

## THE IMPRESSIONS OF POSTERS AND THEIR EFFECTS ON ATTRACTING TOURISTS

Natsuhiko MARUMO <sup>\*a</sup>, Nobuyuki WATANABE <sup>\*b</sup>, Masashi YAMADA <sup>\*c</sup>, Takuya SUGIMOTO <sup>+</sup>

<sup>\*</sup> Graduate School of Engineering, Kanazawa Institute of Technology, Japan,

<sup>+</sup> Planning and Development Department, Ishikawa prefectural government office,

{<sup>a</sup>b1339194@planet, <sup>b</sup>n-watanabe@neptune, <sup>c</sup>m-yamada@neptune}.kanazawa-it.ac.jp, <sup>+</sup>sugitakku@pref.ishikawa.lg.jp

### ABSTRACT

Like many tourist cities around the world, Japanese cities and prefectures have been producing posters for attracting tourists. In the present study, the impressions of the posters were investigated using the semantic differential method. Moreover, the effects of the posters on attracting tourists are clarified using multiple-regression analysis. Forty-one different prefectural posters produced for attracting tourists were used as stimuli. Ninety-five participants rated their impressions of the posters using 22 seven-step bipolar scales. For each poster, the participants also rated the degree of preference, the degree of desire to visit that area and the degree of desire to live in that area in the future, using unipolar scales. The rated scores were used for factor analysis. The results of the factor analysis showed that the impressions of the posters were constructed by a three-dimensional space spanned by “vividness”, “affinity”, and “luxuriousness”. Multiple-regression analyses were conducted using factor scores as the independent variables and the degrees of the unipolar scale as a dependent variable, respectively. The results showed that a friendly and luxurious poster was preferred, and that a friendly, luxurious, and vivid poster made the participants desire to visit that area. The results also showed that the posters were not effective in making the participants desire to live in the area, except for the males in their 60s.

**Keywords:** poster, factor analysis, semantic differential method, multiple-regression analysis

## 1. INTRODUCTION

Like many tourist cities around the world, Japanese cities and prefectures have been producing posters for attracting tourists. Most of the posters are consists of letters and photographs of landscapes. Sometimes they also include people or characters. The posters aim to attract tourists to the area. However, it has not been clarified what type of the poster design is effective for attracting tourists. Moreover, it has not been clarified how the impressions of the posters vary among viewers of different genders and different ages.

In the present study, the impressions of the posters were investigated using the semantic differential method. Moreover, the effects of the posters on attracting tourists are clarified using multiple-regression analysis.

## 2. EXPERIMENTAL METHODS

Forty-one different prefectural posters produced by local governments and their related groups for attracting tourists were used as stimuli.

Ninety-five participants rated the impressions of the posters. The participants included 24 students (20 to 22 years old) from Kanazawa Institute of Technology, 21 staff of the Ishikawa prefectural government, and 50 residents in the Tokyo area. The 50 people consisted of 10 females in their 30s, 10 females in their 50s, 10 females in their 60s, 5 males in their 30s, 5 males in their 40s, 5 males in their 50s, and 5 males in their 60s.

The participants rated their impressions of the posters using 22 seven-step bipolar scales listed in Table 2, e.g., beautiful-ugly, light-heavy, sharp-dull, etc. For each poster, the participants also rated the degree of preference, the degree of desire to visit that area and the degree of desire to live in that area in future, using unipolar scales. The degree of preference was rated by all participants, the degree of desire to visit that area was rated by the Tokyo residents, and the degree of desire to live in that area in future was rated by the staff and the Tokyo residents.

For the university students, the stimuli were presented through a computer display, EIZO FlexScan SX2462W-PX in a random order for each student. The participants sat on a chair in a dark sound-proof room and were requested to view the stimuli. For the participants of the staff of the Ishikawa prefectural government, the stimuli were presented on a large screen with a projector. The order of the stimuli were randomly decided but the order was the same for all participants. The 50 Tokyo residents were divided into three groups so that the numbers of different genders and ages were approximately equal. The experiment was conducted for each groups, and the stimuli were presented on a large screen with a projector. The order of the stimuli were randomly decided for each of the different groups.

### 3. RESULTS AND DISCUSSION

The rated scores of the 22 bipolar scales were averaged over the participants and the obtained mean values were used for the factor analysis with the principal factor method and varimax rotation. Table 1 shows the resulting factor loadings. The results of the analysis showed that the three-factor solution accounted for 78% of the data variance. The three factors are labelled “vividness”, “affinity”, and “luxuriousness” respectively, after the scales which show large absolute values in the loadings for these factors. Then, the rated scores were averaged over the students. In the same way, the average scores were calculated for the staff of the prefectural government, for the females in their 20s, for the females in their 30s, ..., the males in their 60s. These averaged scores were used for the factor analysis, again, with the principal factor method and varimax rotation. The results of the factor analysis showed that the impressions of the posters were constructed by a three-dimensional space spanned by “vividness”, “affinity”, and “luxuriousness”, again.

Multiple-regression analyses were performed using factor scores as the independent variables and each of the degrees in the unipolar scales as a dependent variable, respectively. The results of the analyses showed that the coefficients of determination for “the degree of preference” and “the degree of desire to visit that area” indicated high values over 0.7. Figure 1 indicates the resulting multiple-regression lines as vectors. Figure 1 shows that a friendly and luxurious poster is preferred, and that a friendly, luxurious, and vivid poster affects the viewers’ desire to visit that area. The coefficient of determination for “the degree of desire to live in that area in the future” showed a low value. Then multiple-regression analysis for “the degree of desire to live in that area in future” was performed using the data for each combination of the different genders and different ages, respectively. The results showed that the coefficients of determination indicated low values, except for the case of the males in their 60s where the coefficient showed a value over 0.7. These results implied that the posters were not effective in making the viewers desire to live in the area, except for the males in their 60s. Deciding where

Care, and other administrative services. The males in their 60s may not be interested in such environments. For the purpose of attracting people to live in an area, an explanatory booklet may be more effective than a poster.

The relative position of a poster for a group of the participants in the three dimensional space was calculated using the position of the same poster for all participants as the origin. Then, the relative positions were averaged over the 41 posters for the group. Figure 2 shows the mean position of each group. Figure 2 shows that female participants tend to be placed on the right side and male participants on the left side. The results of ANOVA and multiple-comparison tests showed that the differences in the positions on the vividness factor were significant between female and male participants. There were no significant differences among the groups except for the females and males on the vividness factor. The results implied that female viewers tend to perceive the posters as more vivid than males; however, there were no significant differences among the different groups in the other features.

#### 4. CONCLUSIONS

The three-dimensional plane, spanned by “vividness”, “affinity”, and “luxuriousness”, illustrated the impressions of the posters. The results showed that a friendly and luxurious poster was preferred, and that a friendly, luxurious, and vivid poster made viewers desire to visit that area. The results also showed that the posters were not effective in making viewers desire to live in the area, except for the males in their 60s.

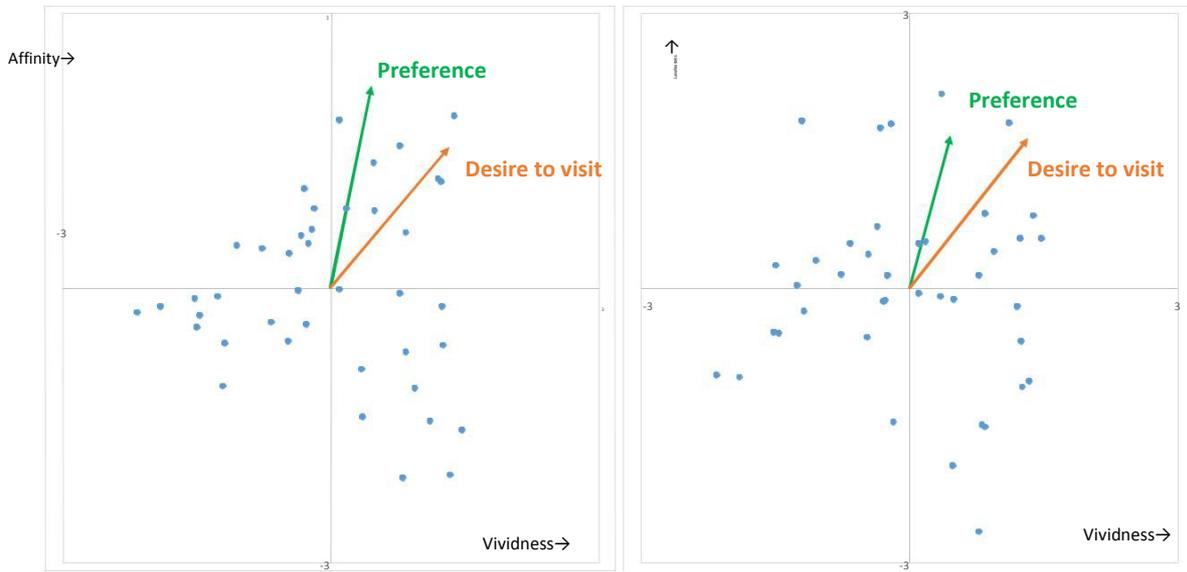
#### REFERENCES

- Osgood, C. E., Suci, G. J., & Tannenbaum P. H. (1957). *The measurement of meaning*. Urbana, University of Illinois Press.
- Osgood, C. E. (1952). *The nature and measurement of meaning*. Urbana, Psychological Bulletin.
- Osgood, C. E., & Suci, G. J. (1955). Factor analysis of meaning. *Urbana, Journal of Experimental Psychology*.

Table 1: Semantic differential scales and their factor loadings

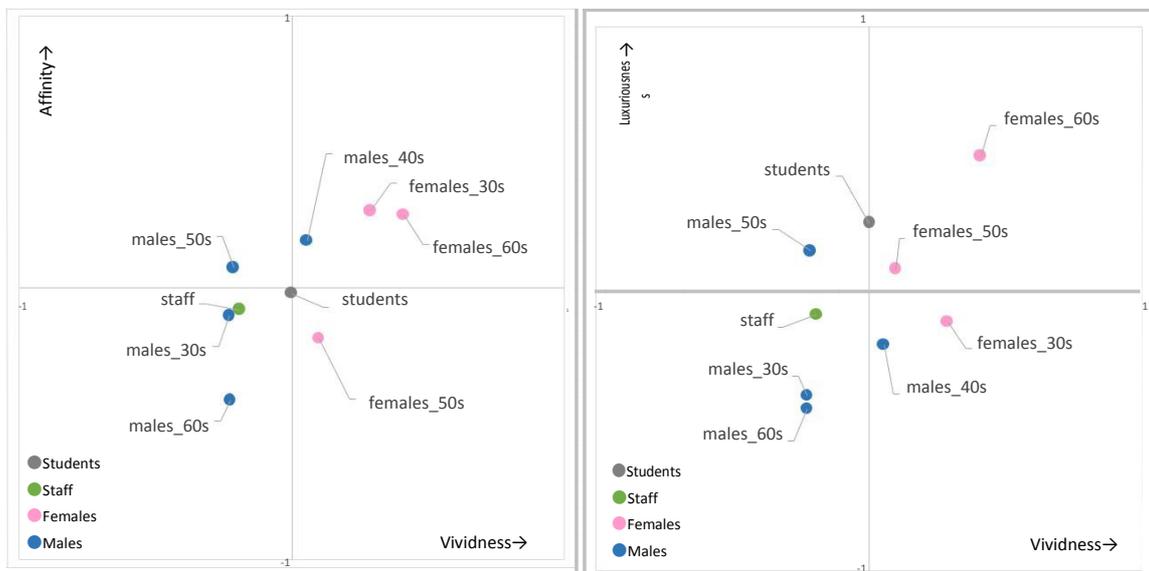
SD scales	Factor		
	Vividness	Familiarity	Luxuriousness
Tight - Loose	0.66	0.61	0.03
Old - New	0.65	-0.15	0.49
Powerless - Powerful	0.70	0.32	0.43
Static - Dynamic	0.94	-0.17	0.06
Delicate - Heroic	0.79	0.01	-0.06
Quiet - Active	0.94	-0.28	-0.05
Weak - Strong	0.71	0.12	0.36
Dark - Bright	0.87	0.20	-0.04
Simple - Vivid	0.87	-0.23	0.35
Agitated - Calm	-0.71	0.64	0.27
Banal - Unique	0.66	-0.29	0.34
Unpleasant - Pleasant	0.11	0.84	0.50
Mixed - Neat	-0.50	0.71	0.27
Ugly - Beautiful	0.00	0.76	0.58
Artificial - Natural	-0.14	0.87	-0.05

Unfamiliar	Familiar	0.26	0.82	0.19
Loutish	- Stylish	0.10	0.32	0.93
Cheap	- Expensive	-0.03	0.19	0.93
rural	- urban	0.23	-0.61	0.50
Cold	- Warm	0.62	0.25	-0.22
Monotonous	- Varied	0.61	-0.57	0.02
Traditional	- Futuristic	0.52	-0.30	0.19
Contribution Rate		0.37	0.62	0.78



(a) Vividness-Affinity plane (b) Vividness-Luxuriousness plane

Figure 1: Impression space of the posters. The vectors show the multiple-regression lines



(b) Vividness-Affinity plane (b) Vividness-Luxuriousness plane

Figure 2: The mean position of the perception of the posters for each participant group