

INFLUENCE OF FAMILIARITY ON EMOTIONAL RESPONSES TO NATURAL SCENE ADS

A STUDY OF KANSEI IN JAPANESE ADVERTISING

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ABSTRACT

This kansei study explored how familiarity to associations of ads' visual and verbal components influence emotional responses. Stimuli were obtained from Japanese printed advertisements, and consisted of visuals (i.e., a natural scene background) and their corresponding headlines (i.e., advertising copy). At first, a group of subjects evaluated their familiarity level to visuals and headlines, and stimuli were filtered based on results. In the main experiment, a different group of subjects rated their familiarity to the association of visuals and headlines on a Likert scale, as well as their emotional responses (arousal and pleasure) using the pictorial assessment technique SAM (Self-Assessment Manikin). Results showed high correlation between familiarity and pleasure, yet low correlation between familiarity and arousal. The characteristics of the stimuli and their effect on the variables pleasure, arousal, and familiarity, were explored through ANOVA. It is suggested that, in the case of natural scene ads, familiarity to associated visuals and headlines may increase pleasure level to ads, and that certain components in the visuals (e.g., water) may increase arousal levels.

Keywords: Advertisement, Association, Emotional Responses, Familiarity, Kansei

In marketing communications, consumers' emotional responses can influence many aspects of behavior, such as attitude toward the ad (Aad) or purchase intention (PI), and have been of great importance in advertising research [1] [2]. Emotional responses to ads can be measured based on consumer's levels of pleasure and arousal, using non-verbal self-reports that reduce cognitive biases. Many attributes of the ad can influence their impact on the consumer, such as colors, size, or brand, and elicit recognition, familiarity, emotion, etc. A single ad exposure may contain multiple messages that even using high-technology biometric devices are difficult to identify, as well as their effectiveness in being communicated to the target. In an attempt to understand the ads' impact from a kansei perspective, the authors considered how humans perceive natural scenarios, how they react to them, and their attitudinal implications in advertising.

The purpose of this research, by focusing on visuals and headlines from natural scene ads, was to examine the relationship among familiarity and emotional responses. Furthermore, ad components' influence on familiarity and emotional responses were explored. Two laboratory experiments were carried out in a Japanese university campus, using awarded printed ads as the source of stimuli.

1. BACKGROUND

"Hierarchy of effects" type models have prevailed and evolved for more than a hundred years, seeking for better integrative approaches to understand how advertising works and for measuring its effectiveness to communicate strategic messages. The hierarchy of effects from its origins portrays a sequence of cognitive-affective-behavioral stages (think-feel-do) by which advertising works [3]. For instance, it might explain how awareness of a product is followed by liking/preference and finally purchasing.

The attitude toward the ad (Aad), usually measured using hierarchy of effects models, is defined as "*a pre-disposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion*" [4], and is considered a specific type of affective response [5]. Vakratsas and Ambler's extensive study on advertising models concludes that attitudes to product/brands can be based on emotions [6]. Some models of the hierarchy of effects in advertising state that, before an attitude toward the ad develops, a primary affective reaction might be the first step in processing information [7]. Evidence shows that the emotions and attitudes elicited by ads carry over to products and brands [8].

Research reveals that human beings inherently tend to generate favorable affective responses in relation to the things with which they feel familiar [9]. "Familiarity" can be defined as the frequency with which one has been exposed to an item in the past [10] and in this study was translated into Japanese as "Shitashimi". A recent "advertising models" literature review, maintain that ads that evoke familiarity and feelings correspond to "pure affect models", wherein "mere exposure" theories hold that preferences are made based on elements induced by the ad, such as familiarity and emotional responses [6]. Emotional responses can be classified in Type 1 (lower-order) and Type 2 (higher-order). Type 1 emotional responses are immediate and involuntary. They reflect the evolutionary experience of species. Type 2 emotional responses are specific to the individual and reflect past experiences in similar or related situations, as well as judgments and predictions to act based on those

experiences [11]. Arousal, Positive Affect, and Negative Affect are classified as Type 1 emotional responses [12], and are crucial in measuring advertising effectiveness. It is known that emotional responses, even if negative, influence the attitude of consumers, however, many research methods still have unknown predictive validity. Poels & Dewitte, in their article about measuring emotions [13] suggest that multidisciplinary studies joining neuroscience and marketing fields should generate improved research with more accurate and creative methods for experiments.

In Japan, multidisciplinary research on *kansei* has become an important focus of science. *Kansei*, as defined by Harada, is a terminology which unifies concepts such as sensitivity, sense, sensibility, feeling, aesthetics, emotion, affection and intuition [14]. Different from emotion or sensation, it is described as a characteristic or ability of the human mind that determines how one feels in a particular situation, and is thought to be produced by a highly advanced function of the human brain [15].

Standing on the *kansei* approach, this study explored the effect of familiarity on emotional responses. The focus was made on the association of visuals (pictorial images) and headlines (a phrase that draws a reader into the advertisement) from natural scene ads. In this study “association” was translated into Japanese as “*kumiawaseru*” also defined as: to combine; to join, put, or group together. The impression from an ad’s visual and headline association was studied as a whole. Therefore, there was no focus on headline semantics, and the aim was to explore the feeling of familiarity and its relationship with emotional responses to the association.

Natural scenes have been proven to be recognized in a single glance, and as fast as recognizing a single component object [16] [17], they are looked upon as a whole. Nature has been inspiration in life and art for many years, and it has been associated with beauty in various cultures. In Eastern Asia, the old tradition for landscape art began in China, where one of the primary aims of the artists was to represent nature as it is, and had a great influence upon art. Even contemporary Eastern Asian artists are strongly influenced by nature in their masterpieces [18], and this influence might be spread along the society. For instance, recent research in marketing communications shows that ads displaying natural scenes tend to be more successful in Japan than in Western countries [19].

Verbal self-reports have been extensively used to measure emotional responses, although because they involve cognitive processing, are not reliable for measuring type 1 emotions. This study applied a pencil-and-paper version of the Self-Assessment-Manikin (SAM) [20], a non-verbal self-report instrument whose main attribute is that reduces the cognitive processing bias when measuring type 1 emotions. SAM is a 9 point picture-scale assessment instrument that directly measures three bipolar dimensions associated to a wide variety of stimuli, such as an object or event. According to the dimensional approach, the three bipolar dimensions called pleasure, arousal and dominance, adequately define emotional states and comprehend the full spectrum of human emotions [21]. Numerous studies have proven the validity and reliability of the SAM method [22] [23] [24] [25], and high correlations between SAM and a number of physiological measures and viewers’ evaluations of their emotional responses have been found [13].

The pictorial images for the pleasure dimension range from extremely pleasant to extremely unpleasant; for the arousal dimension from extremely aroused to extremely calm; and for the

dominance arousal from totally controlled to totally in control. Dominance is often dismissed due to its weak independent effect [24], such is the case of this study where the scales applied were those that represent the two most commonly cited dimensions of emotion: pleasure and arousal (see Figure 1).

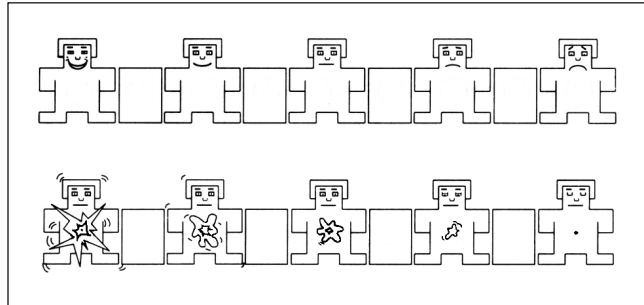


Figure 1. The Self-Assessment Manikin (SAM). Pleasure is rated on the top panel, and arousal on the bottom panel.

The objective of this study was to measure the influence of familiarity on the pleasure and arousal dimensions, in order to understand how kansei works on Japanese subjects when exposed to natural scene ads. This is done in the framework of the hierarchy of effects, where the consumer emotional response may influence attitude, and affect the consumer's decision to purchase the advertised product; where exposure to an ad may influence familiarity; and by considering the influence of Nature on Japanese advertising, which involves the kansei perspective.

The hypotheses that guided the present research predicted that:

H1: Visuals and headlines association rated high in familiarity will elicit a positive emotional response in the pleasure dimension.

H2: Visuals and headlines association rated high in familiarity will elicit a positive affective response in the arousal dominance.

2. PRE-EXPERIMENTAL ASSESSMENT

Familiarity to Visuals and Headlines

2.1. Stimuli and Materials

Thirty-four printed ads were the original source for developing the stimuli. All materials were selected from recent volumes of the Advertising Copy Annual [26] and scanned in color at 300dpi. The ads had a similar layout consisting of visual, headline, and other elements such as: a brand name, a product shot, etc. Selection criteria required that ads showed natural scenes with headlines containing 15 or less words. Visuals and headlines were isolated from the ads.

Visuals, most of them supportive images (background to the main product shot) were modified by erasing appearing people, animals and products (e.g., vehicles) and reconstructed using graphics software. Only static objects, such as buildings, were left as part of the natural scenes. Examples of visuals included a view of the sea, a field with grass and trees, and a snowy landscape with a Japanese temple. Examples of headlines included the Japanese translation for: “A woman with body strength”; “Once upon a time, in the middle of a forest”, and “Feels like I’m drinking liberty”.

Color visuals (14x10cm) were printed in either vertical or horizontal planes centered on an A4 size page, and inserted on the right side of a binder. Each visual was numbered at the bottom of the page from 1 to 34 (Times New Roman at 26 points). An evaluation sheet containing 34 Likert items (rated from left to right as: 5=having, to 1=not having) was printed in an A4 size page for assessing familiarity to visuals, at 14 points. At the top of the page, gender, age and working status of the subjects were included. The 34 headlines were printed as a list, on the left side of a single page, using the Japanese font *MS PGothic* at 14 points, and numbered from 1 to 34. Next to each headline, as with the visuals, a 5-point Likert item was included for assessing familiarity.

2.2. Procedure

Twenty-five (25) Japanese students (13M; Age 20~23) from different university departments consented to participate on the assessment. Stimuli were placed at 50cm from the subjects. First, each visual was shown for 6 seconds and a pause was made for subjects to assess their familiarity level. Visuals’ slide numbers were matched to the Likert items in the evaluation sheet. Subsequently, familiarity to the 34 headlines was assessed on the corresponding evaluation sheet without time limitation.

2.3. Results and Analysis

An analysis was performed in order to find out if there were significant differences between female and male subjects concerning their familiarity to the stimuli ($p < 0.05$). From results, visuals showing a significant difference were removed with their corresponding headlines. Same was done for the headlines. A total of 11 pairs were removed.

The resulting 23 pairs of visuals and headlines were used as stimuli in the main experiment.

3. MAIN EXPERIMENT

Emotional Responses & Familiarity to Association of Visuals and Headlines

3.1. Stimuli and Materials

The 23 stimuli pair (see 2.3) sequence was displayed on a 12-in computer screen using presentation-software. The sequence included: number of stimulus (2 s), visual (6s), headline (6s), followed by a pause for evaluation of the stimuli (see Figure 2). Digitized color visuals measured 14x10cm, and headlines were set to 28 points.

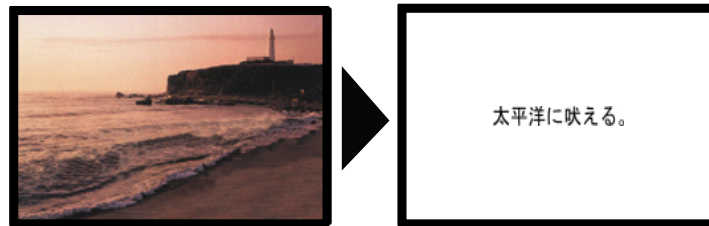


Figure 2. Sample of the sequence shown to subjects: a visual (6s) followed by a pause (2s), followed by a headline (6s).

(Headline translation: “Barking to the Pacific Ocean”).

An A4 size evaluation form to assess familiarity to the visuals and headlines was prepared. The evaluation form contained 23 sets of scales. Each set included: a SAM scale for assessing pleasure (rated from left to right as: 9=happy, to 1=unhappy); a SAM scale for assessing arousal (rated from left to right as: 9=excited, 1=relaxed); and a Likert item (See 2.1) to evaluate familiarity. Two sets of scales were printed in each page.

3.2. Procedure

The sessions took place in a university campus in Japan, and were carried out on ethnic Japanese subjects in Japanese language. Subjects were invited to participate in the evaluation of associated visuals and headlines for a marketing communications study. In this experiment, 50 students from various university departments participated (25M; Age 20~23), different from the subjects in the pre-experimental assessment. Subjects sat 50cm from the screen, and were shown the instructions of the experiment which included the objective of the study, usage of SAM and the Likert item, and the explanation of the task. Subjects were asked if they had any questions, and asked to fill out a consent form. Subsequently, they were given the evaluation sheet to assess their emotional responses and familiarity to the stimuli. Subjects were instructed to associate each pair of stimuli (visual and headline) in their minds, and to assess their emotional responses and familiarity to that association using the evaluation form. Instructions included the list of words that belong to each extreme anchor of the SAM scales based on Bradley & Lang [27]. Succeeding the assessment of the 23 pairs of stimuli, subjects filled-in their nationality, gender, age, and employment status (i.e., student/employed).

3.3. Analysis and Results

The 5 point scale familiarity results were adjusted to the 9 point SAM scale. Means and standard deviations for each of the three variable results were calculated (see Table 1).

Table 1. Mean and standard deviation for explanatory and dependent variables

Variables	Mean	SD
<i>Explanatory variable:</i>		
Familiarity to association*	5.50	1.22
<i>Dependent variables:</i>		
Pleasure to association	5.76	0.89
Arousal to association	4.93	0.85

n=50, (25 Males)

**9 points scale adjusted from 5 points scale.*

In general, the three variable averages showed values close to the scale median (Mdn = 5), where pleasure and familiarity values scored above the median. As for the standard deviation, familiarity showed a larger distance from the mean than pleasure and arousal.

The average results corresponding to the 23 stimuli (see Appendix 1) were standardized. Subsequently, a regression analysis was conducted in order to understand how the explanatory variable “familiarity to association of visual & headline” related to the dependent variables “arousal/pleasure to association of visual & headline”.

The variable “familiarity to association of visual and headline (V+H)” showed a significant positive correlation with the pleasure dimension, RSquare Adj = .737, F Ratio = 62.83, $p < .0001$ (See Figure 3).

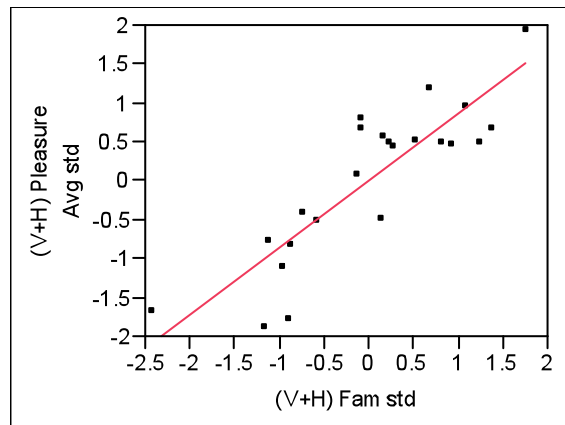


Figure 3. Positive correlation between “familiarity and pleasure to association of visual and headline” (V+H).

However, “familiarity to association of visual & headline” didn’t show a significant correlation with the arousal dimension, RSquare Adj = -0.043, F Ratio = 0.085, $p = 0.7733$ (see Figure 4).

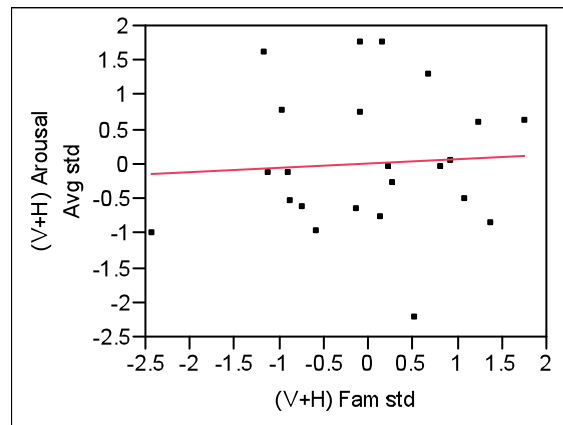


Figure 4. No correlation was found between “familiarity to association of visual and headline” and arousal scores

At this point, a question arose regarding if the components of the visual and headline might have a stronger relation with the emotional responses than familiarity had. In this regard, an additional analysis was performed. Several components contained on the visuals were listed (see Appendix 2) in order to explore their effect on the three variables: pleasure, arousal and familiarity. Components were: architecture, water, grass, blue sky and mountains. Based on the premise that having or not having these components might have an effect on the arousal, an ANOVA was applied. In the case of the headlines, no further analysis was performed in this study.

From the results it was found that among the five components, only “water” showed a significant difference in the case of arousal (see Table 2).

Table 2. ANOVA results from visuals' components and the three variables: pleasure, arousal and familiarity.

	Pleasure	Arousal	Familiarity
Architecture	$p = 0.86$	$p = 0.23$	$p = 0.64$
Water	$p = 0.26$	$p = 0.04$	$p = 0.18$
Grass	$p = 0.69$	$p = 0.20$	$p = 0.37$
Blue sky	$p = 0.44$	$p = 0.49$	$p = 0.52$
Mountains	$p = 0.95$	$p = 0.91$	$p = 0.85$

3.4. Discussion and Conclusions

The aim of this study was to explore the effect of familiarity on emotional responses to associated ad components. Moreover, the experiment was designed with the purpose of exploring how subjects reacted to natural ads from a kansei perspective.

From the outcome, the first hypothesis was confirmed. It was predicted that there would exist a positive correlation between the “familiarity to association” explanatory variable, and the “pleasure to association” dependent variable. These findings confirm the theoretical background that addresses how humans generate favorable affective responses to familiar things [9], and evoke the importance of familiarity in explaining the paramount triad human-kansei-Nature, a fascinating construction for further research in advertising.

For the second hypothesis, no correlation was found between the “familiarity to association” explanatory variable, and the “arousal to association” dependent variable. However, a second approach based on ANOVA showed a relation between the “water” component and the arousal variable. From these findings it can be suggested that, familiarity might have a relation to the component of visuals in a straight configuration, even though familiarity didn't show a significant correlation to arousal. This method might be useful to explain the successful impact of certain advertisements in Japan, through finding the relationship between associations of components and emotional responses, and should be considered in future studies.

In summary, by finding support for one of the two hypotheses, it is suggested that natural scenes rated as “highly familiar” may be great contributors to generating a higher pleasure experience on the consumers. Therefore, allowing the possibility of a next stage where consumers may carry over this positive affect towards the ad, and brand/product [8]. The process and findings set up the base for a deeper study in advertising effectiveness.

Although this study provided valuable insights into the relation between familiarity and emotional responses, some limitations must be noted, for instance: complete ads were not used as stimuli, hence the influence of other ad components (e.g., product shot) is not considered; the mere exposure of similar scenes might have increased familiarity at an unconscious level for certain visuals [28]; even though visuals and headlines were shown separately for their association, their familiarity independent contribution to pleasure/arousal can't be measured; comparison between natural scenes and non-natural scenes should be performed to reinforce the findings; analysis concerning the headlines structure (e.g., rhetorical figures) was not performed; sample pool should be extended to other populations beside students in order to counterbalance the results.

Further research should expand the knowledge by identifying what type of ad characteristics of the associated visuals and headlines tend to enhance the pleasure and arousal dimensions.

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