothesis.

### 4. Conclusion

Based on the analysis of the data, the main conclusions of this study are as follows:

- The environmental identity of the male group was slightly lower than that of the female group with a significant difference.
- There was no significant difference on animal attitudes between male and female.
- The correlation between environmental identity and animal attitudes was significant.

Environmental identity and animal attitudes may also be related to the level of education that men and women received at the time, as well as to age or urban-rural differences, which require further study at a later stage. In addition, most of the previous studies focused on the foreign participants, and the participants in this study were all from China. Environmental identity and animal attitude will certainly be attached importance by academic circles in China, and subsequent research should actively learn from the past research experience, constantly break through the limitations of existing research, and actively play our own advantages.

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