

# A Study on Characteristics of Nuclear Power Preference Group Using Machine Learning

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## 1. Introduction

In 2017, the Korean government declared its enucleation. The declaration was made by the demands of civic and environmental groups. NGOs and environmental organizations suggest that the vast majority of people want to enucleation. By the way, do most of the people demand enucleation? Is not there a shy nuclear that actually supports nuclear power but cannot express it?

This study was conducted to confirm whether there is a 'shy nuclear' group supporting nuclear power in Korea and it was analyzed using decision tree analysis which is a machine learning method.

## 2. Data and Method

The study selected 1,009 people in consideration of the population distribution. We conducted a survey in October 2016 and Korea Research Center co. was charged of the survey. Decision Analysis, a technique for analyzing analytical methods, analyzes, maps, and models a given data. Based on the model of the model, the results are analyzed and presented. The dependent variables used in this study are also accepted by nuclear power and measured in the Likert 5 point scale. The independent variable is the residence of the residents, the urban scale, gender, age, gender, families, income levels, and occupation. This is the purpose of determining whether or not any of the variables of each independent variable affected the use of nuclear power.

## 3. Results

According to the analysis of the technical statistic, the average use of nuclear energy was 3.34. The number of strongly disagree to using the nuclear power is 9, disagree 138, neutral 371, agree 485, strongly agree 6. Based on this finding, we found a positive sample of nuclear power, and based on this sample, we performed the decision analysis to find out whether any of the parameters of the independent variable were exercised.

Table 1. Model summary

Method	CHAID
Dependent variable	Public acceptance

Dependent variables	Residence, size of city, ages, sex, education, family, income, jobs
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We studied computers by entering 508 samples of the entire sample with a learning sample of 50 %. The result is shown in Figure 1 below.

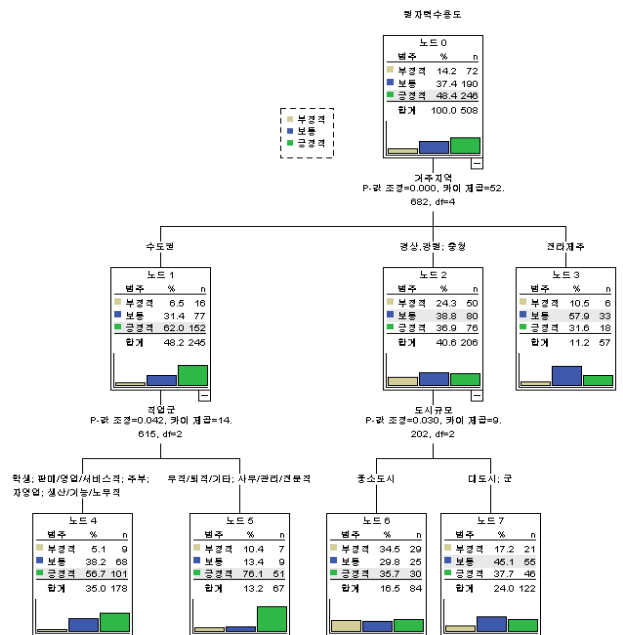


Fig. 1. The result of learning machine with sample

The study was conducted analysis based on a learned sample.

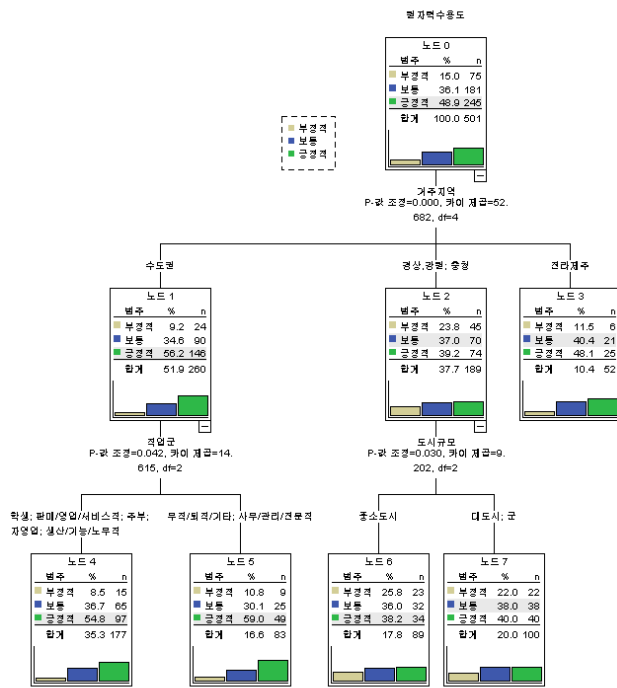


Fig 2. The result of analysis after learning machine

Figure 2 shows the results of the test. A group of residents who are positively assessed about nuclear power, urban scale, gender, age group, academic background, families, income levels, and occupational variables are residents of residential areas. In particular, the employee experience and professional professionalities in the metropolitan area are 76.1 % higher than the root groups, with 76.1 % of the total weight. Then, the major cities such as Daegu, Kangwon, Chungcheong and Daejeon showed high levels of positive reaction to nuclear power plants, including Daegu, Busan and Daejeon.

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