

The impact on emotions on recall: an empirical study on social ads

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Introduction

On the basis of the scientific evidence that emotions dominate the cognitive and behavioral processes, emotions need to be considered as crucial in advertising [1]. In particular, an emotional response to an advertisement is able to influence several aspects including the attitude towards advertising and brand [2, 3, 4, 5], attention [6, 7] and finally the memory of the message and therefore its effectiveness [6, 8, 1, 7, 9, 10].

Since 1879, the year Wilhelm Wundt founded the first psychology laboratory in Leipzig, many researcher focused their attention on the construct of emotion. Important authors, as William James, then proposed theories on emotions and tried to operationalize this construct. To date, the issue of emotions remains, predominantly, an issue of measurement.

Traditional techniques of investigation, categorized into those that can be described as "self-report measure", are not able to effectively test the ads that use emotions to achieve their goals because they are too rational and verbal [11] and are distorted by cognitive processes ("cognitive bias"). Scientific research has shown that people are not aware that a lot of their daily actions are automatic and unconscious [12, 13]. Research has also shown how emotions are able to influence behavior without the person being aware of it [14]. For these reasons, methods based on subjective emotional perceptions are not always able to accurately capture the emotional state of the person. In contrast, the non-verbal measurements (or autonomic measurements), based on the registration of neurophysiological parameters, give a more accurate and reliable output because not mediated by cognitive processes that are activated during the traditional survey techniques [15].

Studies have documented the wide array of emotions that can be evoked by ads [16], examined the relationship between attitudes and consumers' responses to emotional ads [17], and investigated individual difference or situational variables that often moderate consumers' responses to emotional experiences induced by ads. However, consumer research has been largely silent about properties of emotions beyond their valence that may underlie and differentiate them. This seems to be due to the widely held assumption that the valence of an emotion featured in an ad (i.e. its positivity or negativity) is the primary predictor of a consumer's attitudinal response to the ad. Thus, if an ad depicts any of several emotions that all share a common valence (e.g., negative feelings like fear, anxiety, or guilt), people's attitudes toward the ad will simply reflect that valence (e.g., negative).

However, storytelling with emotional (positive or negative) appeals is viewed as one of the most effective strategies to encourage pro-social behavior [18].

Social campaigns often evoke negative emotions, as fear. This is a shock tactic to raise awareness and challenge preexisting attitudes toward relevant social issue as violence on women, obesity, smoking and alcohol abuse [19, 20, 21].

Literature has shown that there are conflicting results concerning studies that compared negative versus positive storytelling. Some authors found that the use of fear and shock in marketing campaigns has a positive effect on raising awareness about the consequences of smoking [22], the social costs of binge drinking [23] and the

deleterious effects of drug abuse [24], however others have reached the opposite conclusions [25, 26] explaining this data as a “boomerang effect” described in the theory of psychological reactance [27, 28].

Aim

Given this theoretical background, we want to evaluate which kind of communication strategy is the most effective in promoting Female Genital Mutilation (FGM) awareness and we want to analyze which kind of measure (psychophysiological or self-report) predict a better recall. The present experiment was designed to assess whether arousal, assessed both with explicit measures and with psychophysiological measure was able to predict a better recall after for month.

The aim of this study was to assess the 4 months recall accuracy of two social advertising videos that used two different kind of communication strategy: one based on a non-violent code and one based on a violent code. We hypothesized that the recall was better for the video that evokes a greater arousal. Furthermore, we address if a very high arousal might interfere in recall and which is the best communicative strategy.

In particular, we want to analyse 3 different aims:

Aim 1: Assess the 4 months recall of two social advertising videos.

Aim 2: Evaluate which was the Soc Ad preferred by the participants to promote FGM awareness

Aim 3: Analyse psychophysiological and self-reported measures associated with the recall and with the video’s preference.

Design/Methodology

Forty women (age range 21-28 Mean=23.38, SD=1,97) were voluntarily recruited from the student body of IULM University of Milan (Italy). All participants signed up an informed consent before beginning the experimental procedure and were informed about the goals of the study, procedures, cautions and ethical issues for the participation to the study. Participants were randomly assigned to one of two conditions. Eighteen participants (45.0%) were first exposed at the Social Ad1 and Twenty-two participants (55.0%) were first exposed at the Social Ad2. We controlled for the effectively randomization using a chi-square experimental design ($\chi^2=0.64$; $p=0.42$).

Participants viewed 2 minutes-videos on this topic. The first social advertising spot (Social Ad 1) was based on a non-violent code, the second social advertising spot (Social Ad 2) was based on a violent code. The ads were selected from a range of options by an expert panel (N=10) who independently assessed as non-violent the Soc Ad 1 and as violent the Soc Ad 2. Furthermore the 100% of the experts stated that the two social advertising spots evoked different emotions, namely, sadness for the Soc Ad 1 and anger for the Soc Ad 2.

For monitoring the responses of the autonomic nervous systems, physiological signals of Blood Volume Pulse, Galvanic Skin Response (SC) and Electromyography (EMG) were monitored. Before starting the experiment every subject was exposed to 3 minutes of a black screen whit a white cross. We calculated the differences between the mean value of baseline condition and the mean value of experimental exposure.

In order to assess longer term recall about 4 month after the video exposure a phone interview was conducted by a psychotherapist. The interview was conducted in a structured way using mostly open-ended questions.

Results and discussion

Using a chi-square to assess the distribution of the emotion that the participants reported for both Social Ads, we observed that they report in a greater percentage to feel sadness during the Social Ad1 ($\chi^2=37.92$, $p<0.001$) and anger during the Social Ad 2 ($\chi^2=11.64$, $p=0.02$).

Looking at the Skin Conductance performance during the video exposures, we observed that it was significantly higher on average during the Social Ad2 ($F=3.88$, $p=0.05$). Overall, we can state that the level of arousal was significantly greater during the view of the Social Ad2 in comparison to Ad1. Skin Conductance has been showed as a good indicator of the level of arousal correlating with the level of anxiety elicited by the stimuli [29].

Moreover we found that both psychophysiological measure and self-report measure was congruent. In fact, participants had both a greater state anxiety (STAI-X) and a higher level of Skin Conductance in viewing the social ad that used a violent code communication. Regarding the EMG signal, we found that it was similar in participants during the viewing of the two Social Ads. Our results on psychophysiological signals (SC and EMG) are in line with the Lang model (1995), in fact the two spots are design to have the same valence (aversive) but different arousal level to test only the effectiveness of anxiety/stress (arousal) on recall. Furthermore, our results are consistent with other studies conducted in the field of advertising that identified in the SC the best indicator for arousal that is an index of an emotional reaction.

Regarding our first aim, that was identifying which was the better strategy to increase awareness on FGM, we found that the Social Ad that used a violent code was significantly better recalled at 4 month after video exposure in terms of accuracy and number of details reported. Our data are in line with the literature that reports how, in social advertising, a shock communication strategy aimed to raise awareness on relevant social topics might represent an efficient way to use.

Furthermore, after the exposure to each spot, subjects were instructed to click on the kind of emotion they felt during the vision (they were instructed to choose the emotion amongst a list presented on the pc screen, clicking on one of the following options: anger, joy, sadness, fear, surprise, disgust. See Figure1 and 2). We found that participants who reported to feel anger (mean RT=9.38 sec; SD=4.96 sec) during the exposure to Soc Ad2 were faster (t Student test: $p=0.035$) in clicking with the mouse on the label “anger” in comparison to time reactions of participants who reported to feel other type of emotions (mean RT=15,56 sec; SD=10,13 sec).

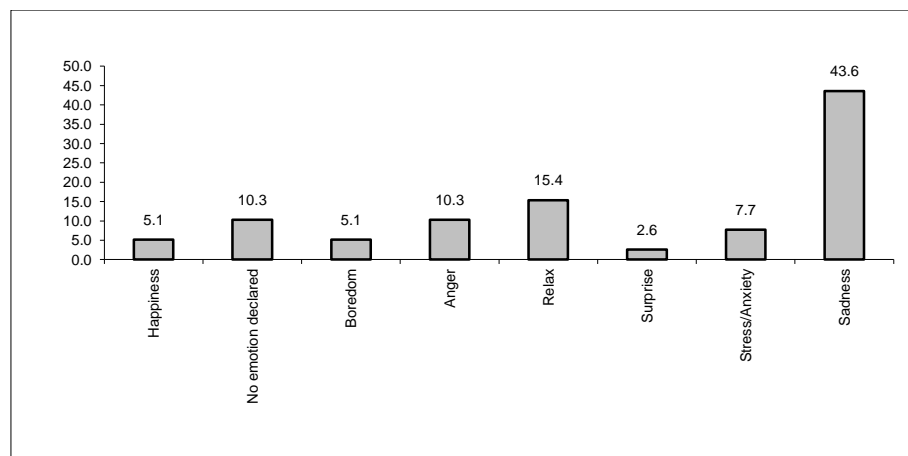


Figure1. Self-report scores (average across all subjects) after Social Ad1 (soft communication strategy) exposure: the highest score is for “Sadness”, with a total of 43,6 % of all subjects reporting to feel “sadness” after being exposed to the Social Ad1. The second highest score is “relax” (15,4%). Nobody reported “Disgust”.

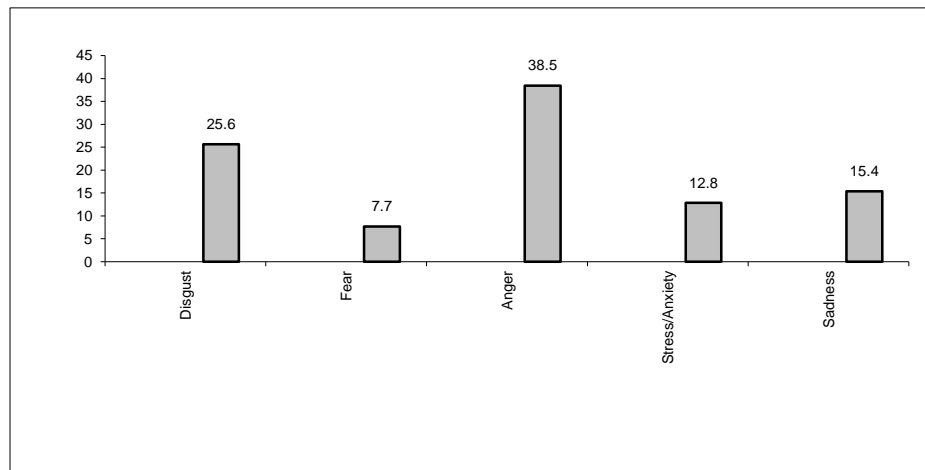


Figure 2. Self-report scores (average across all subjects) after Social Ad2 (violent communication strategy) exposure: the highest score is for “Anger”, with a total of 38,5 % of all subjects reporting to feel “Anger” after the exposure to the spot. It is worthy to note that the second highest score is “Disgust”, with 25,6 %.

It could be hypothesized that the congruence between explicit and psychophysiological data might be explained with the topic of the social advertising spots used in our research. Female Genital Mutilation, in western countries, is a practice largely condemned (Morrone A., 2002), for this reason the participants, in line with social desirability theory (Edwards, 1957), are free to declare their opinion and feeling about this topic. However, it could be argued that in other sociocultural contexts or with a sample of foreign women we could find incongruent results between explicit and implicit measures. Thus, it could be very useful assess this phenomenon both with traditional assessment and with measures used in neuromarketing evaluations because foreign women may not feel free to express their feelings about a practice such as FGM, which is widely prevalent in their culture.

In this study, the 30% of participants declared that they would choose the non-violent social ad for promoting an efficient social campaign and this percentage almost doubled (64.3%) if we consider only participants who have reported to feel anger during the viewing of the Social Ad that used a violent-communication strategy. Taking advantage of this finding, we found that the likelihood of choosing a Social Ad that used a non-violent strategy was about ten-fold higher in those participants who felt anger during the viewing of the Social Ad that used a violent-communication strategy. Furthermore, we wonder if, regarding the issue of Female Genital Mutilation, the best way to enhance the awareness of this delicate topic is a shock tactic that, as we have seen, is associated with a better recall, but at the same time, we have to consider that we could meet the risk of evoke a strong emotion as anger that might contribute to create distance between the Italian and the foreign population.

Our findings suggest some interesting issues in the field of social communication. First of all, in this work the combination of self-reports and psychophysiological measures is explored, as the research study is related to a topic affected by cultural and sexual issues. For this reason, self-reports and biological measures might reveal different trends, that was not the case for this study as shown in previous research work [30]. It is fundamental that Social cause advertising researchers stay in touch with developments in emotion research from rapidly developing fields like experimental psychology and neuroscience. Neuro-physiological measures may be a useful and objective supplement to subjective, declarative data. When combined, these two forms of modality may enable marketers to represent both conscious and subconscious consumer reactions to persuasive advertising [31, 32, 12].

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