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COMPARISION OF RESPONDENT IMAGES BETWEEN PICTURE AND TEXT USED SURVEYS
IMPLICATIONS FOR NEW RESEARCH METHODS USING PICTURES

Katsue EDO(Prefectural University of Hiroshima)

Hiroharu OCHIHARA(Oriental Land Ltd)

Fusae KUKIHARA(Survey Research Center)

U HIROI(The University of Tokyo)

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1.Introduction

Changes in Photography Behavior and Research

1)Technological changes
 ・Smart phones(high performance and resolution)
 ・High information transmission speed
 ・Low costs for information transferring
2)Social changes
 ・Less resistance in taking and processing photographs
 ・Uploading behavior of the social media(Instagram, Twitter)

→ Due to these environmental changes, using pictures in surveys and questionnaires have become common in the recent years.

2.Research Objectives

Understanding the Characteristics of Pictures in Surveys

-Not enough discussion for how to use pictures in surveys in the past literature.

-Understanding the characteristics of pictures in surveys is an urgent issue(Edo et.al. 2013).

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In this study, the objective is to identify the factors that influence pictures in surveys and give implication to the future of new research methods using pictures.

3. Reviews in Literature

Two Types of Picture used Surveys

Type1: Pictures for Assisting and Reproducing Image

-Pictures are presented within the surveys.

-Assist and reproduce the image in the questionnaire.

-Often used in;

1)Advertisement effect measurement

2)Product design evaluation when verbal questions could not be sufficient for presenting and expressing the idea and concepts.

3. Reviews in Literature

Two Types of Picture used Surveys

Type2: Pictures as Responses from research Participants

-Receive pictures as responses and answers from the respondents.

-The respondents are asked to draw, find, take or select pictures for the answers to the given questions in the survey (Zaltman 2003).

-Often used in;

1)Lifestyle Analysis (Kiriyama 1992, Kuwahara 1999).

2)Stereo Photo Essay Method(Kuwahara 1999)

3. Reviews in Literature

Qualitative Picture used Surveys for Consumer Insights

In the mid-2000s, picture used surveys started to be popular in marketing surveys in practical marketing in the qualitative research (Snyder 2012, JMRA 2006).

1)Participant-generated photography(Pauwels 2011)

2)Respondent-generated visual imagery(O'Toole 2013).

3)Picture Mining(Ochihara and Edo 2013)

'Picture Mining' was named after Data Mining and Text Mining methods for qualitative picture research

3.Reviews in Literature

Studies in 'Picture Mining'

Definitions of Picture Mining

'An explorative research analysis method that takes useful information from pictures, photographs and static or moving images' (Ochihara and Edo 2013) .

The Picture Mining concept includes observational research in the broad sense, because it also aims to analyze moving images (Ochihara and Edo 2013).

4.Research Question

How to Use Pictures in Surveys?

-Issues of picture used surveys: 'When' 'Where' 'How'
 No theories nor conceptualized knowledge gives us clear answers to these questions.
-Edo et.al. (2014) has identified 'when' and 'where' the most efficient fields are for picture used surveys.
  1)Research in Consumer and Customer Lifestyles
  2)New Product Development
  3)Research in Kansei (fashion, design and images)
-Understanding of How to use pictures in surveys
 Focus on the influence of 'Past Experience', a factor that could affect the images

5.Methodology

Quantitative Survey Research in March 2017

1. Objectives: Comparison of experience effects on image between picture and texts used questions
2. Respondents
   1600 respondents (male 800, female 800) in the Tokyo and suburbs, age 20 to 49 years old (20 to 34 yrs. old 800, 35-49 yrs. old 800).
3. In this research, the field of tourism and sightseeing was selected. Tourism and sightseeing is one of the areas that people express their experiences using pictures.
4. Kyoto (Kiyomizudera temple) and Hiroshima (Itsukushima shrine) were selected for image evaluation .

5.Methodology: Main Questions

Picture 1: Pictures used in the survey (left Hiroshima, right Kyoto)

*Pictures were selected from a prior pre-test

5.Methodology: Main Questions

Itsukushima Shrine	Kiyomizu Temple
1)A shrine in Miyajima, Hiroshima Prefecture. The head shrine of 500	1)A historical Hoso sect Buddihsim temple built before the Heian period.
2)It is one of the UNESCO world heritige site 'Itsukushima Shrine'.	2)It is one of the UNESCO world heritige site 'Historic Monuments of
3)Famous for the red torii gate which looks like floating on the water which many tourists visit.	3)Famous for the 'stage of Kiyomizu Temple', which many excursion student visit.

Table 1. Text explanations used in the survey (left Hiroshima, right Kyoto)

5.Methodology: Main Questions

			Agree	Agree somewhat	Can't say	Disagree somewhat	Disagree
1	活気のある	Active	1	2	3	4	5
2	気力に満ちた	Vigorous	1	2	3	4	5
3	元気いっぱいの	Energetic	1	2	3	4	5
4	はつらつとした	Lively	1	2	3	4	5
5	陽気な	Merry	1	2	3	4	5
6	いとおしい	Adorable	1	2	3	4	5
7	恋しい	Beloved	1	2	3	4	5
8	好きな	Favorite	1	2	3	4	5
9	愛らしい	Pretty	1	2	3	4	5
10	すてきな	Awesome	1	2	3	4	5
			・・・				
17	知識欲を感じる	Intellectual	1	2	3	4	5
18	国際的な	International	1	2	3	4	5
19	行動的に楽しめる	Enjoyable	1	2	3	4	5
20	貴重な	Precious	1	2	3	4	5

5.Methodology: Structure

20 image
questions

Kiyomizu Temple

1)A historical Hoso sect Buddihsim
temple built before the Heian
period.
2)It is one of the UNESCO world
heritige site 'Historic Monuments of
Ancient Kyoto'.
3)Famous for the 'stage of Kiyomizu
Temple', which many excursion
student visit.

20 image
questions

20 image
questions

Itsukushima Shrine

1)A shrine in Miyajima, Hiroshima
Prefecture. The head shrine of 500
Itsukushima shrines in Japan.
2)It is one of the UNESCO world
heritige site 'Itsukushima Shrine'.

3)Famous for the red torii gate
which looks like floating on the
water which many tourists visit.

20 image
questions

6.Results and Findings

Past Experience of Hiroshima and Kyoto

		Group A (n=800)	Group B (n=800)	Total (n=1600)	Total (%)
Hiroshima	Living Experience	44	35	79	4.94%
	Single Visiting Experience	274	292	566	35.38%
	Multiple Visiting Experience	53	52	105	6.56%
	Visiting Intention	399	380	779	38.95%
	NA	235	227	462	23.10%
Kyoto	Living Experience	41	38	79	3.95%
	Single Visiting Experience	570	573	1143	57.15%
	Multiple Visiting Experience	165	168	333	16.65%
	Visiting Intention	266	289	555	27.75%
	NA	137	127	264	13.20%

The experience of visiting Hiroshima was 41.94% in total (single and multiple experiences). Kyoto was 73.80%. There is a large difference in experience between the two sightseeing spots.

(4) Results and Findings

Standard Deviation as Variance Measurements

-To verify the experience effect on image using pictures, standard deviation was used to see if there is variance between the picture and text used groups.(F-test)

-Low standard deviation indicates low diversity and variance, which means that experience did not influence the image of the object to the respondents.

(4) Results and Findings

Standard Deviation as Variance Measurements

-To verify the experience effect on image using pictures, standard deviation was used to see if there is variance between the picture and text used groups.(F-test)

-Low standard deviation indicates low diversity and variance, which means that experience did not influence the image of the object to the respondents.

-No difference were found between picture and text in both Kyoto and Hiroshima non-visitors(only 2-3 were significant).

-No difference were found between picture and text in Kyoto visitors.(only 2 were significant)

6.Results and Findings
Image variation of Hiroshima Visitors

		Group A (n=327) Image by Picture		Group B (n=344) Image by Text		Difference		F-Test
		Average	SD	Average	SD	Average	SD	p-value
1	Active	2.96	1.02	2.67	1.18	0.29	-0.17	0.13
2	Vigorous	2.76	0.98	2.63	1.14	0.13	-0.16	0.14
3	Energetic	3.26	1.00	3.04	1.24	0.22	-0.24	0.03 *
4	Lively	3.22	0.97	3.04	1.20	0.18	-0.24	0.03 *
5	Merry	3.14	0.95	3.00	1.37	0.14	-0.42	0.00 **
6	Adorable	3.09	1.03	3.10	1.26	0.00	-0.22	0.05 *
7	Beloved	3.17	1.11	3.21	1.29	-0.04	-0.18	0.13
8	Favorite	2.21	0.95	2.12	1.02	0.09	-0.07	0.44
9	Pretty	3.20	1.03	3.13	1.33	0.06	-0.30	0.01 **
10	Awesome	1.92	0.85	2.25	1.17	-0.33	-0.32	0.00 **
11	Amazed	3.37	1.05	3.17	1.26	0.20	-0.21	0.07 *
12	Surprised	3.32	1.07	3.00	1.31	0.32	-0.24	0.04 *
13	Astonished	3.61	1.04	3.35	1.22	0.26	-0.18	0.12
14	Agitated	3.68	1.08	3.35	1.25	0.33	-0.17	0.15
15	Startled	3.06	1.09	3.00	1.25	0.06	-0.17	0.16
16	Extraordinary	2.14	0.92	2.31	1.13	-0.17	-0.21	0.04 *
17	Intellectual	2.57	1.02	2.33	1.10	0.24	-0.08	0.47
18	International	2.57	1.02	2.35	1.14	0.22	-0.12	0.28
19	Enjoyable	2.83	1.05	2.60	1.11	0.23	-0.06	0.58
20	Precious	1.96	0.89	1.88	0.94	0.08	-0.05	0.58

*$p<0.05$ **$p<0.01$

7.Conclusion and for Further Discussion

Are pictures polysemantic than texts if experienced?

-There were some significant measures for Hiroshima visitors. There were 9 image questions that were significant.

-The significant measures of Hiroshima will lead us to further discussion and research that experience might influence the image formed by pictures.

-Pictures might be more polysemantic than texts

7.Conclusion and for Further Discussion

For Further Discussion

-Because of its convenience pictures in surveys will definitely increase in the future.

-Although we need further research and studies of how to use pictures in surveys, there were implication to this crucial issue in our research.

Acknowledgment

Thank you for your attention

For questions and more information, please contact;

edo@pu-hiroshima.ac.jp