



# Effectiveness of Scientific and Cultural Programs on Perception toward Nuclear Energy

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## Introduction

- Scientific and cultural programs (SCPs) aim to promote science education and proliferate scientific culture among citizens.
- Korea Atomic Energy Research Institute (KAERI) has been operating SCPs targeting both the student and adult audiences.
- KAERI's SCPs include education and activities on nuclear science by visiting schools and communities or by inviting students and neighboring citizens to the research labs and facilities.
- This study intends to evaluate the effectiveness of KAERI SCPs on citizens' perception toward nuclear energy.
- This study further analyzes the difference among age groups and provide policy implications for the development of KAERI SCPs.

## Hypotheses

- H1** SCPs have positive effects on citizens' perceptions of nuclear energy.
- H2** Different age groups have been introduced from different sources.

## Methods

### Data Collection

- Science Cultural Communication Team of KAERI surveyed 257 citizens who participated in KAERI SCPs operated in 2021.
- Survey questions from Q5-1 to Q6-2 were organized on a five points scale where 1 is the lowest and 5 is the highest point.
- Survey Questions for SCP Participants

Survey No.	Survey Questions
Q1	Name of the program participating
Q2	Age group
Q3	Contact source of KAERI SCP
Q4	Purpose of participation
Q5-1	Contents
Q5-2	Management ability
Q5-3	Overall satisfaction
Q6-1	Perception before participation
Q6-2	Perception after participation
Q7	The most favorite KAERI's SCP

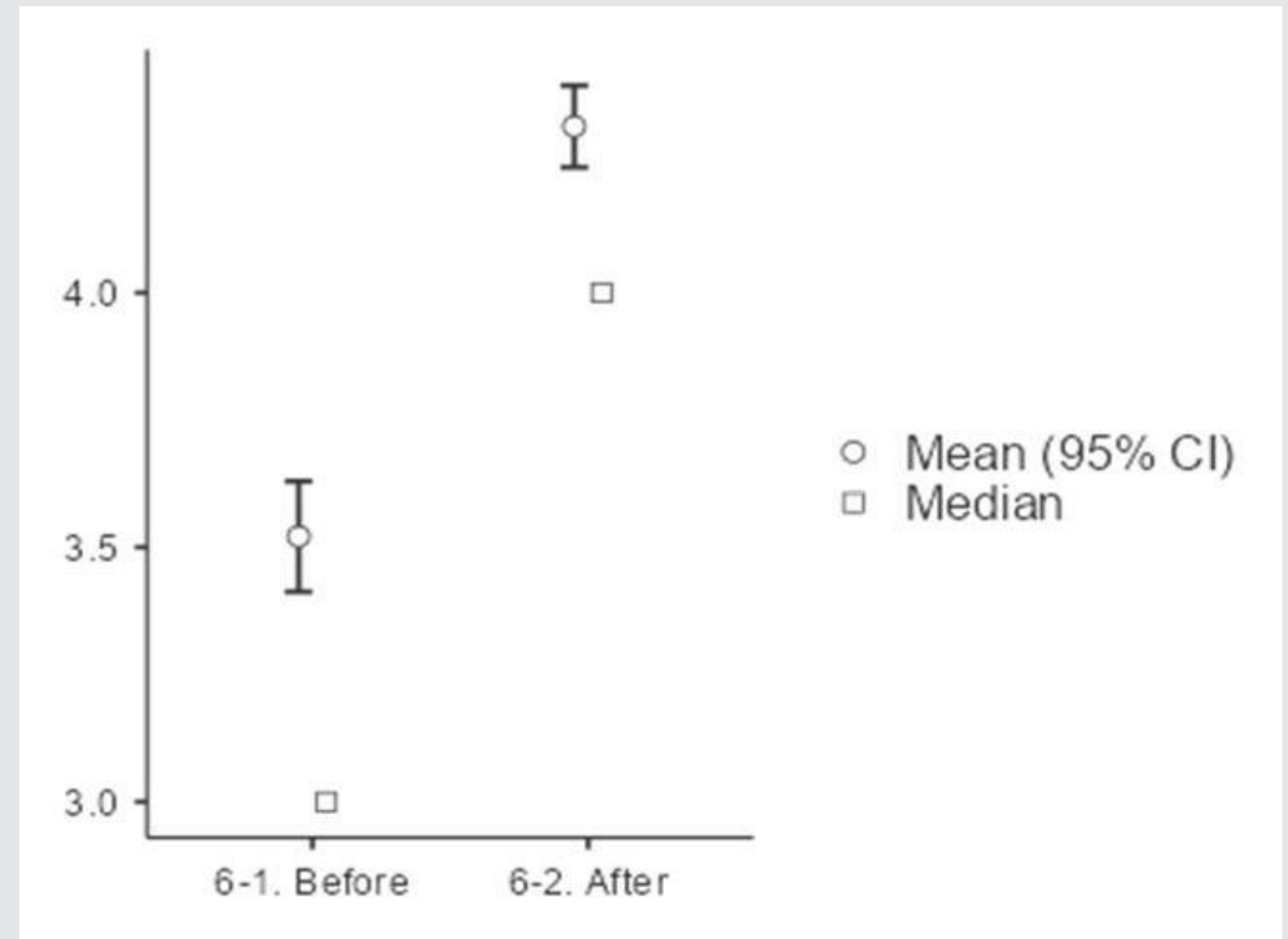
### Quantitative Analysis

- Survey respondents were asked the level of perception toward nuclear energy both before and after participating in KAERI's SCP (Q6-1 and Q6-2).
- 'Paired-sample t-test' verification was performed to analyze effectiveness of KAERI's SCPs (H1).
- 'Chi-squared test' was performed to determine whether diverse age groups have obtained information on the SCPs from different sources (H2).

## Results

### Effectiveness of KAERI SCPs (H1)

- Paired-Sample T-test Verification Results



- The average satisfactory scores rose from 3.52 to 4.33 and have statistical significance ( $p < .001$ ).

### Different Sources between Age Groups (H2)

- Chi-squared Test Results

	P1	P2	P3	P4	P5	P6	P7	P8	$\chi^2$
Adults	3	19	6	8	5	46	4	6	140***
Minors	18	5	1	0	4	11	74	47	
Total	21	24	7	8	9	57	78	53	257

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

- P1: family, P2: friends, P3: KAERI SNS, P4: KAERI websites, P5: media, P6: online community, P7: school, P8: others
- Adult groups received more information from online community.
- Minors got the most information from schools.

## Conclusion

- KAERI's SCPs have positive effects on improving citizens' perception toward nuclear energy.
- There is a difference in contact sources between age groups.

### Policy implication

- Future SCPs should be planned differently for age groups because contact sources of SCPs varied among them.
- For adults, KAERI may implement a more aggressive PR strategy in the online community.
- For minors, KAERI should introduce SCPs in connection with school programs.

