

Effects of aspect-ratios and sizes of both photographic images and their surrounding frames on the evaluation of their *Kansei*-impressions

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Kansei-impressions of photographic images are influenced by not only sceneries but also their horizontal/vertical aspect-ratios and the sizes. In this study, we reviewed effects of the aspect-ratios and sizes on impressions on the basis of our past experiments and considered the kinds of information which might be referred in the evaluation of impressions. Ohnaka, Takezawa & Matsuda (2003) showed that both impressions of panoramic view and powerfulness of photographic scenes increased with increment in aspect-ratios and/or sizes, but the depth impression decreased. Opposite tendencies between panoramic and depth impressions were reconfirmed in Ohnaka & Matsuda (2004) and Ohnaka (2005a). Ohnaka & Matsuda (2005b) also found that each and every impression had its own optimum aspect-ratios and size. Moreover, Ohnaka (2005b) showed that the relation between photographic images and their surrounding mat panels was one of the important determinants in the impression evaluations of images themselves. Ohnaka also examined the effects of aspect-ratios of mat panels, and found that the aspect-ratio also affects the impressions. These results suggest that the impression of photographic images might be formed in dependence on many kinds of information. In other words, it is considered that various information might be utilized in the evaluation process of *Kansei*-impression.

Key words : *Kansei impression, aspect-ratio of photographic images, size of photographic images*

Introduction

Looking at a given photograph, anyone will have some kind of *Kansei*-impressions as a natural consequence. It is needless to say that these impressions to the photographs are influenced by not only their images themselves but also their shapes. For example, the so-called panoramic photograph familiar to us amateurs gives us the impression of a wide view of scene only because its shape is more rectangular than normal-shaped one. For last four years, we have examined the effects of horizontal/vertical aspect-ratios and/or sizes on the various kinds of impressions of photographic images, and found that each and every impression had its own optimum aspect-ratio and size. Recently, it was also found that the relation in sizes between photographic images and their surrounding mat panels (frame) was one of the important determinants in the impression evaluation of photographic images themselves.

In this study, we reviewed the effects of the

aspect-ratios and sizes of both photographic images and their surrounding frames upon the *Kansei*- impressions on the basis of our past experiments, and considered some kinds of information which might be referred in the evaluation of impression.

Effects of aspect-ratio and size of photographic image on their impression

Using exactly the same photographic images, Ohnaka, Takezawa, & Matsuda (2003) examined the effects of their aspect-ratios and sizes on some kinds of impressions by means of 7-point rating scale, and they found in the horizontally elongated photographs that the impressions of both panoramic view and powerfulness increased significantly with the increment in the aspect-ratio and/or size, but contrarily the perspective (the impression of depth) decreased as the aspect-ratio increased (Figure 1a). Opposite tendencies between

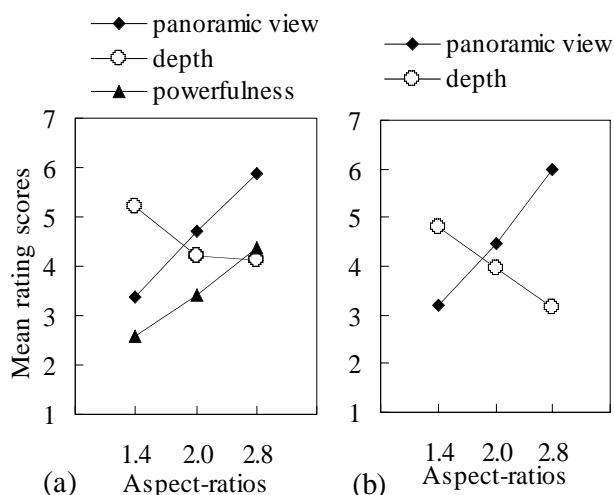


Figure 1. a: Effects of aspect-ratios on the impressions of panoramic view, depth and powerfulness.(Adapted from Ohnaka *et al.*,2003), b: Effects of aspect-ratios on the impressions of panoramic view and depth.(Adapted from Ohnaka & Matsuda, 2004; Ohnaka2005a)

panoramic and perspective were reconfirmed in Ohnaka & Matsuda (2003, 2004) and Ohnaka (2005a) as shown in Figure 1b.

In these studies mentioned above, the aspect-ratios and the sizes were settled in some fixed points as the independent variables by the experimenters. Therefore, it seemed to be some restriction to know the optimum aspect-ratio and size which could represent each specific impression. For the reason, Ohnaka & Matsuda (2005) tentatively searched the optimum aspect-ratios and sizes by using such a procedure like the method of adjustment as follows; (1) four original photographic images (each in 68cm×68cm) were presented on rear screen (109cm×109cm) one by one in random order, (2) a term which meant one of 7 specific impressions was informed to every participant one by one, and (3) each time, he/she was asked to adjust the aspect-ratio of photographic image by trimming the original one, and then asked to adjust its size by enlarging or contracting the image with use of PC keys and a mouse. Results showed that each and every impression had its own optimum aspect-ratio and size as shown in Figure 2, and these results accorded with our past findings. Moreover, there were little differences in the optimum aspect-ratios and sizes among 4 different sceneries used in the experiment. These results suggest in general that people might have a common rule which associate any one of specific

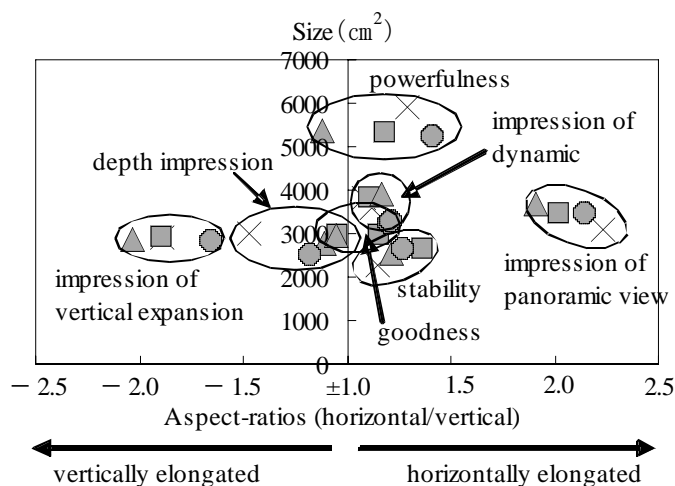


Figure 2. Optimum aspect-ratios and sizes adjusted to represent 7 specific impressions. Symbols(□ · ○ · × · △) indicate 4 kinds of sceneries.(Adapted from Ohnaka & Matsuda, 2005)

Kansei-impressions of photographic images with its own aspect-ratio and size regardless of the varieties of sceneries.

Effects of aspect-ratio and size of surrounding frames of photographic image on their impression

Photographs are often set on mat panels to hang them on a wall. At that time, we'll select the mat panel and its frame in reliance on our own *Kansei*. As the impression of photographic image was influenced by both aspect-ratio and size, it must be also influenced by the condition of surrounding photo-frame (mat panel).

Ohnaka (2005b) examined the effect of the size of both the photographic image and the photo-frame on the evaluation of their *Kansei*-impressions, and obtained some suggestions. In the experiment, the size of photographic images and the size of surrounding frames were systematically combined in 9 conditions, in which the aspect-ratios of both images and frames remained in horizontal/vertical=2/1. Every photographic image surrounded with white mat panel was presented on PC display one by one, and several kinds of impressions to the photographic images themselves were evaluated by means of 7-point rating scale by 18 participants. Results showed that the impressions of panoramic view (lateral expansion), stability and goodness decreased with the

increment in the size of surrounding frames when the frames remained in the same aspect-ratio and the photographic images were in the same size (See Figure 3). In addition to the above study, Ohnaka (in preparation) preliminarily examined how the differences in aspect-ratios of surrounding mat panels could affect on the impression of photographic images. As shown in Figure 4, even if the photographic images were the same in their aspect-ratios and sizes, the impression of panoramic view increased as the mat panels were elongated horizontally, and the impression of vertical

expansion also increased as the mat panels were elongated vertically. But the impression of goodness decreased in both cases of horizontal and vertical elongations. Although the result of increment in panoramic impression with the increment of horizontal elongation of mat panel seemed to be contradictory to the result of Ohnaka (2005b) which showed the decrement in panoramic impression with the increment in size of mat panel, these findings might suggest that a strong determinant of panoramic impression of the photographic image was not the frame size itself but the aspect-ratio of horizontally elongated frame.

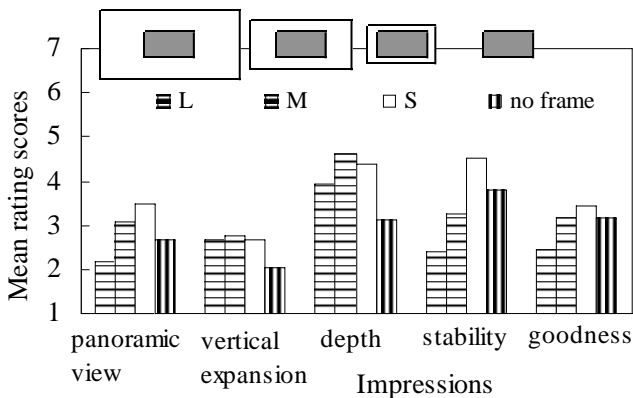


Figure 3. Relationship between mean ratings of each impression and the size of photo-frames. Line drawing rectangles correspond to the sizes of frames and gray rectangles indicate photographs.

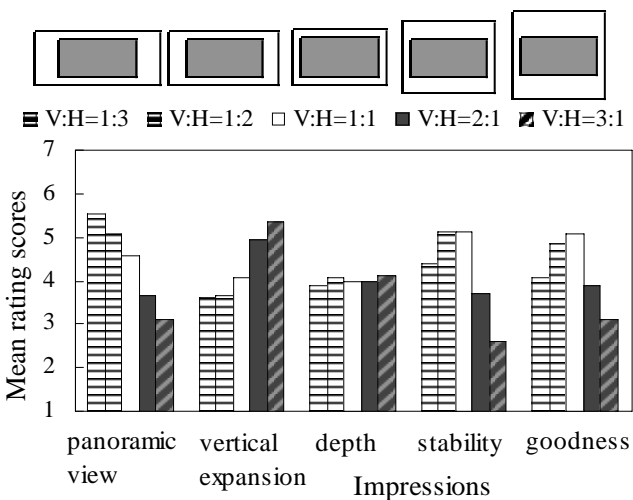


Figure 4. Effects of aspect-ratios of photo-frames on the impression of the same-sized photographic images. (Ohnaka, in preparation)

Discussion

It will be natural that the impression of photographic image changes in accordance with its shape and size. Our past studies mentioned above indicated clearly that the photographic impressions were influenced by horizontal/vertical aspect-ratios and/or sizes of photographs themselves as well as by those of mat panels surrounding the photographs. These results imply that even when the shape and/or size of photograph itself cannot be changed, it might be possible to increase or decrease some kind of impression of photographic images by changing the aspect-ratios and/or sizes of mat panels or frames. Moreover, it was suggested that every impression had its own optimum aspect-ratio and size regarding to both image and its mat panel. For instance, it could be predicted that, for the purpose of enhancing the impression of panoramic view, the mat panel of photograph need to be elongated horizontally in addition to horizontal elongation of photographic image itself.

Results in our past studies also suggested that the impression of photographic images might be formed in dependence on many kinds of perceptual information including the shape and the size of surrounding frame which had no direct relation to the photographic image. In addition to perceptual process, other kinds of mental function must be implicated with each other in the formation of impressions. In this study, we prefixed the term impression with *Kansei*. The reason why we used the term *Kansei*-impression was to indicate that *Kansei* must be inevitably concerned in the processes of impression evaluation. Although the definition of *Kansei* is still under discussion (Yagi, 1997; Yoshida, 2002), it is important to know the nature of *Kansei* for the purpose of clarifying the processes of impression evaluation. At

the present, we can say nothing but there might be many kinds of information to be utilized and many criteria to be referred in the impression evaluation of photographic images.

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