



---

## **EMOTIONAL RESPONSES: DOES GENDER MATTER?**

**Wan-Chen Wang**

*Associate Professor*

*Department of Marketing, Feng Chia University*

*No. 100, Wenhwa Rd., Seatwen, Taichung, Taiwan 40724, R.O.C.*

### **ABSTRACT**

*The current research analyzing the recall of emotions obtained by an advertisement captured through three emotion measures: self-report, facial expression and voice emotion software, a tool included in Affective Computing. Gender differences do exist on consumers' emotional responses. This paper provides opportunities for companies to improve customer relationships. Marketers involved with advertising have this body of knowledge to capture consumers' emotions toward their products and services on which to base their marketing intelligence gathering and strategic planning.*

**Keywords: Emotion measures, Self-report, Facial expression, Voice emotion, gender differences.**

### **1. Introduction:**

Emotions vary with gender (Guimond et al. 2007). Women tend to be more emotionally sensitive (Becht and Vingerhoets, 2002; Bradley et al., 2001; Chentsova-Dutton and Tsai 2007), more external in expressing their emotions (Gallois 1994; Brody 1997), reporting greater impulse intensity and greater positive and negative expressivity whereas men used to mask their emotions (Kring & Gordon, 1998; Chentsova-Dutton and Tsai 2007).

Women are more emotional-sensitive and willing to communicate their internal emotional states verbally and non-verbally than male who normally use more extreme ratings of arousal than females (Becht and Vingerhoets 2002; Burriss et al. 2007). Following this finding, the current research goes deeper analyzing by gender for the recall of emotions obtained by advertisements captured through three measures: self-report, facial expression and voice emotion software, a tool included in Affective Computing.

More specifically, the researcher has drawn on this experience for marketing purposes, and have co-operated with researchers in the field of human-computer interaction, in order to analyze consumer emotion applying methods involving the voice - the Voice Emotion Response, facial expression and combined with self-report measures to determine whether gender differences exist in consumers' perceptions of advertisements.

## **2. Review of Literature:**

Sahay, Sharma and Mehta (2012) find that while both men and women form relationships with brands, these relationships are more affect based for women and more cognition based for men; this finding holds for respondents at a younger age. As time passes, this difference between men and women narrows. By the age of 35, women's brand relationships tend to become relatively less affect - based and more functional. Females recall more autobiographical memories of emotional events and are generally faster in doing so strongly suggesting that they engage in a greater degree of elaborative processing of personal, real-life emotional experiences than males do (Davis 1999).

In a related vein, research has explored differences in the expressiveness of the emotions across genders (Barrett et al. 1998). There might be no difference across genders in experiencing emotions but women tend to be more external in expressing their emotions as compared to men (Gallois 1994; Brody 1997). Males are reluctant to state emotions that are low on agency, such as warmth, anxiety, fear, and tenderness. Because low-agency emotions are mismatched with the masculine stereotype (Wiggins 1982). According to Broverman et al. (1972), males are reluctant to disclose intimate feelings and specially to express emotions that indicate dependency, weakness and vulnerability. Openly, males are driven to ensure that their emotional displays are consistent with social expectations (Leary 1995).

Generally speaking, there are two principal approaches of measuring emotions: psychophysiological measures and self-report measures. The two methods, however, are different. Psychophysiological measures concentrate on continuous emotional responses that are not misleading by higher cognitive processes (Poels and Dewitte, 2006). Biologically-orientated emotion scholars tend to apply neuroscientific approaches to measure physiological indicators such as regional brain responses, skin conduction, heart rate (Kroeber-Riel *et al.* 2008). It is also common that observational approaches for capturing emotional facial expressions such as the Facial Action Coding System (FACS) (Davis *et al.* 2013) and Facial Electromyography (EMG) (Hupp *et al.* 2008). Self-report measures focus on thoughtful reflections about the emotions a person felt with respect to a marketing stimulus. This study applies two psychophysiological measures: the Voice Emotion Response, facial expression combined with self-report measures in order to test for the existence of gender difference among respondents' emotional responses.

## **3. Objectives of the study**

This study aims to test whether 'gender difference' have a significant effect on consumers' emotional responses

## **4. Hypotheses of the study**

**H1:** Gender differences are found to have a significant effect on consumer emotional responses to advertisements when using the Self-report tool.

**H2:** Gender differences are found to have a significant effect on consumer emotional responses to advertisements when using the Voice Emotion Response tool.

**H3:** Gender differences are found to have a significant effect on consumer emotional responses to advertisements when using the Facial expression tool.

---

---

### 5. Research Methodology

This study applies three emotion measures to measure consumers' emotional responses: the first one is the self-report — that recognizes five primary emotions: happiness, anger, sadness, boredom, and neutrality (lack of emotion). The second one is a human-computer interface — the Voice Emotion Response (Wang et al. 2015) — that recognizes five primary emotions in Mandarin speech: happiness, anger, sadness, boredom, and neutrality. The third one is the facial expression that recognizes five basic emotions: angry, happy, neutral, sad and surprise.

### 6. Data Analysis and Interpretation

The experiment involved 57 male and 61 female subjects, comprised of 103 with University education background and 15 with Post graduate education background; thus, the sample size is 118 (Table 1).

**Table 1** Demographic characteristics of respondents

Gender (Male)	57	Education (University)	103
Gender (Female)	61	Education (Post graduate)	15
Total participants	118		118

#### *Stimuli*

A Public welfare advertisement was used to establish emotional response. This advertisement was chosen as this advertisement had been selected by respondents as an advertisement with emotional appeal in a pilot study. This was with the intention to test represents' emotional responses among different gender groups.

#### *Research procedure*

The experimental design for this research is summarized as follows. All participants were able to choose the place where they felt most relaxed to conduct the experiment. Normally, most of them chose their home, their offices or their classrooms. At the beginning, the interviewer asked common questions about advertisements (e.g., "What are your opinions about advertisement in general? When you view an advertisement, do you feel any emotion?"). These questions planned to give participants time to become accustomed with the research topic, thus decreasing any nervousness they might have experienced. After that, the interviewer set the laptop in position, the interviewer left the room and asked the participant to follow guidelines: 1) view the advertisement; and 2) after finish viewing the advertisement, inform the interviewer. The interviewer then re-entered the room, stopped the facial expression recognition system, and saved the participant's records in a specific file. Moreover, the interviewer questioned participant's perception of emotion of the advertisement and recorded the conversation. Afterwards, the interviewer requested the participant to: 1) complete the self-report questionnaire, and 2) notify the interviewer when this is completed. Lastly, the interviewer thanked the participant for assistance and gave an incentive valued at \$5. The entire procedure

---

took about thirty minutes. Five -six days later, brand recall was measured by phoning participants.

### Data analysis

This research applies a Binary Logistic Regression to test the result. Dependent variable is brand recall. A set of five emotions: angry, happy, sad, bored and neutral from the self-report and Voice Emotion Response and five emotions: angry, happy, neutral, sad and surprise from the Facial expression serve as the independent variables. For the case of public welfare, 'gender' is found significant in self-report (0.007 \*\*); significant in voice emotion response (0.002\*\*) and also significant (0.001\*\*) in facial expression. Hypothesis 1, Hypothesis 2 and Hypothesis 3 are all supported. Therefore, 'gender' plays a critical role in consumers' emotional response in the case of public welfare. The public welfare advertisement is very emotional. During the experiment, participants needed to describe their perception of emotions towards the advertisement. Many participants told the interviewers that they were touched by the advertisement.

The result is in line with Chaplin and Aldao's (2013) findings that find that gender differences exist in emotion expression. Zimmermann and Iwanski (2014) also indicates gender is found significant on consumers' perception of emotions (Table 2).

**Table 2** Logistic regression results of voice emotion response (Public welfare)

Emotion measures	Self-report		Voice emotion response		Facial expression	
	B	Sig	B	Sig	B	Sig
Gender	1.197	0.007 **	1.346	0.002 **	1.521	0.001 **
Education	-1.308	0.134	-1.614	0.052*	-1.885	0.039*
Angry	0.004	0.988	-1.520	0.480	0.174	0.897
Happy	0.278	0.170	6.701	0.047*	-1.853	0.626
Sad	-0.338	0.138	1.957	0.541	1.091	0.406
Bored	-0.048	0.818	2.454	0.659		
Neutral	-0.175	0.442	-4.916	0.304	-1.283	0.221

\*:  $p < 0.1$ ; \*\*:  $p < 0.01$

### 7. Conclusions:

Conventionally, males and females have been perceived as dissimilar in their information managing styles, personality, emotions, and beliefs. Typically, with the supposition that such differences are socially-constructed. Employing the Voice Emotion Response tool and facial expression which are objective measures, is valuable for capturing non-conscious emotions (Wang et al. 2015), especially in a situation of mixed emotional responses. This study applies two objective measures: the Voice Emotion Response and facial expression; and one subjective measure: self-report. These three measures all confirm that 'gender difference' does exist for the

emotional advertisement. This study is valuable as a design of the methodology that can be employed to establish non-conscious and conscious emotions in the context of attempts to increase advertising effectiveness. Nevertheless, the results of this study cannot be generalized to the whole population. Further research should use a probability sample in order to generalize results to the entire population.

This research thanks the MOST Taiwan funding: MOST106 - 2410 - H - 035 - 016 -

## REFERENCES

Becht, M. C. & Vingerhoets, A. J. J. M. (2002). Crying and mood change: a cross-cultural study. *Cognition & Emotion*, 16(1), 87-101.

Bradley, M. M., Codispoti, M., Sabatinelli, D., & Lang, P. J. (2001). Emotion and motivation II: sex differences in picture processing. *Emotion*, 1(3), 300-319.

Broverman, I. K., Vogel, S. R., Broverman, D. M., Clarkson, F. E., & Rosenkrantz, P. S. (1972). Sex-role stereotypes: a current appraisal. *Journal of Social Issues*, 28(2), 59-78.

Brody, L.R. (1997). Gender and emotion: beyond stereotypes, *Journal of Social Issues*, 53(2), 369-393.

Burriss, L., Powell, D. A., & White, J. (2007). Psychophysiological and subjective indices of emotion as a function of age and gender. *Cognition & Emotion*, 21(1), 182-210.

Chaplin, T. M., & Aldao, A. (2013). Gender differences in emotion expression in children: A meta-analytic review. *Psychological bulletin*, 139(4), 735.

Chentsova-Dutton, Y. E. & Tsai, J. L. (2007). Gender differences in emotional response among European Americans and among Americans. *Cognition & Emotion*, 21(1), 162-181.

Davis, P.J. (1999). Gender differences in autobiographical memory for childhood emotional experiences. *Journal of Personality and Social Psychology*, 76(3), 498-510.

Davis D.F., Golicic S.L., Boerstler C. N., Choi S. & Oh H. (2013). Does marketing research suffer from methods myopia?. *Journal of Business Research*, 66, 1245-1250.

Gallois, C. (1994). Group membership, social rules and power: a social-psychological perspective on emotional communication. *Journal of Pragmatics*, 22, 301-324.

Guimond, S., Brunot, S., Chatard, A., Garcia, D. M., Martinot, D., Branscombe, N. R., Buunk, A. P., Desert, M., Haque, S., & Yzerbyt, V. (2007). Culture, gender, and the self: variations and impact of social comparison processes. *Journal of Personality & Social Psychology*, 92(6), 1118-1134.

Kring, A. M. & Gordon, A. H. (1998). Sex differences in emotion: expression, experience, and physiology. *Journal of Personality & Social Psychology*, 74(3), 686-703.

---

Kroeber-Riel, W., Weinberg, P. & Groppel-Klein, A. (2008). *Consumer Behavior*. 9 edn, Munich: Vahlen .

Leary, M. R. (1995). *Self-Presentation: Impression Management and Interpersonal Behavior*. HarperCollins, Boulder.

Poels, K. & Dewitte, S. (2006). How to capture the heart? Reviewing 20 years of emotion measurement in advertising. *Journal of Advertising Research*. 46(1), 18-37.

Sahay, A., Sharma, N., & Mehta, K. (2012). Role of affect and cognition in consumer brand relationship: Exploring gender differences. *Journal of Indian Business Research*, 4(1), 36-60.

Wang, W.C., Chien C.S., & Moutinho, L. (2015). Do you really feel happy? Some implications of Voice Emotion Response in Mandarin Chinese. *Marketing Letters*. 26(3), 391-409.

Wiggins, J. S. (1982). Circumplex models of interpersonal behavior in clinical psychology. In *Handbook of Research Methods in Clinical Psychology*. P. C. Kendall & J. N. Butcher, eds., Wiley, New York, 183-221.

Zimmermann, P., & Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International journal of behavioral development*, 38(2), 182-194.