

Comparative Evaluation of KANSEI Lighting Using Large and Small Numbers of Subjects

Royhei Nakatsu, Naoko Tosa
Disaster Prevention Research Institute
Kyoto University
nakatsu.ryohei@gmail.com
tosa.naoko.5c@kyoto-u.ac.jp

Satoshi Okagaki, Muneharu Kuwata
Advanced Technology R&D Center
Mitsubishi Electric Corporation
Okagaki.Satoru@ai.MitsubishiElectric.co.jp
Kuwata.Muneharu@cs.MitsubishiElectric.co.jp

Takashi Kusumi
Graduate School of Education
Kyoto University, Kyoto Japan
kusumi.takashi.7u@kyoto-u.ac.jp

I. INTRODUCTION

In this research, we compared the results of a small-scale psychological experiment conducted in our laboratory, mainly using students, with the results of a psychological experiment conducted on the same problem on a large number of ordinary people.

II. LIGHT TABLE

One of the authors, Naoko Tosa, has been creating glass art pieces that resemble various flowers and plants. Using these glass art pieces as parts, creating a shape that combines multiple parts, placing them on a table, and illuminating them from the side, she found that a beautiful table that appeals to human sensitivity can be created. It was named the "Light Table" as shown in Fig. 1.

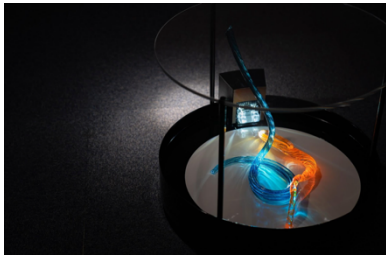


Fig. 1. Light Table

III. COMPARATIVE PSYCHOLOGICAL EVALUATION OF "LIGHT TABLE"

A. Evaluation by a small number of people

A total of 24 Kyoto University students and staff (13 males, 11 females, ages 20 to 40) were used as subjects for the evaluation of the Light Table [1].

B. Evaluation by a large number of people

We had the opportunity to exhibit the Light Table at the exhibition space "METoA Ginza," owned by Mitsubishi Electric. Many people visited the venue during the event, and about 1,800 evaluated the Light Table.

C. Evaluation items

A questionnaire was prepared to evaluate the Light Table, and we asked the subjects to answer the questionnaire on a 5-point scale. The questions consist of a total of 14 items belonging to two groups.

Group 1 (What do you feel about the lighting?): Comfortable or not, Friendly or not, Beautiful or not, Calm or not, Interesting or not, Warm or not, Changeable or not, Luxury or not.

Group 2 (What kind of scene is the lighting suitable for?): Appropriate for sleeping or not, Appropriate for eating or not,

Appropriate for relaxing or not, Appropriate for working or not, Appropriate for chatting or not.

IV. EXPERIMENT RESULTS AND CONCLUSION

We conducted the comparison of evaluation between a large number of people (about 1,800) and a small number of people. Figures 2 and 3 show graphs obtained by averaging the evaluation values for each of the question groups.

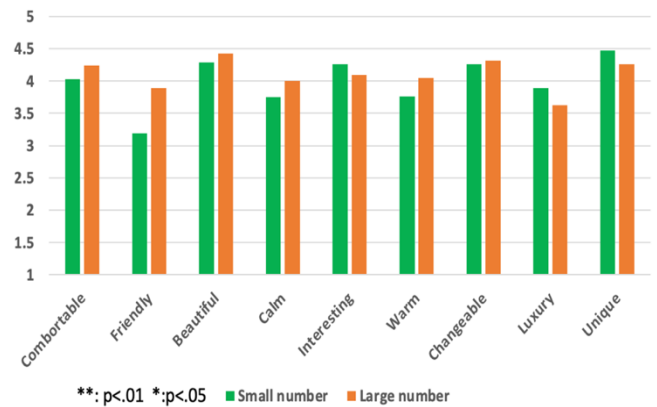


Fig. 2. Mean value of evaluation results for "What kind of effect does the lighting have?"

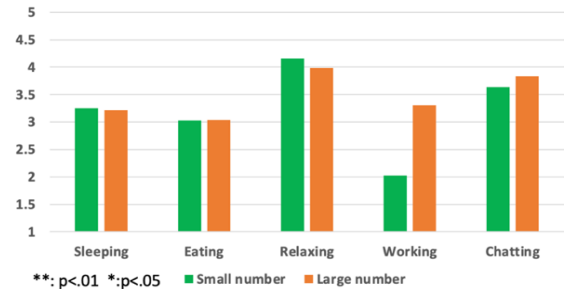


Fig. 3. Mean value of evaluation results for "What kind of scene is the lighting suitable for?"

We have conducted ANOVA both for the results of Figs 2 and 3 but there was no significant difference between the small and large number of subjects. This means that results for the small number of people could be extended to the large number of people.

REFERENCES

- [1] Ryohei Nakatsu, et al., "Evaluation of Art Lighting Combining LED Lighting and Glass Art by Psychological Experiment," 18th International Conference of Asia Digital Art and Design (ADADA2020) (2020.12).