

博士学位論文審査要旨

2016年2月5日

論文題目： INTEGRATED STUDIES ON STRUCTURE AND FORMATION MECHANISM OF ENVIRONMENTAL CONSCIOUSNESS IN RURAL AND URBAN CHINA

中国農村部と都市部における環境意識の構造と形成のメカニズムに関する総合的研究

学位申請者： 陳 艶艶

審査委員：

主査： 文化情報学研究科 教授 山村 則男

副査： 文化情報学研究科 教授 村上 征勝

副査： 情報・システム研究機構 統計数理研究所 教授 吉野 諒三

要 旨：

本論文は、中国における環境意識の形成と構造を、中国都市部と農村部における質問紙調査を基礎に解明しようとしたものである。第1章では、現在の急激な経済発展とそれに伴う環境問題の深刻化について述べ、とくに、都市部と農村部の比較が重要であることに言及した。そして、これまでの環境意識の研究をレビューした結果、環境意識についてははっきりとした定義が存在しないことを示し、第2章で新たに環境意識の定義と研究の枠組みを示した。環境に関わる外面的行動ではなく、環境についての内面的な意識に焦点を当てた点に独自性がある。環境意識は(1) 環境に対する世界観、(2) 環境に対する態度、(3) 環境に関わる行動意図という3つの要素からなり、それらに実際の環境状態(地域差)と人口学的な社会要因が影響するとした。第3章では、本人がデザインした都市部と農村部でのアンケート調査の概要を説明した。アンケートの調査地域である、北京市、杭州市、山東省の環境指標を示すとともに、第2章の理論的枠組みにそった質問項目が説明された。第4章から第6章までは、環境意識の3つのそれぞれの要素、および要素間の関係について結果を示した。主な分析法は、比率検定、多重対応分析、およびロジスティック回帰分析である。最後の第7章に結果についての考察と結論が述べられた。

従来の研究で、都市部と農村部の両方を視野に入れた調査が少ない中、両者の比較を可能とするデータを取得したこと、環境に関わる外面的行動ではなく環境についての内面的な意識に焦点を当て、詳細な調査を行った意義は大きい。各種の統計的調査の信頼性があまり高いとは言えない中国において、現地をよく知る中国人による中国の地域調査がなされ、統計的標本抽出法に則った実践的調査方法による調査研究である。また、先行研究の詳細な検討がなされ、新しい研究の枠組みを提案するという意欲的な試みがなされていることが評価できる。よって、本論文は、博士(文化情報学)(同志社大学)の学位を授与するにふさわしいものであると認められる。

総合試験結果の要旨

2016年2月5日

論文題目： INTEGRATED STUDIES ON STRUCTURE AND FORMATION
MECHANISM OF ENVIRONMENTAL CONSCIOUSNESS IN
RURAL AND URBAN CHINA

中国農村部と都市部における環境意識の構造と形成のメカニズムに関する総合的研究

学位申請者： 陳 艶艶

審査委員：

主 査： 文化情報学研究科 教授 山村 則男

副 査： 文化情報学研究科 教授 村上 征勝

副 査： 情報・システム研究機構 統計数理研究所 教授 吉野 諒三

要 旨：

陳 艶艶氏の学位申請に関し、2016年1月21日（木）午後1時より公聴会を開催し、申請者による1時間の発表、その後2時から約30分間の質疑を行い、さらに約45分間の非公開の口頭試問による学力確認を行った。質疑、口頭試問は、環境問題の観点から山村委員が、統計科学的手法の観点から村上委員が、社会調査法の観点から吉野委員が主に行った。申請者は学位申請論文の内容および関連する研究に対する質問に的確に対応したことで、委員会は申請者が博士を取得するに足る十分な学識があることを確認した。

申請者は2013年4月より本学大学院文化情報学研究科博士課程（後期課程）に在学しており、語学に関しては、文化情報学研究科の定める語学試験（英語）に合格している。申請者は海外の雑誌に2編の論文を発表している。学会発表は国内学会1回、国際学会4回である。

よって、総合試験の結果は合格であると認める。

博士学位論文要旨

論文題目：**Integrated Studies on Structure and Formation Mechanism of Environmental Consciousness in Rural and Urban China**

氏名： YANYAN CHEN

要旨：

1. Introduction

In the past decades, a remarkable economic growth contributed significantly to people's welfare in China, but also created increasing serious environmental degradation, which raised grave concerns about the long-term sustainability. The practice of environmental conservation indicates that to solve the environmental problems fundamentally we need an adjustment in the values and an improvement of the environmental consciousness. The remarkable rural and urban division in China supplies us a good context to explore the diverse social facets of environmental consciousness, by clarifying the similarities and dissimilarities of people's environmental consciousness in rural and urban societies.

2. Research Purposes and Research Model

This study aims to clarify the structure and formation mechanism of environmental consciousness under the different social backgrounds of rural and urban China, based on an integrated consideration of diverse dimensions of environmental consciousness and different socio-economic situations in rural and urban societies in China, through comparing analysis of the survey data from a combined rural-urban sample survey. To be specific, this study aims to clarify the following:

Firstly, to define the concept of environmental consciousness by identifying its main dimensions, and to clarify the theoretical framework in which environmental consciousness is discussed.

Secondly, to identify the similarity and dissimilarity of environmental consciousness in rural and urban societies of China, and to explore how different social and economic backgrounds in rural and urban societies affect the formation of people's environmental consciousness.

Thirdly, to figure out the influence of demographic factors to the formation of people's environmental consciousness by classifying the demographic features of people who are concerned and unconcerned with the environment in rural and urban societies.

Fourthly, to examine the formation mechanism of people's environmental consciousness by analyzing the meaning of each dimension as well as the correlations of diverse dimensions of environmental consciousness through the analysis of the data collected from the social surveys.

The above examinations are supposed to supply some beneficial references to the understanding of Chinese people's environmental consciousness in both rural and urban

society.

Environmental consciousness is a complex composition. The study regarding environmental consciousness has an around 50 years of long history since the concept of environmental literacy first emerged in the late 1960s. However, some basic issues of environmental consciousness are not yet well understood. Despite of the complexity of environmental consciousness, this study proposed an integrated theoretical framework which involves both social structure and social psychological variables, and formed three key dimensions of environmental consciousness which including environmental worldview, environmental attitude and behavior intention.

The study of environmental worldview enables us to approach the inner cause of environmental concerns; the clarification of environmental attitude supplies the cognitive and emotional bases of people's environmental consciousness; and the analysis on behavior intention is assumed to capture the motivational factors that influence a behavior. Demographic factors, such as age, gender, education level and household income, are people's inherent social attributes, and are supposed to have substantial influence on all psychological variables, and thus are also included into the theoretical framework.

3. Data Collection and Analysis Method

In order to get the basic information of people's environmental consciousness in rural and urban China, the author's method is to conduct the statistical survey based on scientific sampling. Based on the proposed integrated framework, and also taking the previous measurements as a reference, questionnaires were designed and the survey was conducted.

The areas selected to conduct the analysis, are the urban areas in Beijing (northern inland metropolis), Hangzhou (southern coastal city), and 51 villages in Shandong province (typical agricultural province). A carefully designed questionnaire was used by the investigators to interview the respondents who were scientifically selected by the multistage sampling surveyed regions, and finally 1,000 valid samples in Beijing, 1,011 valid samples in Hangzhou, and 508 valid samples in rural area of Shandong province were collected respectively.

The main data analysis methods used in this study are proportion test, multiple correspondence analysis (MCA), and logistic regression analysis. Proportion test is used to determine whether the differences of environmental consciousness between rural and urban regions are significant. MCA is to clarify the relationship among different variables of environmental consciousness in rural and urban areas respectively. And logistic regression analysis is to clarify the causal reasons of behavior intention by considering all the related variables of environmental consciousness.

4. Main Contents

The main contents of this study are arranged as follows:

Chapter 1 focuses on the introduction of research background as well as the research necessity of this study. Previous literatures and their conclusions are also introduced in this chapter.

Chapter 2 focuses on the clarification of the theoretical framework of this study. The conceptual framework of environmental consciousness is firstly defined. The formation

process, as well the structural components of environmental consciousness is then discussed. And finally, research purposes and academic contributions of this study are clarified.

Chapter 3 focuses on the explanation of research method, studied areas, sampling method, sample characteristic and analysis methods.

Chapter 4 to 6 analyzes and discusses the three dimensions of environmental consciousness, environmental worldview, environmental attitude, and behavior intention in detail, respectively.

Chapter 4 focuses on the exploration of people's environmental worldview. People's environmental consciousness in surveyed areas are measured by an environmental worldview scale, which includes three relations (human-environment relation, environment-economic relation, and environment-technology relation), and two opinions (the capacity and vulnerability of the nature, and the rights of animal and plants). The validity of the environmental worldview scale, as well as the formation of environmental friendly worldview in rural and urban areas is also clarified.

Chapter 5 focuses on the analysis of people's environmental attitude. The ability to recognize environmental problems when they arise and the perception of consequences in general or around a particular issue are important contents of environmental contents. In this chapter, people's recognition regarding the severity of environmental issues and governments' first effort in governing are firstly investigated, people's environmental sensitivity to environmental quality and its change is then measured, and at last people's awareness of environmental consequence (AC) and ascription of environmental responsibility (AR) are analyzed.

Chapter 6 focuses on the clarification of people's behavioral intention and motivation. Willingness to sacrifice (WTS) for the environment is measured from money-sacrifice, life comfort-sacrifice and tax-introduction aspects, respectively. Five activities common for both rural and urban areas at the daily life level are selected and investigated, and the motivations to conduct these activities, to save money or in consideration of the environment, are also explored. At last, the formation of positive WTS and environmental motivation are clarified by MCA and logistic regression analysis through considering variables in different dimensions of environmental consciousness

Chapter 7 summaries and discusses the main findings of this study.

5. Main Findings

Through developing integrated theoretical framework and based on the proposed three dimensions of environmental consciousness, this study explored the formation mechanism of environmental consciousness by analyzing data derived from rural and urban surveys. From data analyses, the main findings are as follows:

Regarding the general features of environmental consciousness in China, generally speaking, the severity of China's environmental issues have aroused people's attentions, and environmental friendly consciousness is getting considerable approvals. This is shown in the value judgments regarding environmental issues, and also reflected in the positive commitment and intention to help the environment.

Regarding the rural and urban features of environmental consciousness in China, by a rural-urban comparison, the following features of environmental

consciousness in rural area are clarified.

(1) A “make use of nature” value orientation in rural area is clear. The general tendency is that people in urban area are more inclined to believe “human should follow nature”, while people in rural area are more likely hold a “make use of nature” opinion. This rural-urban difference may stems from rural residents’ explorative occupation, such as farming, mining, and logging, which are typically based on the exploitation and consumption of nature resources, and this might encourage an exploitative attitude toward the nature; except the explorative occupation, the lower education level in rural area may also contribute to the formation of this tendency, since “human should follow nature” requires more humanistic care to the environment, as well as deeper understanding towards environmental ethics.

(2) A lower environmental sensitivity in rural area is found. People in rural society are more inclined to believe the environmental quality was improved in the past, satisfied with the present environment, and also hold a positive prediction towards the future environment change, which indicate a lower environmental sensitivity. In the past decades, environment situation in rural China is getting worse. However, people are still holding a very positive attitude towards the environmental quality and its change. This may stem from the constantly improving economic situation in rural area. The rapid development in economic greatly benefit the life of peasants. The increasing satisfactions stem from the richer life and may show on many aspects of rural life, including on the evaluation to environmental change.

(3) Economy orientated and motivated practices in rural area are clarified. People in rural area are typically more economy-oriented and money-motivated. On the three aspects of WTS, people in rural area showed the least sacrificial willingness on the money sacrifice. Compared to the sacrifice in life comfort and the introduction of a new tax, people in rural area are more prudent with their money. And although the practices of the pro-environmental activities in both rural and urban areas are very high, the motivations underling the behaviors in rural area are more likely to be “to save money” instead of “in consideration of the environment”. The practices in rural life are showing more economically motivated feature.

The analysis in this study indicated that rural and urban areas in China are two different yet coexisting systems. The long-time institutional, economic, and social segmentation make rural China becomes a distinctive society from the city. The varied range in terms of standard of living and life patterns, the lack of provision of education and infrastructure, and the lower mean income and social welfare, to a large extent, determined the substantive and distinguishing features of people’s environmental consciousness in rural and urban China fundamentally.

Regarding the formation of environmental consciousness, some important indicators, such as AC, environmental sensitivity and WTS were figured out.

(1) AC represents the anxiety that people have towards the deterioration of the environment. Results derived from the MCA and logistic regression analysis proved that AC is a good and stable influential factor to people’s environmental consciousness. People with more environmental anxiety, are more likely to form positive WTS and environment-motivated to practice the pro-environmental activities.

(2) Environmental sensitivity is investigated by a given time frame which includes the

perception of environmental change in the past, the satisfaction with the environmental quality in the present, and the prediction of environmental issues in the future. Analysis indicated that the performances of three dimensions of environmental sensitivity are somewhat consistent, which indicated that people with stronger environmental consciousness are inclined to think the environmental quality worsened in the past, dissatisfied with the present environment, and also hold a negative prediction that environmental issues will get even worse in the future. This is a new finding and also verified by the analysis in this research.

(3) WTS represents the willingness that individuals hold to help the environment even at the expense of personal interest. Since altruistic motivation has always been considered as the crucial motive to lead to environmentally responsible behaviors, clarification regarding reality as well as the causal factors of WTS identified some clues as to how to improve people's environmental consciousness as well as to evoke people's pro-environmental behaviors in daily life.

Based on the data analysis, this study also found that there is a spatial dimension differences in people environmental cognition, and environmental consciousness in different spatial dimensions is influenced by different factors. People are living under a specific geographical and social structure. The position in this geographical and social structure provides opportunities as well as constraints that shape people's cognition. The spatial dimension feature of environmental consciousness reflected in the different evaluations regarding the environmental condition on different levels, from local to national and to global level. Air pollution and food safety in urban area aroused the most attention, and are deemed as the most serious environmental issues in urban areas. This evaluation is the reflection of reality in cities' life of present China. However, global warming on the global level is somewhat "far" from the everyday life, but also is deemed by urban citizens as the most serious issue for the world. Here, not the reality around the urban citizens, but other social forces, such as media, plays the key role in shaping people's cognition. This special dimension feature also is applicable to the people in rural area. In their opinion, air pollution is the most serious issue in the city, while garbage issues is distressing their own life, and food safety and industrial waste problems are not the issues for them.

The final important finding in this study is the influence of demographic factors to the formation of environmental consciousness. Previous research mainly focused on the influence of demographic factors to environmental behavior, and conclusions showed that younger generations, women and those of a higher social class (indicated by higher education, income and occupational prestige) are more inclined to behave environmentally. This study, based on rural-urban combined samples in China, drew the following conclusions:

(1) Male are more inclined to be environmental concerned and environmental motivated than female in China. Studies in Western countries have found that women are generally more concerned about the environment than men by the reasons that women are potentially more environmentalist than men due to biospheric orientation, and their traditional roles as caregivers, nurturers, mothers, and protectors of children. From data analysis results in this study, despite of some exceptions and unobvious differences, male in China are generally showing stronger environmental consciousness. This result may stem from the special social structure and social labor division of China. From a historical perspective, China typically is

a male-domination society. Male involve more in the social and political issues. However, some expectation also presented, especially in Hangzhou.

(2) Age is generally negatively related with environmental consciousness. Analysis result in this study showed that younger generation (including middle aged people), are more concerned with the environment. Compared to the old people, younger generation is more open to the new ideas and concepts. And environmentalism represents a new world view and a new way of thinking. Furthermore, the higher level of education of the younger generation is also an important reason.

(3) Education and income level are generally positively related with environmental consciousness. The social class (indicated by education, income and occupational prestige) hypothesis was discussed a lot in previous researches. However, this study focuses on the analysis of consciousness, and taking different perspectives of environmental consciousness verified the positive relation between education and income with environmental consciousness.

It is noted that the above tendencies are not absolutely applicable to all cases. And because some of the unobvious and unstable influences of demographic factors were also indicated in this study, further more discussion on this topic and on specific cases are needed.

6. Limitations

There are also some limitations of this study. Environmental consciousness is a complex composition. The three-component view of environmental consciousness not involves all the contents environmental consciousness. This limitation indicates that a further academic attention is needed in this field, and also to some extent explains the weak correlation between some variables in different dimensions of environmental consciousness in this study. Furthermore, China is a nation of diverse cultures and biophysical environments. The studied areas, Beijing, Hangzhou, and especially the 51 villages in Shandong province, to which extent represent the reality of China, is also an issue need to be further considered. However, given the present research status, especially the lack of empirical studies, rigorous scientific research in any type of culture and environment are in urgently needed.