

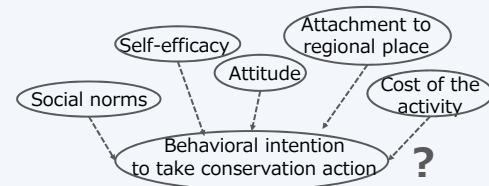
Effect of self-efficacy and social norms on behavioral intentions for nature conservation

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Background

Citizen participation is a key factor in conducting sustainable conservation and/or ecosystem management projects. However, little is known about the psychological factors affecting citizens' behavioral intention to participate in such projects.



Purpose

To elucidate the psychological factors affecting people's conscious behavior for nature conservation.

Methods

- An Internet based questionnaire survey, conducted in 2014 and 2015
- Survey participants: Those who belong to volunteer organizations for environmental conservation (With experience) and general citizens (Without experience)
- The response to each question in the survey was made on five-point scale

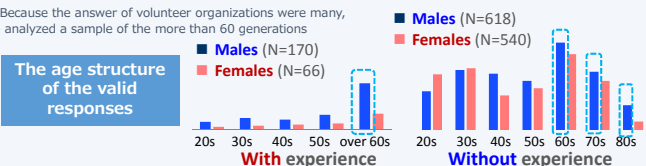
Psychological factors	Examples of Questionnaire
Behavioral intention to take conservation action 10 items ($\alpha = 0.95$) 1 : I do not want to do it at all-5 : I think I want to do so	<ul style="list-style-type: none"> Participate in learning sessions and observations on natural environments. Involve in activities to investigate the distribution of animals and plants, etc.
Self-efficacy regarding natural environment conservation 3 items ($\alpha = 0.88$) 1 : Not true at all-5 : Very consistent	Do you think that your involvement in the activities on environmental protection and conservation would help somewhat to prevent the deterioration of the natural environment? etc.
Social norms 7 items ($\alpha = 0.95$) 1 : Not true at all-5 : Very consistent	Do you think you participate conservation activities if everyone else dose ? , etc.
Attachment to regional place 3 items ($\alpha = 0.95$) 1 : Not true at all-5 : Very consistent	How do you feel about the location of your current residence in terms of attachment, importance and fondness ?
Attitude toward the natural conservation 4 items ($\alpha = 0.96$) 1 : Not true at all-5 : Very consistent	<ul style="list-style-type: none"> Do you think the environments in which a variety of animals and plants live should be protected ? Do you think people should value the ecosystem and the biodiversity ? etc.
Cost of the activity 2 items ($\alpha = 0.70$) 1 : Not true at all-5 : Very consistent	<ul style="list-style-type: none"> Do you think the conservation activities are costly? Do you think the conservation activities take time?

Historical information	Choices
Variety in the environment (about 3-12 years old) Multiple selection from 15 items	Natural forest/plantations/wooded area/grassland/agricultural land/rivers and waterways/lakes and ponds/wetland/coastal area/sandy beach/flats/park and urban green space/Other/ there was no natural environment/I do not know.
Types of play activities in nature (about 3-12 years old) Multiple selection from 7 items	I caught a creature. I played on the hills and rivers/build a secret base. I fished and foraged for mushrooms and ate them, etc. I have no experience.

Data

- Male participants (aged 60 years or older)
- **With** experience (N= 73) and **without** experience (N= 273) in conservation activities

※ Because the answer of volunteer organizations were many, we analyzed a sample of the more than 60 generations



Results

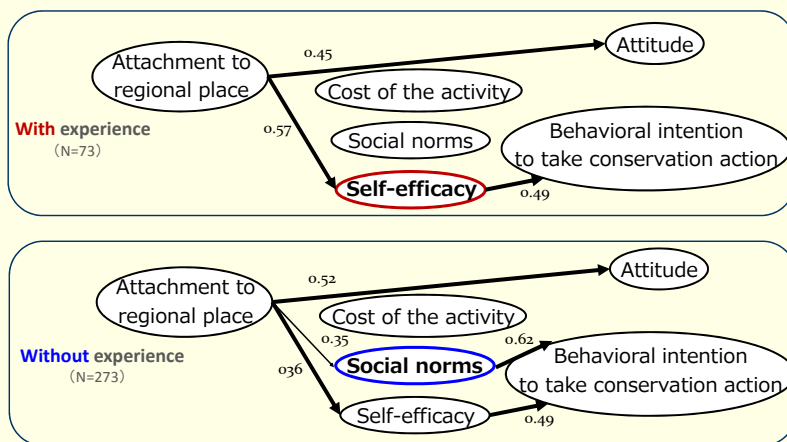


Figure 1 Results of the covariance structure analysis
→Significant correlation of 5%, ○ Latent variable

CFI= 0.930
PCFI = 0.847
RMSEA= 0.046
 $\chi^2, p < 0.001$

1. The most influential psychological factors affecting the behavioral intention were :

- **Self-efficacy** (With experience)
- **Social norms** (Without experience)

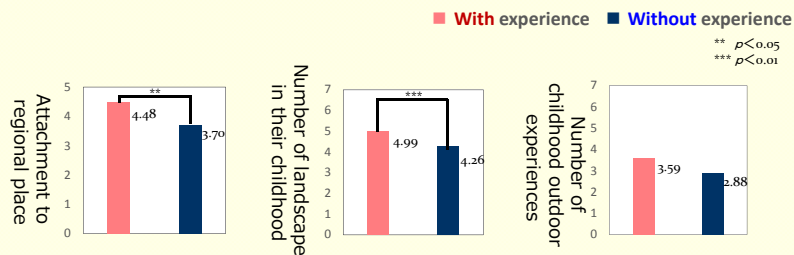


Figure 2 t-test results for attachment to a regional place, Number of landscape in their childhood, and Number of childhood outdoor experiences.

2. Attachment to regional place and number of landscape in their childhood were:

significantly higher in people **with** experience than those **without** experience.

Conclusions

Our results implied that

- ✓ Promoting the human feeling of accomplishment and expectations by others are effective to increase the behavioral intention.
- ✓ Much opportunities to interact with nature in one's childhood can affect behavioral intentions even in adulthood.