Understanding the Smiling in Press Advertising

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Introdução
Emotional contagion research has been conducted during different situations, such as people watching movies or face-to-face situations. In addition, the consumers' negative and positive feelings are predictors of the advertising success and individuals feelings contribute to form the attitude toward the advertising. Despite the large body of literature on emotional contagion in face-to-face interactions, and dynamic adverting such as in TV commercials, there is a gap in the literature to show how press ads with facial expressions influence emotional contagion and product evaluation.

Problema de Pesquisa e Objetivo
We explore the print ad context, little investigated (Appiah, 2001; Xiao & Ding, 2014). Our objective is to investigate whether different smiles can turn in influence on the evaluation of the product. We propose that this sequence of events (mechanism) occurs through mimic feedback. Furthermore, we support the idea the kind of smile (genuine vs. non-genuine) is different and could affect in different levels the unknown product's evaluation from ads. We also show that products can be evaluated differently according to the model and reception gender.

Fundamentação Teórica
Facial expressions are part of emotion communication where there is a correlation between a facial expression and a specific emotion. Psychological research suggests that emotions felt and expressed by decision makers can influence how those individuals make decisions and evaluate products. The mechanism that underlines the transfer of an emotion from one person to another calls Emotional Contagion, that includes mimicking and automatic emotion synchronization to another person. With that, four hypotheses are presented and theoretically supported in the paper.

Metodologia
In this paper, three laboratory experiments were developed. The first one employed a 3 (facial expression: neutral vs. genuine smiling vs. fake smiling) × 1 between subjects' design. Dependent variables included the evaluation of the product. In the second study, we manipulated the expression in two conditions: expression of joy vs. neutral emotion between subjects. Dependent variables included the existence of mimicry and the evaluation of the product. And, in the third study, we used a mix factorial design model (model ad gender, consumers' gender, and facial expression).

Análise dos Resultados
Our results supported our hypotheses. Positive facial expression from a model in press advertising influence to a positive evaluation of the product from the advertising. The genuine smile (vs. fake smile) on print advertising does influence a positive evaluation of the product from the advertising. The positive facial expression on press advertising influences Emotional Contagion. And, the positive emotion vs. neutral acquired from the positive facial expression interacts with gender.

Conclusão
Our study indicated four main contributions to emotional contagions literature: 1- Positive facial expression from a model in press advertising influences a positive evaluation of the product from the advertising 2- Positive facial expression on press advertising influences product evaluation because of emotional contagion 3- The genuine (vs. fake smile) creates greater scores on product evaluation presented on press advertising 4- There is a gender effect on this process. On the managerial implications, companies can use smiling facial expressions on press ads to influence their consumers.

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INTRODUCTION

Emotional contagion is the condition that one person can be influenced by the emotion of the sender (Ekman, Davidson, & Friesen, 1990). Hatfield, Cacioppo and Rapson (1993) have proposed that, as people attend to others, they consciously and unconsciously mimic the other's fleeting emotional expressions and synchronize their facial, vocal, postural and influential expressions with those to whom they are attending. The afferent feedback generated by this mimicry produces a simultaneous congruent emotional experience, and consequently, leads to an emotion convergence.

Emotional contagion research has been conducted during different situations, such as people watching movies (Ekman et al., 1990; Ekman, 1993; Soussignan, 2002) or face-to-face situations (Howard & Gengler, 2001; Pugh, 2001; Tsai & Huang, 2002). In addition, the consumers' negative and positive feelings are predictors of the advertising success and individuals feelings contribute to form the attitude toward the advertising (Edell & Burke, 1987).

Despite the large body of literature on emotional contagion in face to face interactions, and dynamic adverting such as in TV commercials (e.g. Howard & Gengler, 2001; Pugh, 2001), there is a gap in the literature to show how press ads with facial expressions influence emotional contagion and product evaluation. The most relevant literature in this domain is from Xiao and Ding (2014). In their study, they controlled the face expression from ads to understand the viewer's reaction to faces (e.g. baby-faced, feminine, unattractive, untruth-worthy) according to advertising metrics. In this paper, we also explore the print ad context, little investigated (Appiah, 2001; Xiao & Ding, 2014), filling the gap of facial expressions as emotions and focusing on the product's evaluation.

Since smiles are widely used in print ads, as a positive facial expression it is important to investigate whether different smiles can turn in influence on evaluation of the product and its mechanism. We propose that this sequence of events (consumer emotional contagion and product evaluation) occurs through mimic feedback. Furthermore, we support the idea the kind of smile (genuine *vs*. non genuine) is different and could affect in different levels the unknown product's evaluation from ads. We also show that products can be evaluated differently according to the model and reception gender.

This paper has the theoretical background based on emotion and emotional contagion. Four hypotheses are developed and tested by laboratory experiments. Using three experiments we support our assumptions and discuss the results.

THEORETICAL BACKGROUND

Emotion

Emotion is a mental state in which somatic signals participate. Emotion is as an action of dispositions and states of vigilant readiness that vary widely in reported affects, physiology, and behavior (Dezecache, Jacob, & Grezes, 2015). Cabanac (2002, p. 80) proposes that emotion is "any mental experience with high intensity and high hedonic content (pleasure/displeasure)". Although there are many descriptions about the definition of emotion, researchers agree that it is a complex process, which involve several components, such as: affective, cognitive, physiological, and emotional/expressive behavior.

Facial expressions are part of emotion communication where there is a correlation between a facial expression and a specific emotion (Dimberg & Lundquist, 1990), for instance smile as a construct of happiness/joy. Evidence accumulated suggests that adopting a requested facial pattern of emotion may induce a feeling of this particular emotion, even in the absence of any eliciting event (Duclos, Laird, Schneider, Sexter, & et al, 1989; Ekman et al., 1990)

Psychological research suggests that emotions felt and expressed by decision makers can influence how those individuals make decisions and evaluate products. Howard and Gengler (2001) conducted an experiment to verify whether the existence of emotional contagion, through facial expression (smiling) influences the attitudes and analyses of a product by using a palekh box. They used a face-to-face interaction with women to show this effect. "Happy versus neutral emotion was induced for the sender by either winning a palekh box or winning nothing. Receiver liking of the sender was manipulated by women winning nothing and then receiving a gift of Coke from the sender" (Howard & Gengler, 2001, p. 192). The results supported all their hypotheses. The receiver scored the product higher when having been exposed to a smiling sender.

The example before explained a product being evaluated after a face-to-face interaction. In face to face situations other researchers have been showing the smile changing consumer's behavior. For instance, smile enhances customer tipping (Tidd & Lockard, 1978), intent to return to a store (Tsai, 2001) and product evaluation (Howard & Gengler, 2001). Pugh (2001) shows that customers capture the affect of employees through the process of emotional contagion. In this case, the positive emotion of employees correlates to the customers, and that positive affect effects positively with the latter's assessments of quality of service.

Emotional Contagion

A possible mechanism that underlines the transfer of an emotion from one person to another calls Emotional Contagion. Emotional contagion is an outflow of emotions transmitted by facial expressions, voice, posture, movements and other instrumental behaviors (Hatfield et al., 1993). Therefore, emotional contagion is a convergence of emotions between the sender and receiver.

Emotional contagion includes mimicking and automatic emotion synchronization to another person (Hatfield et al., 1993). Mimicry is a primitive behavioral reflex that occurs at a physiological and not conscious level (Heyes, 2011; Lundqvist, 1995). The primary reaction (mimicry) occurs as part of the empathic process underlying the decoding of emotional facial expressions. It is uncritical by researchers the acceptance of the emotional contagion in the investigation of some core social cognitive processes, for example pain or sadness, where mimicry and emotional feedback are always present (Dezecache et al., 2015).

Hypotheses

We hypothesize that even in non-verbal interaction situation, smiles, which transmit positive emotion, influence on the consumer behavior. We assume that the positive facial expression from advertising can increase the customer´s product judgment.

According to Lang (1995), photos in situations where the context is enjoyable, such as happy families, vacation time, beaches or babies have been using as stimulus of emotions. More recently, Kramer, Guillory and Hancock (2014) showed that people exposed to emotional contents on Facebook tend to post positive/negative words matching to the information gotten. In other words, there is a correlation between the Facebook contents and the receptor feelings. The same process occurs on twitter where there is no facial expression. In agreement to Ferrara and Yang (2015), there is a relation between the valence and the stimuli and how people twees a message. Based on this context, we create the first hypothesis:

H₁: Positive facial expression from a model in press advertising influence to a positive evaluation of the product from the advertising.

In accordance with Ekman and colleagues (P Ekman et al., 1990; Paul Ekman, 1992; Gunnery, Hall, & Ruben, 2013; Hennig-Thurau, Groth, Paul, & Gremler, 2006) we believe that genuine smile (*vs*. fake smile) creates more positive reactions. We extend their studies, hypothesizing that the genuine smile (*vs*. fake smile) will create greater scores on product evaluation presented on press advertising. We assume that it could happen because a Duchenne smile (i.e. genuine) which involves contraction of both the zygomatic major muscle (main muscle in the cheek) and the orbicularis oculi muscle (muscles group around the eyes), is associate with authentic emotional display (Hennig-Thurau et al., 2006). For been a complete symmetry smile, the Duchenne smile triggers positive emotions. On the other hand, non-Duchenne smile involves only the zygomatic major muscle (Ambadar, Cohn, & Reed, 2009; P Ekman et al., 1990; Messinger, Fogel, & Dickson, 2012), usually is more conscious and can may not be perceiving as genuine.

Empirical evidence supports the Duchenne smile effect (Ekman et al., 1990). For example, Gunnery, Hall and Ruben (2013) instructed participants to smile while enacting genuine vs. fake scenarios. Rates of Duchenne smiling provided further evidence that substantial minorities of people have the ability to produce a Duchenne smile deliberately. Individual differences were evident in the consistency in producing deliberate Duchenne smiles across tasks. Therefore, we assume that genuine smile (*vs*. fake smile) presented on press advertising creates greater scores on product evaluation because that the interpretation of a smile as being more or less genuine can be based on facial mimicry (Maringer, Krumhuber, Fischer, & Niedenthal, 2011). Therefore:

H₂: Genuine smile (*vs*. fake smile) on print advertising does influence a positive evaluation of the product from the advertising.

We propose that positive facial expression on press advertising influences product evaluation because of emotional contagion, the mimic and unconscious emotion synchronization. Several studies have demonstrated that smiles appear in participants who are watching pleasant movies (P Ekman et al., 1990; Paul Ekman, 1993; Soussignan, 2002) as an emotional contagion. The facial feedback hypothesis states that facial movement can influence emotional experience (i.e. when somebody smile, he/she will actually come to find the event more enjoyable). Hence, some researchers' states that the observation of the facial expressions is a necessary condition for emotional contagion occurs and that mimicry can even occur in interactions composed of facial expressions exclusively, without voice or body language (Hess & Blairy, 2001; Howard & Gengler, 2001). Therefore, we propose that positive face expression can transmit emotion to receptor. We believe that it happens because the issuing emotion would be able to stimulate mimicry that can consequently change the receptor emotion. In other words, facial expression from models in press ads can change consumer's behavior based on the mechanism of emotional contagion. Therefore, we expect to find receptors mimicry while seen positive facial expression as an easiest facial expression (such a genuine smile of joy). Then, we suggest that:

H₃: Positive facial expression on press advertising influences Emotional Contagion.

The fourth assumption investigates whether a photo of an unknown person in ad affects the product evaluation differently by women and men. Since subjects in positive emotional

states perceive and evaluate stimuli more favorably than subjects in other emotional states, we believe that there is a moderating effect of gender. Doherty, Orimoto, Singelis, Hatfield and Hebbs (1995) showed that there are differences between women and men; women were significantly more susceptible than men to the emotions of others on all subscales except anger. However, although the level of susceptibility can be different, we cannot say that man do not "catch" the emotion. Hence the factor of female's gender led observers to perceive a female stimulus as more positively expressive than a male stimulus (Dimberg & Lundquist, 1990) and that women tend to outwardly display more sensations than men (Buck, Savin, Miller, & Caul, 1972; Schwartz, Brown, & Ahern, 1980), it is possible to argue that the gender emotion sender and receptor can have a moderation effect on the evaluation product. Therefore, we assume that there are significant effect from gender over condition for each product evaluation dimension, such as attitude, reliability, sympathy and intention, with women having greater scores. The fourth assumption is:

H_4: The positive emotion vs. neutral acquired from the positive facial expression interacts with gender.

STUDY 1: TELEVISION

We hypothesize that even in non-verbal interaction situation, smiles, which transmit positive emotion, influence on the consumer behavior. We assume that the positive facial expression from advertising can increase the customer´s product judgment. We also believe that the different smiles can produce different effect on product evaluation. As consequence, in this study we focus on three conditions of facial expression (neutral vs. fake smiling vs. genuine smiling).

Studies have determined that there is a perceived difference between the expressions of women and men. In the stimulus evaluation, the factor of female's gender led observers to perceive a female stimulus as more positively expressive than a male stimulus (Dimberg & Lundquist, 1990). Studies explain that women tend to outwardly display more sensations than men (Buck et al., 1972; Schwartz et al., 1980). Therefore, we opted to focus only in females to better capture the possible mimicry feedback.

Design: The study employed a 3 (facial expression: neutral vs. genuine smiling vs. fake smiling) × 1 between subjects' design. Dependent variables included the evaluation of the product. A print television advertising was created using a Brazilian Model. The model is mulatto. The facial expressions where developed based on a recorded movie. During 10 minutes the model told us happy situations that happen to her life, after that we asked her to tell us about her job. Based on that we selected some pictures to build the genuine smiling face and the fake smile. Using Photoshop, we controlled the images to keep neck and hair exactly the same in all the ads. So only the face expression was different. The facial expression was also pre tested before using in the study as it will be explained latter. The face was then added into the print ad, more specifically inside a TV as its image. The figure 1 presents the stimuli.

Cover Story: Participants were invited to evaluate a new product that was going to be launch. The brand, Twell is unknown to all, because it does not exist. Some information about the television was given to the participants. We also added some "sales" to make it more realistic, although any other number, such as price or number of pixel was given.

Procedure: Students were invited to go to the lab to participate in the study in specific lab hours. The participants were randomly allocated to the various treatments ensuring against systematic errors (bias). They participated in the research as part of a class assignment.

Genuine Smiling	
Fake Smiling	
Neutral Smiling	

Figure 1: Stimuli Study 1
Note: The quality of those pictures can be better on JPG version.

Participants: A total of 206 people participated in the study, 117 females. In total 95 considered themselves as Caucasian, 100 were Mulatos or Black, 4 Asians and 7 considered as other miscegenation. A total of 69 people saw the neutral model advertising, 67 the fake smiling model advertising and 73 the genuine smiling face advertising. A non significant correlation between skin color and conditions was found.

Measurement: After the advertising presentation the adapted product evaluation scales from Berens, van Riel and van Bruggen (2005) that has 4 dimensions was requested to be answer. For these measures, multiple-item scales consisting of seven-point Likert or semantic differential scales were used. All scales were equal interval scales with semantic anchors for each interval. These scales dimension achieve the following reliability: people's attitudes toward the products $\alpha = .892$, reliability $\alpha = .892$, sympathy, $\alpha = .930$, and purchase intentions, $\alpha = .875$, being considered satisfactory (Hair, Black, Babin, Anderson, & Tatham, 2009).

Pretest. We conducted a pretest with thirty-four students. Following completion, the experiment, subjects were interviewed in groups to obtain their comments concerning clarify of instructions and questions, as well as their opinions about the topic being investigated. No major problems were revealed in this pilot study, and consequently a few minor changes were done. To check whether the ads were transmitting a positive emotion, negative or a neutral emotion and to guarantee the manipulation, we asked the participants about the model's emotion. As a result, in the smiling condition 100% of the participants said that the model was smiling, and in the real smiling 94% said that she was happy. In the neutral condition, nobody said she was smiling and 88,24% said that the model was neutral. Also, in the neutral condition any participant said that she was very happy, happy or very sad.

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Results

Manipulation Check. We elaborated two questions for checking the facial expression in the advertising. First, we asked the participants if the model in the ad was smiling or not. As a result, they were able to recognize the facial expression ($\chi 2 = 90.997$ (1), $p < .001$). Second, we asked if the faces were genuine smile, fake smile and neutral. As a result, participants seem to remember the correct facial expression. A significant relationship ($\chi 2 = 94.58$ (4), $p < .001$) between model faces condition and participants answered was found. Participants perceived the smiling facial expression to be more smiling than the neutral condition. The higher mistake perception was in the fake smile where 23% of the participants from this condition said that the model was with a genuine smile. However, no participant was excluded from the data, since it is possible they maybe they could not completely recognize the fake face or just not remember if it was fake. Third, we asked about the transmitted emotion presented by the models face. Participants confirmed our assumption that smiling is related to a positive emotion while neutral face is a neutral emotion ($\chi 2 = 37.839$ (4), $p < .001$). Once again, although a few people (11) said that the model was unhappy (7 for neutral face expression, 3 for the fake expression and 1 for the genuine smiling), we opted to leave them in the sample, since in the real life we may believe that the face expression do not evoke what people want to show.

Hypothesis Testing. To test H_1 if positive facial expression from a model in press advertising influence to a positive evaluation of the product from the advertising and H_2 in which we proposed that genuine smile (*vs.* fake smile) on print advertising does influence a positive evaluation of the product from the advertising, we ran a four General Linear Model, and the pairwise comparison with Bonferroni.

As expected, the results revealed a main effect of facial expression on attitude toward the product ($M_{neutral} = 2.17$ vs. $M_{fake\ smiling} = 2.24$ *vs.* $M_{genuine\ smiling} = 2.75$; $F(2,205) = 4.393$, $p = .014$), sympathy ($M_{neutral} = 1.94$ *vs.* $M_{fake\ smiling} = 2.34$ *vs.* $M_{genuine\ smiling} = 2.78$; $F(2,205) = 6.436$, $p = .002$), reliability ($M_{neutral} = 1.85$ *vs.* $M_{fake\ smiling} = 2.24$ vs. $M_{genuine\ smiling} = 2.67$; $F(2,205) = 6.603$, $p = .002$) and buying intention ($M_{neutral} = 1.84$ vs. $M_{fake\ smiling} = 2.14$ *vs.* $M_{genuine\ smiling} = 2.61$; $F(2,205) = 5.694$, $p = .004$). In all conditions, we found significant differences among the facial expressions. Based on these results, we supported H_1.

Then, we investigated if this significant difference occurred by neutral and smile or also between the smiles. As a result, (1) for attitude toward the advertising we found statistic difference between neutral and genuine smile (mean difference=.583, p=.007), and between genuine and fake smile (mean difference=.511, p=.002) but no difference between fake smile and neutral (p=ns); (2) for sympathy we found statistic difference between neutral and genuine smile (mean difference=.839, p<.001), and marginally difference between genuine and fake smile (p=.071) and neutral and fake smile (p=.094); (3) for reliability, a significant difference was found between neutral and genuine smile (mean difference .823, p<.001), and marginally significant to neutral and fake smile (p=.065) and fake smile and genuine smile (p=.094); (4) and for intention to purchase, statistical differences between genuine smile and neutral (mean difference=.771, p<001) and genuine smile and fake smile (mean difference=.471, p=.047) were found and non significant difference between neutral face and fake smile was found. With that we support H_2.

STUDY 2: MP3

The core objective of Study 2 was to investigate if one of the mechanism that is behind the positive evaluation on product based on the model facial expression. In other words, we verify if facial expression mimicry occurred as proposed by emotional contagion theory. We

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also opted to isolate some possible confounding that could have occurred in the first study. In the first study, although we controlled the smile, position of the head and neck, the model facial expression luminosity was not controlled. In addition, we did not control the participants' previous emotions, so participant's mood could be influencing the results.

Design. We manipulated the expression in two conditions: expression of joy vs. neutral emotion between subjects. Dependent variables included (a) the existence of mimicry and (b) the evaluation of the product. Once again, to make the situation reflect actual marketing situations more closely, we created an adverting that incorporates the facial expression. Specifically, we create an advertising with an American Blonde woman, estimated in 35 years old, and some basic product information. For this study, we chose two different photos (smiling and neutral) of the same model from a white and black set developed by Paul Ekman (for more information about facial expression and micro-expressions see Paul Ekman's website).

Participants. Students were invited to go to a computer lab to participate in the study. The participants were randomly allocated to the various treatments ensuring against systematic errors (bias). A total of 171 students participated in the research as part of a class assignment.

Cover Story and Procedure. After participants entered the lab, a two-study cover story was introduced in a computer-based experiment. The cover story for study 1 highlighted the understanding of using documentaries on class as one more method to teach undergrad students. Respondents were instructed to watch a video on the computer screen and answer a few questions. The documentary movie was about John Nash, Ph.D., already used in a previous research (Andrade, 2005). The video's idea was only to neutralize participants' emotion and expectations. After that, respondents started the second study, where they have to imagining seeing a black and white newspaper. It was explained that they would see a Finnish ad about a MP3 player and answer some questions about their product perception. This cover story concentrated the participants' thoughts on the product and not on the facial expression. The information in the advertising were in Finnish, a language that any participant could read, and once again the brand name unknown. During this second stimulus, the computer automatically videotaped all the participants for 15-20 seconds with a webcam (VGA 640 × 480). We used a trial version of YupSoft Cam Video Capture Monitoring. We used the participant's videos to analyze the presence of mimicry on participants' faces. At the end, participants were informed that their faces were recorded, and it was asked if they allowed the researcher to used it in this study.

Measurement. Similar to study 1, we used the adapted product evaluation scales from Berens, van Riel and van Bruggen (2005). The scale reliability in each block had the minimum Cronbach Alpha value again (attitudes toward the products $\alpha = .81$, reliability $\alpha = .82$, sympathy, $\alpha = .86$, and purchase intentions, $\alpha = .85$).

Videotaped Analysis. To verify whether emotional contagion occurred, three "judges" analyzed the records for unconscious mimicking: all of them were blind to experimental condition. The "judges" counted the occurrence of a smiling mimicry when the participant moved (strong or just a little) the corner of the mouth. The mimicking face may be up to 1/8 of a second (=.125) so, sometimes, the judges watched more than once the same video before score. We judged as a smiling mimicry when we had as "eyes open, and the corners of the mouth turned up" (Gump & Kulik, 1997, p. 308).

Pretest. As commented before we conducted a pretest to test the film and the facial expression used in the stimuli. Twenty students participated in the pre-test. The first stimulus, the movie, should be identified from the participant as neutral while the second stimulus, the ads, should be identified as neutral with the non-smiling advertising and as happy with the smiling ad. To check whether participants understand the movies as neutral, they were asked to identify if the movie was happy, neutral or sad. As a result, 85% of them said that the movie

transmitted a neutral emotion, but some of them 15% also said that it was boring to watch it. The documentary had three minutes and five seconds and had already being tested. So, we opted to we cut the documentary from John Nash to two minutes and five seconds minimizing the possible negative emotion. To check whether the ads were transmitting a positive emotion or a neutral emotion and to guarantee the manipulation, we asked the participants about the model's emotion. As a result, in the smiling condition 88.9% of the participants said that the model was happy and 11.1% that she was very happy. In the neutral condition, 66.7% said that the model was neutral and 33.3% said that she was sad. Any participant said that she was very happy, happy or very said.

Results

   Data Description. From the 171 participants, we use 154 (90%) that were complete. The age ranges from 17 to 23 years old. The distribution of the participants in the experiment is as follows: 48% of neutral condition (31 females and 43 males) and 52% of smiling condition (35 females and 45 males). There is no statistic difference in the number of participants in each cell $\chi^2_{(1)} = .054$; $p > .816$.

   Manipulation Checks. We used two manipulation checks to verify whether the stimulus worked as planned. First, we asked each participant to rate which emotion the movie transmitted, using one of the three categories happy, neutral or sad. 141 participants answered that the movie was neutral and not statistical difference was found between their comments in condition model (facial expression) $\chi^2_{(1)} = 1.614$, $p = .806$. Second, we tested whether the participants perceive the smiling-woman advertising as expressing positive emotions and whether the neutral-face advertising expressed a neutral emotion (not happiness or sadness). The two groups are able to recognize the stimulus appropriately $\chi^2_{(1)} = 121.165$, $p < .001$. In the neutral condition, 66% of the subjects were able to identify the model in the neutral expression. In the smiling condition, 83.8% of the participants identified the model as happy or very happy. Therefore, the two groups are able to recognize the stimulus differently ($\chi^2_{(4)} = 88.070$, $p < .001$).

   Hypothesis Testing. The results confirm that there was a significant difference between the two conditions (smiling model *vs.* neutral model) for attitude ($M_{neutral} = 3.25$ *vs.* $M_{smiling} = 3.77$; $FF_{(,153)} = 10.98$, $p < .001$), reliability ($M_{neutral} = 2.95$ *vs.* $M_{smiling} = 3.31$; $F_{(1,153)} = 18.97$, $p < .001$) sympathy ($M_{neutral} = 2.45$ *vs.* $M_{smiling} = 3.24$; $F_{(1,153)} = 15.29$, $p < .001$) and intention ($M_{neutral} = 2.23$ *vs.* $M_{smiling} = 2.90$; $F_{(1,153)} = 10.78$, $p < .001$), supporting the H_1. The results suggested that when the participants saw the advertising from the positive emotion, they evaluated the product displayed in the photo as better in smiling than in the neutral condition, confirming the found from study 1.

   Next, we examine H_3. We propose that positive facial expression on print advertising influences emotional contagion, because mimicry occurs more in the smiling condition. The results confirm that participants tend automatically to mimic and synchronize their movements with facial expressions when observing the facial expression on a photo ($\chi^2_{(1, n=129)} = 11.691$, $p < .001$). In the case of neutral condition, the difference is not only significant for people that catch the mimicry ($t_{(61, n=62)} = 2.786$, $p < .007$), but also for participants that were in the smiling condition ($t_{(66, n=67)} = 6.268$, $p < .000$). There is a significant difference in number of people who caught contagion or did not catch it in each condition ($t_{NO(96, n=97)} = 87.659$, $p < .000$ and $t_{YES(31, n=32)} = 64.395$, $p < .000$). Therefore, the results support H_2, mimicry occurs more in the smiling condition, and less for the neutral condition.

STUDY 3: T-SHIRT

The core objective of the Study 3 was to investigate the gender effect from model press advertising and consumers' gender on product evaluation. As we theorized, we assume that when participants evaluate the advertising in smiling *vs.* neutral faces, facial expression influences product evaluation, and also that this effect is moderated by gender. In addition, this study is different from the previously because it brings genders products, and not a unisex one. Also, we opted to have a more realistic study where consumers see more than one ad. We also opted to control the previous emotion instead of manipulate it.

Design. We elaborated four press t-shirt advertising. We used a mix factorial design model. The design was 2 genders models (males and female) – that were in 4 different stimuli (two t-shirt ads with male models and two with female models) × 2 facial expressions (neutral *vs.* smiling) × 2 participant gender (male and female). The gender models were within subject and the facial expression and participant genders were a between subject. The eight stimuli (2 × 2 × 2) were created based on real ads from an online fashion company[i]. Note that the t-shirt itself was not the core of this study, so we average the scores from the two male ads as a result to male on press ad, and we average the scores from the two female ads as only one evaluation result. Each model was presented wearing the same t-shirt in the neutral and the smiling condition. Similar to previous studies, to create the same t-shirt ads in the two facial expression conditions we used Photoshop. Males models wore male t-shirts and female models wore female t-shirts. None information besides the t-shirt in the model was given to the participants.

Participants. MBA students were invited to participate in lab to the study. They were randomly assigned in between subject. A total of 112 students participated in the research as part of a class assignment.

Procedure. After arriving in the lab, students were allocated in the computers that was prepared to the experiment. They started the study reading some instructions and fill out few questions about their t-shirt consumption. Then the the four ads were randomly presented.

Cover store: Participants were asked to imagine that they were looking for a t-shirt for giving as gift to friends (male and female depending on the on model presented). Then they should evaluate the products based on the ads.

Measurement. As study 1 and 2, we adapted the product evaluation scales from Berens, et al. (2005). The scale reliability in each block had the minimum Cronbach Alpha value of α =.834 for attitude, perceived reliability α =.807, sympathy, α = .807, and purchase intentions, α = .942 following Hair et al (2009) recommendations. We also added six questions about emotions, from PANAS, to control the participants positive and negative emotions. The emotions measures were: unhappiness, depressed, pleased, cheered up, sadness and happiness. Factorial analysis, varimax rotation, showed exactly the two emotion dimension as predicted (Variance Explained 78.43%) and the Cronbach Alpha value were .840 for negative emotion and .825 for positive emotion.

Results

Participants: 60 participants saw the ads were the models were smiling and 52 saw the ads when the models were neutral. From the 112 participants, 50 were male.

Manipulation Check. First, we tested whether the participants perceived the facial expression (smiling *vs* neutral) from the advertising model. As predicted, the two groups were able to recognize the stimulus appropriately $\chi^2_{(1)}$=6.379, *p*<.012. At the end of the study, in a qualitative way, we asked participants to describe the stimuli. The participants were able to say that it was presented 4 t-shirt ads to evaluate and from that two were male and two female's models. Nobody was able to discover the cover story.

Emotions control: Using a t-test we investigate if the participants' previous emotions were different according to the face expression condition. No-statistically difference were found in positive emotions (t=.979, p=.330) nor negative emotion (t=.097, p=923).

Hypothesis Testing. We run the GLM with repeated measures to verify the hypotheses 1 and 4. We used the t-shirts models female and male as repeated measure, since the participants have seen the both ads. The facial expression and participant gender were used as a fixed effect.

For attitude, the analysis of the model indicate that there is an interaction with the facial expression, model and participants genders (F(1,108)=6.420, p=0.13). In all the cases (males and female ads), the female participants had a higher attitude when the models were smiling compare to when they were neutral facial expression. Males also showed a higher score to smiling male models (*M=* 3.95) ads compared to neutral (*M=* 3.68), but males gave a lower attitude score to the female t-shirts when the model was smiling (*M=* 3.74) compared to neutral (*M=* 3.93).

Similarly, the three-way interaction was found for sympathy (F(1,108)=6.738, p=.011). The means demonstrate how the participant evaluate the sympathy of the product presented in the press ad. When the ad was from a male model (male t-shirt), there was no difference between smiling (*M=*3.26) or neutral (*M=*3.27) face for the female participants, but male seems to evaluate the product better when the model is smiling (*M=* 3.68) compared to neutral (*M=* 3.33). But when the model is a female, and the t-shirt is feminine, males evaluate the the neutral face product ad more sympathetic than when the model was smiling. Females had consistent results from the previous studies, and give higher scores to smiling female models ads (*M=* 3.65) compared to neutral ones (*M=* 3.03).

For the reliability dimension male participants scored higher to smiling faces (*M=* 3.98) on males' ads compared to neutral (*M=* 3.33), but higher score to neutral (*M=* 3.83) than smiling faces (*M=* 3.62) ads. On the other hand, the female participants gave a higher reliability score to female smiling faces (3.30) compared to neutral (2.97) by female, and evaluate correspondingly the facial expression condition when the model was male. These inversions can be seen on the triple interaction (F(1,108)= 9.485, p=.003).

The last analysis was done with buying intention. Once again the interaction among the variables was find (F(1,108)=4.177, p=.043).

The data showed that participants had a higher likelihood to purchase more the t-shirts when the models were smiling than when they were neutral (*M* = 3.71 *vs.* *M* = 3.39) when male evaluates male models ads, and have lower likelihood to purchase female t-shirts when the model is smiling (*M* = 3.39) compared to neutral (*M* = 3.56) faces. Woman on the other hand, independently if the model is female or male tend to purchase the t-shirts more easily when the models are smiling (Male model ad, $M_{smiling}$ = 3.40 vs $M_{neutral}$=2.94 / Female model ad $M_{smiling}$ = 3.66 vs $M_{neutral}$=2.94).

Our results confirm the hypothesis four. One reason of why we did not find preferences to smiling model in all product evaluation dimensions could be the mix of gender in the stimuli and responses.

CONCLUSIONS

Our results indicated four main contributions to emotional contagions literature. First, findings indicated that positive facial expression from a model in press advertising influences a positive evaluation of the product from the advertising. We extend previous literature (Lang 1995, Ferrara and Yang 2015) and enlarge product evaluation measures for four different perspectives. Second, we propose that positive facial expression on press advertising influences product evaluation because of emotional contagion. We found evidences for this assumption

and believe that the mechanism behind it is the mimic and unconscious emotion synchronization (Ekman, 1993; Ekman et al., 1990). Third, we believe that genuine smile (*vs*. fake smile) creates more positive reactions. We extend previous psychological studies (Henning-Thurau, Groth, Paul & Gremler, 2006, Gunnery, Hall and Ruben 2013), hypothesizing that the genuine smile (*vs*. fake smile) creates greater scores on product evaluation presented on press advertising. Fourth, we showed that there is a gender effect considering models genders and consumers genders.

On the managerial implications, with the support of our hypothesis, companies can use smiling facial expressions on press ads to influence their consumers, but need to adequate the face expression according to the gender target and product. In general, the static media (newspapers, magazines, catalogs, billboards, and websites) can benefit from these results.

Despite the findings of the study, there are a few limitations. People tend automatically and continuously to mimic and synchronize their movements with the facial expressions, voice, posture, movements and other instrumental behaviors of their conversation partner (Hatfield et al., 1994), this studied focus in only one stimulus the facial expression. Analogously to Howard and Gengler (2001) study we assumed the theory that the mimicry brings emotional contagion (people feel better). Other studies could use different manners to measure the emotion to develop the theory about emotional contagion. As commented on the theoretical background, it was shown in other studies that mimicry can occurs in situations where people know each other and in situations where they do not know each other. We used in this research only the second situation. In addition, this article used three people to code the mimicry, what is common in these kinds of studies. Although computerized digital analysis and neurophysiological tools (i.e. electroencephalography (EEG), facial electromyography (facial EMG), or functional magnetic resonance imaging (fMRI)) could be used to analyze more dippers the emotions from the facial expressions. This sort of analysis could help remove the subjectivity inherent in human ratings and improve the validity of the measures. At the end, we used only one positive expression to compare with neutral; however, many other emotions and expressions (expressions of pain, laughter, affection, discomfort, and other) can be used as a stimulus.

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[i] The ads were created based on the real photos and products from an online store. Manipulation stimuli can be seen by request. Publication is not allowed.