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The role of facial expression in resisting enjoyable advertisements

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Publication date

2015

Document Version

Final published version

[Link to publication](#)

Citation for published version (APA):

Lewiński, P. (2015). *The role of facial expression in resisting enjoyable advertisements*. [Thesis, fully internal, Universiteit van Amsterdam].

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Chapter 1

Embodied Resistance to Persuasion Model¹

¹A version of this chapter is submitted for publication as:

Lewinski, P., Fransen, M.L., & Tan, E.S. (submitted). Embodied Resistance to Persuasion (ERP) Model.

Introduction

Advertising is a powerful and lucrative persuasion tool with revenues forecasted to grow to \$536 billion worldwide in 2015 (Magna Global, 2014). Large and small companies alike will collectively spend over a half-trillion dollars to persuade consumers around the world to like and buy their offerings, an amount comparable to the combined profits of all the FORTUNE 500 companies in 2012 (\$820 billion; FORTUNE, 2012).

Advertisements often serve to increase consumption without consideration given to the needs of prospective buyers. Therefore, many observers have raised significant concerns about the potentially undesirable effects of advertising and the persuasive tactics that marketers use to engage audiences (Boush, Friestad, & Rose, 1994; Darke & Ritchie, 2007; Calfee & Ringold, 1994). Consumers sometimes believe that brands provide them with dishonest or distorted messages in their advertisements and feel inclined to stand up to these practices. For example, in response to *Coca-Cola*® commercials, frustrated and dissatisfied consumers created a very popular YouTube video of an “honest” *Coca-Cola*® *Obesity Commercial* including the following core message “(...) if you chose to live a healthy lifestyle then you *should not be drinking* any of our products and if you drink Coke, *you’ll get fatter and fatter* (...)” (John Pemberton, 2013). Apparently, some consumers are motivated to proactively resist advertising by creating oppositional messages.

Consumers thus seem to desire control over whether or not they are persuaded by media and advertising. For some, this desire stems from an awareness of the possible harm of consumption to themselves; for others, they simply want to be in charge of their own decisions and actions. These motivations explain why enlarging consumer freedom of choice may be empowering and beneficial. Although consumers may know that marketers create ads designed to influence behavior (Friestad & Wright, 1994; Wright, Friestad, & Boush, 2005), some persuasion tactics nevertheless pose a distinct challenge. Enjoyable ads are a case in point. These ads are made to be liked and, at first glance, soliciting our liking is their sole function. Of course, enjoyable ads aim to persuade consumers not only to like the ad but also to like the product and to eventually buy it. Some may want more tools in their repertoire to resist this genre of persuasive advertising. That people could have such a desire proceeds from the assumption that people have a basic motivation to be autonomous and competent (Ryan & Deci, 2000).

The present thesis is inspired by the apparent inequity between the marketing effectiveness of advertisements on the one hand, and the limited amount of research on the tools to resist them on the other. From the perspective of emotion, many strategies that consumers use to resist persuasion are quite broad. Marketers, meanwhile, deftly play on specific emotions in their ads. Therefore, aiming consumer resistance at emotions that are often used in advertising is important. In other words, a productive line of inquiry might lead to ways of helping consumers cope with (positive) emotions used to elicit behaviors beneficial to marketers. We therefore endeavor to uncover concrete tactics for dealing with specific emotions like happiness in the service of resisting persuasive advertising.

In the following sections, we begin with a summary of the usage and effects of persuasion in enjoyable advertisements, followed by a discussion of consumers' resistance toward that persuasion. Next, we present our general objective and our Embodied Resistance to Persuasion (ERP) model. We conclude with an overview of the findings from the empirical chapters.

Persuasion

Advertising is a form of persuasion. Persuasive communication seeks to actively change people's attitudes about a topic (Petty & Wegener, 1998). In the context of advertising, consumers are the target group (e.g., Meyers-Levy & Malaviya, 1999), and changing an attitude is expected to precipitate a change in behavior. The goal of persuasion in advertising is to create positive feelings and attitudes toward a product or service. After exposure to an advertisement, consumers should be persuaded to desire or at the very least like the advertised product more.

Factors that affect persuasion success include context (Malaviya, 2007; Malaviya, Kisielius, & Sternthal 1996), person (Hovland & Janis, 1959; Cacioppo, Petty, Feinstein, & Jarvis, 1996), medium (Dahlén, 2005), and message content (Costanzo & Peterson, 1994; Resnik & Stern, 1977). Research points to an optimal level of cognitive elaboration present in demonstrably effective advertising. Elaboration of the persuasive message in turn depends on cognition (e.g., reasoning and memory) and affect (e.g., emotion and mood), which are both crucial at different stages of processing persuasive messages (Petty, 1997; Petty & Cacioppo, 1986). Over the years, advertisers and marketers have developed a plethora of strategies to create successfully persuasive advertisements. Humor is among the most commonly used strategies. By

creating humorous, enjoyable ads, companies hope to seduce consumers into liking their brand and buying their products.

Enjoyable Advertisements

The use of enjoyable advertisements is omnipresent; about 40 percent of all advertising is intended to be enjoyable and humorous (Weinberger, Spotts, Campbell, & Parsons, 1995). Enjoyment in advertising is tremendously valued; as an illustration, the top ten Super Bowl TV commercials 2003, 2004, and 2005 all employed humor (Gulas & Weinberger, 2006). As a further illustration, as much as 76 percent of the Clio-winning ads used humor in 1984-1988, a sharp rise from 47 percent in 1974-1978 (Murphy, Morrison, & Zahn, 1993).

Amusing advertisements can be defined as “all forms of smile-inducing stimuli” that are persuasive and designed to induce attitude change (Duncan, 1979, p. 302). In this thesis, we focus on advertisements that we define as enjoyable, i.e., they are amusing, funny, engaging, humorous, positive, and make people smile, laugh, or “feel good.” Compelling rationale exists to consider amusement as only one possible form of enjoyment (see e.g., Oliver & Nabi, 2004). In addition, some forms of amusement may include elements beyond simply pleasurable elements (Oliver & Bartsch, 2010; 2011). However, because the literature suggests a degree of interchangeability among these adjectives, at least in the advertising context (e.g., Elpers, Mukherjee, & Hoyer 2004), we have settled on *enjoyable* and *amusing* as the criteria for the ads used in our studies.

Effectiveness of Enjoyable Ads

Amusement in advertisements has proven highly effective in shaping people’s attitudes toward promoted products. Evidence supports the point that amusing ads stimulate low-elaboration processing (Speck, 1987), which could explain their effectiveness to a considerable degree. Eisend’s (2011) meta-analytic test of humor in advertising credits affect with a more primary role than cognition. Eisend specifically proposes that humor enhances “hot” cognitions in general (where positive cognition outweighs negative cognition) and reduces negative cognitions through distraction effects. Humor may also evoke generic positive responses (Gulas & Weinberger, 2006) and lead to transfer of affect through evaluative conditioning (De Houwer, Thomas, & Baeyens, 2001).

By employing humor, amusing advertisements enhance many of the typically studied outcome variables in advertising research, i.e., attitude toward the ad (Weinberger & Gulas,

1992), attitude toward the brand (Weinberger & Gulas, 1992), positive affect (Sternthal & Craig, 1973), positive cognitive responses (Speck, 1987), and recognition (Madden & Weinberger, 1984). Gelb and Pickett (1983) were the first to demonstrate a relationship between perceived funniness of an ad and attitude toward it. Gelb and Zinkhan (1986) found that the use of humor explained 20 percent of the variance of attitudes toward the brand. Pelsmacker and Geuens (1999) have shown that intensity of amusement correlates positively with attitude toward the ad. Despite these clear links between humor and positive consumer responses, humor can also trigger undesirable consequences. Humor can, for example, decrease comprehension (Sternthal & Craig, 1973; Madden & Weinberger, 1984) and credibility (Madden & Weinberger, 1984). However, in his overview and meta-analysis of humor's effects in advertising, Eisend (2009) concluded that the use of humor, in general, enhances attitude toward the ad, positive affect, attention, cognitive positive responses, and recognition.

To conclude, enjoyable advertisements are ubiquitous, beneficial, and have positive effects on advertising effectiveness. Hence, when developing strategies to help people resist persuasion, it is profitable to focus on the positive responses that are elicited by amusing advertisements.

Resistance to Persuasion

We define resistance to persuasion as a usually motivated attempt to withstand persuasion effects, conforming to the use of the concept by other researchers (e.g., Zuwerink, Jacks, & Cameron, 2003). Much is known from the literature regarding the strategies consumers employ to resist persuasion. Fransen, Verlegh, Kirmani, and Smit (2015) recently proposed three types of resistance strategies – avoidance, contesting, and empowering – to categorize the methods adopted by consumers to resist the effects of advertising. Avoidance strategies consist of avoiding the ad altogether or only paying attention to those parts of a message that confirm existing beliefs. Contesting strategies entail a set of approaches that actively counter specific elements of the ad (e.g., counter arguing, source derogation, message derogation), while empowerment strategies focus on confirming existing attitudes (e.g., attitude bolstering and social validation).

Interestingly, none of these strategies deals specifically with the positive *emotional* or *affective* responses that are often elicited by advertisements and have been found to increase

persuasion. Because the use of positive emotions in ads is ubiquitous and effective, the study of how consumers can resist persuasion by focusing on the emotions in the ad is clearly worthwhile.

Emotions in Resistance

Although researchers know that marketers try to persuade consumers by using positive emotions, knowledge is lacking on how to resist these kinds of ads. What's necessary now is better understanding of how consumers can effectively deal with these emotions in order to resist advertisements. Erecting a bulwark against persuasion, as delivered by enjoyable and amusing advertisements, requires focusing on the *specific* emotions that marketers seek to produce in consumers.

Companies use amusing ads to influence us and more to the point, to make us smile with enjoyment. As mentioned earlier, consumers are directed into lower elaboration paths as they watch enjoyable and amusing advertisements. For instance, Speck (1987) claimed that in humor-dominated processing, humor serves as a heuristic cue for superficial – i.e., peripheral – processing, lowering defenses against persuasion. On this account, consumers might protect themselves against advertising's effects by “resisting” specific emotions that ads induce as part of their persuasive potential. They might accomplish this resistance by regulating their emotions when exposed to an ad (e.g., not smiling) away from the effects targeted by the ad. The literature supports the assumption that emotion regulation as here described may find a viable starting point in the bodily expression of emotion, as we will argue below.

Embodiment in Resistance

In a special issue on embodiment of the *Journal of Consumer Psychology*, Krishna and Schwarz (2014) presented recent findings demonstrating that consumers' attitudes and intentions are often embodied, at least partially. The implication is that the body plays a role in shaping people's minds. As such, bodily states or changes in bodily states serve as sources of information when forming attitudes and intentions (Herbert & Pollatos, 2012). In the context of advertising, embodiment means that people smile at an amusing ad and interpret the related feelings of happiness as information to evaluate the ad and the promoted product. In other words, smiling at an ad causes us to like it more. When seeking to resist ads of this type, self-regulating this almost reflexive smiling response might ultimately reduce liking for the ad.

Embodiment goes beyond a one-way association from attitudes and intentions to bodily states. Altering bodily states may well induce concomitant changes in attitudes and intentions,

just as changes in behavior may incite alterations in cognition, as shown in cognitive behavioral therapies. We hypothesize that consumers can resist advertising effects through modulating their “default” bodily response to the ad, including emotions targeted by the ad and the ensuing attitudes. Currently, evidence in the research literature to support this hypothesis is insufficient. Assembled findings on embodied emotion and the embodiment of attitudes that lead us to this novel hypothesis will be discussed below.

Shared Resistance

Obvious gaps exist in the literature where the effects of emotion regulation and embodiment are concerned. Similarly, the literature on persuasive effects reveals an emphasis on the individual consumer at the expense of other perspectives, such as group effects. Ads, like most forms of television programming, are often consumed in company, e.g., at home with family relatives, or friends. Ads that attempt to persuade using emotion or humor may derive added effect from emotion sharing in co-viewing persons. Consequently, a reasonable hypothesis might be that resistance to persuasion can likewise derive benefit from sharing emotion regulation across co-viewing individuals. We propose more specifically that mimicking emotional expressions of other viewers is key to shared emotion and shared regulation of emotion.

Shared emotion regulation may be relatively easy because the individual viewer of an ad is “supported” by a co-viewer. Expanding the unit of analysis from the individual to the group, we speculate that under some conditions, shared emotion regulation transforms into joint resistance to persuasion. In sum, we suggest embodied emotion regulation as a viable, new strategy for resistance to persuasion that can also be shared among co-viewing consumers.

General Aim

The aim of this thesis is to investigate if and how people can use their body to resist persuasion. More precisely, we investigate the role of one form of bodily expression, facial expression of emotion, in resistance to persuasion. We selected facial expression as the target factor in resistance because it may be considered a privileged point of application of emotion regulation (Izard, 1990). Facial expression is privileged among all emotion response components in the sense that it is most easily influenced by regulation, while the control of such bodily responses as facial expression can in turn affect all other emotion components. A secondary consideration for this choice is that recent research instrumentation enables us to measure facial

expression in ways suitable to assess whether it is possible to resist persuasion by controlling facial expression of emotion.

Our overarching research question reads: Is it possible to resist enjoyable advertisements by suppressing facial expression of happiness? We hypothesize that suppressive effects of down regulation of facial expression play a key role in what we will call *Embodied Resistance to Persuasion* (ERP), which we fully model in the theoretical framework below.

Theoretical Framework

The role of facial expression in Embodied Resistance to Persuasion is part of a theoretical framework summarized in the ERP model (Figure 1). We introduce each of the components and state the main tenets of the ERP model in subsequent sections.

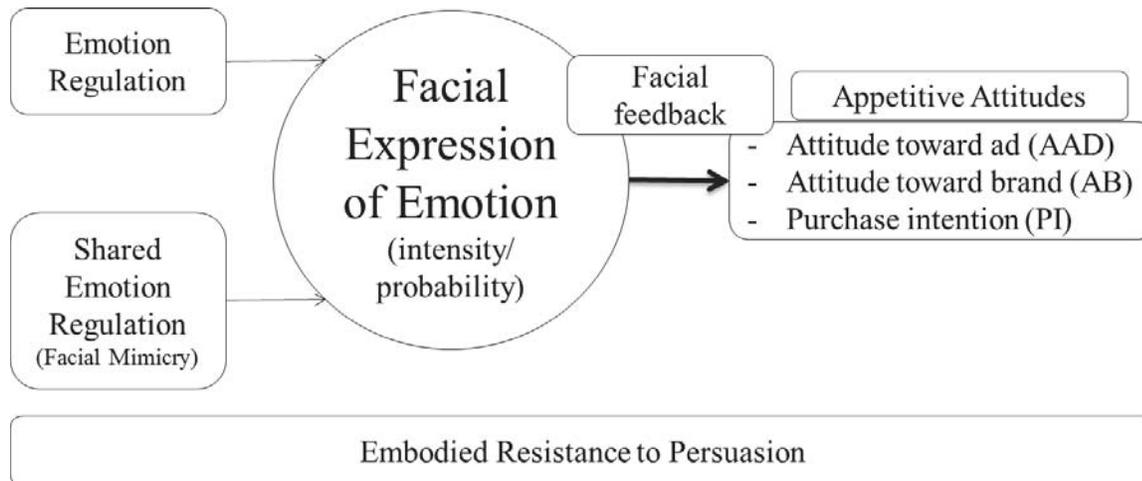


Figure 1. Model of Embodied Resistance to Persuasion

Emotion

Embodied Resistance to Persuasion is a particular form of emotion regulation, namely regulation in the service of resistance. We first must define what we mean by emotion and emotion regulation, mainly by singling out the definitions used from alternative theoretical approaches. Research on emotion has been dominated by Ekman's (1972) Basic Emotion Theory. New evidence (e.g., see Barrett, Mesquita, & Gendron, 2011; Russell, Bachorowski, & Fernández-Dols, 2003), however, has challenged this well-established theory, especially its claim that the commonly understood emotions are each discrete phenomena, category bounded, easy to produce and easily recognizable (Barrett, 2006; Russell, 2003). We chose the componential conceptualization of emotion as an alternative that, like the basic emotion view, permits labeling

emotions and expressions as categories, but unlike Basic Emotion Theory does not restrict the categorization of any emotion to a set of basic labels. On the contrary, emotions can be labeled according to outcomes of an ongoing process of *appraisal* of the emotional stimulus, giving rise to an essentially open set of labels. Obviously, the traditional basic emotion labels are not excluded from these outcomes.

The ERP model has its starting point in Scherer's componential process model of emotions (2004, 2009), which conceives emotions as synchronized reactions of modules that operate in interdependency (Scherer, 2001). As with all emotion theories, affect is the foundation of emotion. Emotion is thus comparable to a luxury variant of affect: It contributes to affect a number of component emotion processes notably 1) an elaborate appraisal of the stimulus, including feeling and action tendencies as component processes, and 2) preparation for action. Scherer's model conforms to the appraisal-action schema observed in all major emotion theories do. However, in our use of the componential model, the importance of the action component is especially pronounced. ERP subscribes to a premise not explicit in Scherer's model, namely that action readiness is a *sine qua non* for emotion (Frijda, 2007). We explore these concepts in more detail below.

This investigation parallels the distinction typically made between antecedent and response components in contemporary research on emotion regulation (Gross, 1998). Antecedent components of emotion include appraisal and global action readiness or motivation. Appraisal results immediately in an action orientation of the organism. We assume that an enjoyable ad is first appraised as funny and worth attending to, leading to global action readiness of the viewer, a motivation to approach or stay with the ad. This global approach readiness lacks specificity with regards to behavioral implementation. Emotional responses, as consequents, logically follow the outcomes of antecedent components, and consist of a) subjective feeling, b) physiological responses, and c) expressive responses, the latter including facial expression. A final emotional response is d) a specific action tendency. The action tendency response is a specification of the global approach motivation into appetitive attitudes, a point that receives further attention in the following sections. For instance, once an ad has been appraised as funny and worthwhile, it immediately instigates an approach tendency. The emotional response may consist of the consumer feeling positive and interested, exhibiting a decrease in heart rate and an increase of

happy facial expression. The response reflects a specific action tendency to keep watching in anticipation of more fun to come.

Facial expression. Facial expressions of emotion are semi-universal sequences of facial muscle contractions associated with the emotional state of a person. The traditional view of Basic Emotion Theory considers these expressions discrete, innate, and culturally universal (e.g., Ekman, 1972; Ekman & Cordano, 2011). However, evidence concerning the relationship between emotion and facial expression subverts the notion of basic emotion categories being related to fixed expressions (e.g., Jack, Garrod, Yu, Caldara, & Schyns, 2012; see Fernández-Dols, 2013 for a review).

Recent social and psychological constructionist approaches (e.g., Barrett, 2009; Mesquita, 2010; Russell, 2003) propose that distinct emotions do not have singular, unique manifestation in facial expression, and are likewise not considered natural kinds associated with dedicated brain circuits. We discuss this controversy because the main tool used in this thesis, the automated facial coding software, is theoretically and practically rooted in Basic Emotion Theory. However, we believe this fact does not prevent us from using the software with theoretical conceptualizations in mind other than Basic Emotion Theory – i.e., in line with the component process model of emotion and emotion regulation.

We consider in particular that the set of traditional basic emotion expressions may be part of the much larger or indeed open array of emotion-expression combinations. For instance, one may safely assume that a smiling person is in a happy mood (e.g., Reisenzein, Studtmann, & Horstmann, 2013). However, uncertainty arises when the question turns to what aspects of emotion are “expressed” through a smiling face. Following the logic of functional accounts of emotion, facial expressions have been argued to reflect forms of action readiness (Frijda, 2007). One way to test this proposal would be to present participants with happiness-inducing stimuli and determine whether their facial expression of happiness is predictive of action tendencies (and resulting appetitive attitudes) toward these stimuli, as we will do in this thesis.

The following practical example illustrates the use of attending to functional aspects of facial expression. Imagine someone observing you smiling intensely while watching an enjoyable commercial on television. This observer cannot be sure about your feelings at that particular moment but probably infers that when you are pulling your lip corner up (i.e., smiling), it means you are feeling happy. Frijda and Tcherkassof (1997) would argue that you are

not only smiling and feeling happy, but that you are also expressing favorable action tendencies to approach the commercial. Marketers and advertisers have taken note of this relationship because they are interested not only in how consumers emotionally respond to an advertisement, but probably even more so in how consumers' feelings relate to behavioral tendencies toward the commercials, products, and brands.

The next example will make this conceptual relationship more concrete. Suppose you are a salesperson demonstrating a new kitchen tool for a small audience that has the option of immediately buying the product. You observe during your presentation that your audience is amused. They smile unambiguously. Would you infer that they simply like what you are saying and doing, or can you infer from their smiles that they also like and want the kitchen tool?

Following the action tendency view of emotion expression, we will address the general question: Can we tell from facial expression whether consumers faced with a product presentation have a particular action readiness toward the product? More to the point is the question: Do they want it? We will subscribe to the hypothesis that facial expression of emotion reflects a state of action readiness (Frijda & Tcherkassoff, 1997). In addition, we argue that action readiness (Frijda, Kuipers, & ter Schure, 1989) in viewing ads takes the form of appetitive attitudes (as defined in Fishbein & Ajzen, 1975) toward ads, products, and brands.

Appetitive Attitudes

Fishbein and Ajzen's (1975; Ajzen & Fishbein, 1980) definition is the starting point for our conceptualization of attitudes as action-oriented emotional responses. An attitude is the sum of the beliefs about the outcome of one's behavior with regard to the attitude's object. Ads, brands, and products can be objects of attitudes and emotions. Eagly and Chaiken (2007) recently defined attitudes as specific beliefs, namely evaluations of experience with the object. Attitudes represent a tendency to "evaluate a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 2007, p. 598-599). The presence of a favorability evaluation is why attitude may be called appetitive.

Eagly and Chaiken (2007) distinguish three evaluative components in attitudes: cognition, affect, and behavior. These can be mapped onto the components of emotion. Cognition and affect evaluation correspond with appraisal of the object and global action motivation. For example, Breckler (1984) showed that affect measures correlated with physical distance taken to an object. The behavioral evaluation component of attitudes corresponds with

what exactly one emotionally would like to do with the object. For instance, a readiness of approach to an ad evaluated as funny is specified as a tendency to engage in interested exploration, to pay attention, be with the ad, identify or care for the brand, possess the product and others (see Frijda, 2007). In recent years, attitudes, too, have been considered embodied inclinations, that is attitudes involve a readiness of the body to act according to the evaluation (Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005).

In the realm of persuasive advertising, the ad itself, the brand, and product purchase intentions are objects of appetitive attitudes. Because the model of emotion adopted here involves synchronized rather than strictly subsequent emotion component processes, we can only loosely sketch the temporal aspect of the emotional process. While viewing an amusing ad, typically a readiness to approach arises in the wake of or simultaneous with its appraisal as funny. In addition, while viewing or immediately following an ad, this approach motivation corresponds to distinct appetitive attitudes, each having their own behavioral implementations. In this thesis, they include 1) immediate liking for the ad – involving a desire to attend it to the full and enjoy it; 2) brand liking – involving a tendency to identify with the brand – to associate the self with it; and 3) purchase intention – involving the tendency to put forth effort and invest resources to possess the product.

Emotion Regulation

Emotion regulation is a conscious or unconscious sequence of steps taken to control or change emotions. The process of emotion regulation starts when internal or external stimuli trigger, through a semi-stable individual threshold, the affective appraisal. The cultural- and individual-specific patterns of self-regulatory actions lead to modification of the default response and hence final behavioral outcome (Gross & Thompson, 2007). Emotion regulation is not necessarily effortless, as it involves substantial attentional resources (Gross, 1998; Gross & John, 2003) and hence leads to, for example, cognitive depletion (Wheeler, Briñol, & Hermann, 2007). However, we do not investigate the latter assumption in this thesis. We also are oblivious to the ongoing debate on the logical or empirical possibility of unregulated emotions (see Kappas, 2011). In addition, many types of emotion regulation have been reported (e.g., see Brans, Koval, Verduyn, Lim, & Kuppens, 2013). Reflection, rumination, and distraction are examples of emotion regulation strategies, but we focus on the two most general ones: antecedent- and response-focused strategies (Gross, 2002), which also fit well into our theoretical model.

Cognitive reappraisal is an antecedent-focused strategy. Reappraisal down-regulates and changes the perception of emotional events to become more objective and analytical, decreasing felt emotion. For example, someone who has recently lost a parent can think, “Dying is natural to life and it happens sooner or later.” Up-regulation leads to perceiving events in a subjective and involved manner, which increases felt emotion (Lazarus & Alfert, 1964). As a cognitive strategy, reappraisal modifies appraisal and action readiness. Importantly, cognitive reappraisal is capable of increasing resistance to temptation. For example, Leroy, Grégoire, Magen, Gross, and Mikolajczak (2012; 2012a) found that reappraisal could make a task more appealing and temptation less attractive, thus aiding in temptation resistance.

Expressive regulation is the response-focused emotion regulation strategy that can either suppress or amplify outward signs of inner feelings (Gross & John, 2003). Suppression of bodily expressions has an inhibitory function and is generally associated with poorer wellbeing and psychological functioning (e.g., Svaldi, Tuschen-Caffier, Lackner, Zimmermann, & Naumann, 2012). Amplification has an excitatory function, as it intensifies the organism’s physiological responses. People experience stronger emotion when activation of the sympathetic nervous system is amplified (Demaree, Schmeichel, Robinson, Everhart, 2004). Expressive regulation taps more directly into expression of emotion than cognitive reappraisal does.

Returning to our case of positive emotions provoked by enjoyable ads, we propose that amusing ads typically lead to an appraisal as “funny” and attractive, related to an approach motivation. This appraisal and the ensuing action readiness might be regulated, which would go toward controlling one’s attitude with respect to the amusing stimuli, e.g., an ad. Assuming such self-regulation is feasible, emotion regulation is a tool that consumers could adapt for purposes of their own “defense” against persuasive advertising. From this perspective, we believe that our study of emotion regulation will contribute substantially to the literature of resistance to persuasion. Emotion may be regulated through adjusting one’s thought patterns, feelings, or expressions. Expression regulation is crucial to embodied emotion regulation, a concept discussed below.

Embodied emotion regulation through facial expression. We posit that bodily expression is a privileged point of application for emotion regulation. A general argument for this assertion is that emotions as a whole (including attitudes as emotional responses) are themselves embodied. All component systems of emotion appraisal, global motivation, and

responses, that is specific action tendencies and expressions, have been shown to be affected by instructions or implicit cues leading to different body postures (Niedenthal et al. 2005). Therefore, it can be expected that the control of bodily expressions can affect all other emotion components. Next, several arguments exist in favor of specifically facial expression as a privileged nexus of emotion regulation among the bodily concomitants of emotion. Facial muscles are hypothesized to have direct, two-way connections with the experienced and expressed emotion (Friesen & Ekman, 1983). If facial expressions were merely a readout of emotion, then they would have no role in emotion regulation (see Izard 1990, for review), a notion we reject in this thesis.

Facial expression regulates emotion strength because facial expression feeds back on felt emotion intensity (Leventhal, 1984). Facial efference theory (Zajonc, 1985; Adelman & Zajonc, 1989; Zajonc, Murphy & Ingelhart, 1989) takes as a starting point the well-known fact that facial musculature is controlled by afferent input originating in the brain's emotion centers and adds to this that, in turn, facial musculature activates efferent neural output to the emotion centers. Research in support of facial efference theory presents compelling biological evidence of facial muscle contractions influencing affective experiences by regulating blood flow (most prominently in the nose area) to the brain.

The facial feedback hypothesis goes one-step further than postulating an efferent influence of expression on feeling. Indeed, this hypothesis is a “causal assertion that feedback from facial expression affects emotional experience and behavior” (Buck, 1980, p. 813). See Figure 2 for a forced “smile” muscle activation in the typical facial feedback experiment. Furthermore, Strack, Fritz, and Stepper (1988) found that a forced smile resulted in higher humor responses.



Figure 2. A forced “smile” muscle activation in the typical facial feedback experiment

Zajonc (1985) went on to demonstrate that “facial muscles act as ligatures on facial blood vessels and thereby regulate cerebral blood flow, which, in turn influences subjective feeling” (p. 16). For example, Zajonc, Murphy, and Inglehart (1989) asked participants to read aloud stories containing ü (U-umlaut), a vowel that involves action of the corrugator muscle and nostril constriction. Those two movements are typically part of negative emotion expression. As predicted, reading aloud “Jürgen,” “füchse,” and “hühner” lead to higher forehead temperatures in contrast to stories containing “Peter,” “hunde,” and “katzen,” because hypothetically the utterance of ü caused an airflow cooling the brain. This efferent influence presumably caused differences in experienced emotion. Participants reported liking the non ü-story more even when participant origin, content recall, or interest in German language were controlled for.

In sum, ERP could in principle deploy other means than facial expression or facial expression alone (e.g., breathing slowly or shaking the head in “no” gesture), but facial expression is an essential and arguably privileged component of embodied emotion regulation. Therefore, we focus in this thesis on facial expression.

Shared emotion regulation: Facial mimicry. Emotion regulation often occurs in the presence of others. We propose that a special form of embodied emotion regulation is mimicking others’ facial expression and that facial mimicry is more spontaneous than emotion regulation. Response- and antecedent-focused emotion regulation is typically private. On the other hand, people often view ads together. One way, then, that emotion regulation might be extended from

the isolated individual to a social situation involving a co-viewer is through unconscious mimicking of facial expression.

Facial mimicry is the action of specific muscles in response to others' facial expressions. (Bush, Barr, McHugo, & Lanzetta, 1989). This phenomenon occurs automatically and spontaneously whenever another person is co-present and visible. The mere perception of facial expressions of others' emotions activates observers' facial muscles – as measured by facial electromyography – that correspond to the perceived emotion (Dimberg, 1982; Lundqvist, 1995). Facial mimicry occurs fast – within 300 milliseconds (Dimberg, Thunberg, & Grunedal, 2002) – and it may even be an innate aspect of perceiving others (Niedenthal et al., 2005). Importantly, we adopt Bush et al.'s (1989) definition of facial mimicry because it involves the process of “modulation of a subject's own expressive displays” (p.32) rather than one-to-one mimicry outcomes.

We propose that mimicry combined with facial feedback results in shared emotion. An example is that when two persons mimic each other, mutual feelings of liking are enhanced (for a review, see Lakin, Jefferis, Cheng, and Chartrand, 2003). As far as the mimicked other is regulating their emotion involving facial expression, the perceiver will follow the other in the regulation. Through this process, expression of emotion and its regulation in one individual will affect co-viewers and vice versa. In other words, facial mimicry may be the vehicle for interpersonal sharing of emotion but also of interpersonal sharing of regulation.

Competent consumers may deploy shared emotion regulation. For instance, imagine that a parent's disapproving facial expression in reaction to an ad of appealing but sugar-rich chocolate bar is mirrored by a change in the expression of a child watching the parent. Owing to properties of facial feedback, the child's initially positive facial expression is down-regulated, leading to suppression of the child's positive feelings toward the amusing advertisement of an unhealthy but appealing chocolate bar.

Aims of the Studies

Broadly speaking, we study resistance to persuasion tailored to the intended emotional effect the ad tries to achieve. We focus on resistance toward persuasion by facial expression manifested in emotion regulation and facial mimicry. The latter phenomenon expands the notion of embodied emotion regulation to social situations of individual consumers watching ads in the company of others. Our primary aim is thus to investigate the role of facial expression

in suppressive emotion regulation for embodied resistance. A secondary aim is instrumental to the former. Before we can test the role of facial expression in emotion regulation and resistance, we need an objective measure of facial expression for our research of consumer emotions. Automated facial coding will be validated for its efficiency in measuring facial expression as an index of embodied resistance to persuasion. In doing so, we pose the following three hypotheses.

Research Questions & Hypotheses

The first, basic question is whether facial expression reliably predicts attitude change. We study this question in Chapters 2 and 3. The second question, explored in Chapter 4, is if emotion regulation of facial expression helps in resisting persuasion. Chapter 5 focuses on a final question, namely whether a shared form of emotion regulation – facial mimicry – influences facial expression and therefore attitudes of the consumers. In sum, the three hypotheses (H) are:

During exposure to an enjoyable ad:

- H1: Facial expression of happiness predicts intensity of appetitive attitudes;
- H2: Suppressing facial expression of emotion helps consumers in downward regulation of appetitive attitude;
- H3: Mimicking other consumers inhibits target consumers' facial expression of happiness and subsequently their appetitive attitudes.

Overview of Experimental Studies

In the present chapter (Chapter 1), we have presented the tenets of our model of Embodied Resistance to Persuasion (ERP). Chapter 2 paves the way for testing some of these tenets by reporting a validation study of our main instrument. Because we study ERP through facial expression, we first need to establish the validity of an automated facial coding tool that we use in the studies reported in subsequent chapters. Chapters 3 through 5 report tests of selected elements of the ERP chain. In Chapter 3, we evaluate the core premise of our ERP model in the first facial coding experiment. We demonstrate that intensity of the facial expression predicts the intensity of consumers' appetitive attitudes in response to enjoyable advertisements. In Chapter 4, we thoroughly test consumer resistance to persuasion through embodied emotion regulation in seven facial coding experiments. So far, the viewing situation is limited to the individual consumer watching an ad in isolation. Chapter 5 adds tests of shared ERP where we demonstrate effects of facial mimicry on consumers' attitudes and intentions in three experiments. A brief final chapter (Chapter 6) recapitulates major findings and provides

implications and considerations for future research. For an overview of the empirical chapters in this thesis testing specific components of our ERP model, see Figure 3 and see below.

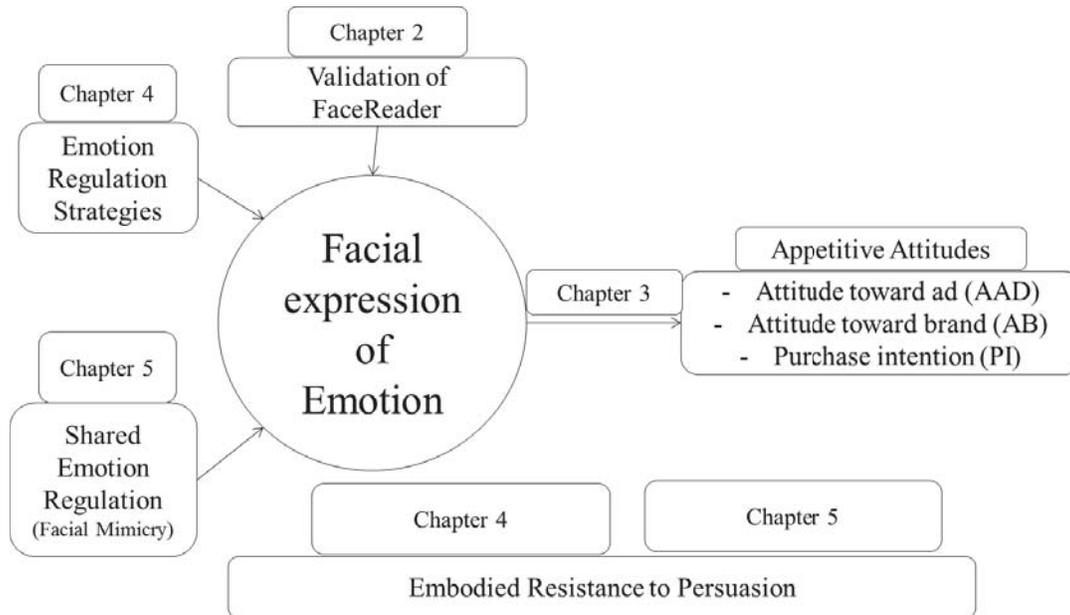


Figure 3. Overview of empirical chapters in this thesis testing specific components of our ERP model.

Chapter 2 – FaceReader Validation

Chapter 2 introduces and validates FaceReader – a tool for automated facial coding. Previous methods, e.g., manual facial coding or facial electromyography, did not allow for large-scale experiments necessary to study the effects of ERP via facial expression. However, automated facial coding is still a relatively new method, the first tools having been available commercially only since 2005. We demonstrated the validity and reliability of such a tool – FaceReader (Noldus, 2014) – in a series of basic emotions and F(acial) A(ction) C(oding) S(ystem) recognition studies. We showed that on average, FaceReader recognized 88% of the target basic emotion expressions (Ekman, 1972; Ekman & Cordano, 2011) and reached .69 FACS index of agreement (Ekman, Friesen, & Hager, 2002). Participants’ gender or ethnicity did not meaningfully affect recognition performance. Thus, we were fully satisfied with the software’s performance for the purposes of the experiments in Chapters 3-5.

Chapter 3 – Facial Expression Is Part of Consumers’ Attitude

In Chapter 3, participants viewed amusing advertisements. An emotional response to the ads may be assumed to involve Frijda’s action tendencies (2007), such as *approach* and *be with*

the ad and the brand, and to *possess* displayed articles. In this study, approach and be-with tendencies were operationalized as ad liking (AAD) (Phillips, 2000) and brand liking (AB) (Chattopadhyay & Basu, 1990). Participants were recorded watching three popular high, medium, and low amusing video advertisements. Facial expressions during exposure to the commercials were coded using FaceReader. Ad and brand liking were measured afterwards. In the high and medium, but not in the low amusement conditions, positive correlations were found between happiness scores and appetitive attitudes (i.e., attitude toward the ad and the advertised brand). No such correlations were obtained for any other basic emotion (sadness, anger, surprise, fear, disgust) in any conditions. We propose to have found initial support for the hypothesis that facial expressions not only reflect communicative intent, feeling, mood, or appraisals, but also may equally reflect appetitive attitudes.

We also introduce a novel method to gather ecologically valid facial expression responses from consumers' own devices while in their homes or offices through a web-based facial coding platform that we use in the next experiments. We claim primacy in demonstrating this particular method of web-based facial coding. A similar study by Teixeira, Picard, and el Kaliouby (2014) was accepted and available (*in press*) in February 2014 for publication in *Marketing Science*, while our article was accepted and already available in August 2013 in the *Journal of Neuroscience, Psychology and Economics*. Their article was published in May 2014, ours in March 2014.

Chapter 4 – Consumer Resistance through Embodied Emotion Regulation

Facial expression predicts consumers' attitudes, as established in Chapter 3. Chapter 4 follows with an investigation of how the relationship between facial expression and attitudes can be modified or even negated. Across seven experiments, we showed that response- and antecedent-focused emotion regulation decreases (increases) positive (negative) responses to a variety of advertisements. In five experiments with amusing advertisements, we demonstrated a causal mediation path from emotion regulation to expression and further down to attitude change, although we did not fully replicate the same pattern for disgusting ads.

Chapter 5 – Consumer Resistance through Shared Emotion Regulation

In Chapters 3 and 4, consumers watched the advertisements by themselves; however, people often watch ads together, and this is why we simulated a co-viewer using an avatar in the studies reported in Chapter 5. Across three experiments, we demonstrated that during exposure

to an amusing advertisement, shared emotion regulation modified consumers' happiness and subsequently their appetitive attitudes. Specifically, we found that consumers' incompatible mimicry – manipulated through a “disgusted” avatar – decreased their felt and expressed happiness, which in turn caused lower attitudes and intentions. To precisely manipulate facial mimicry in the main studies, we developed an innovative method of virtual avatars embedded into an advertisement that we described extensively. We concluded that resistance to persuasion is enhanced by the presence of skeptical co-viewers that express their “negative attitudes” through facial expression.

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