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Memory, emotions and rock 'n' roll: The influence of music in advertising, on brand and endorser perception

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This study addresses the extent to which music is capable of modifying the consumer's perception of the endorser and the brand. A sample of 540 subjects was exposed on random to one of four versions of an experimental radio commercial for a fictitious brand of mineral water differing only in the selection of the background music. The results indicate that music in advertising can significantly influence the perception of the brand endorser, and that the impressions of the brand could be manipulated by means of specific music pieces. The findings of the study also emphasize the effect of music in advertising on emotional reactions and memories evoked. Implications for advertising practitioners are discussed.

Key words: Music in advertising, memory, emotional reactions, brand perception, endorser impression, brand conditioning, brand attitude.

INTRODUCTION

Music composed with the purpose of selling consumer goods and services makes up a fair proportion of the songs, jingles, and melodies encountered by the public on a daily basis. Whether we go shopping, listen to the radio, watch television, or surf the internet, we are likely to be exposed to music that is crafted with the explicit purpose of supporting sales (Jantzen and Graakjaer, 2009). Music is a determining factor of advertising, it is capable of attracting the attention, conveying implicit and explicit messages, influencing perception in many ways, evoking emotions and helping to retain information (Gorn, 1982; Alpert and Alpert, 1991). Music is considered having a similar potential impact as visual instruments, and it may come to account for more than 50% of advertising effects (Kellaris et al., 1993). An adequate fit between music and the promoted brand may contribute to communication effectiveness by enhancing purchase intent, brand attitude, recall facilitation, and affective response (Oakes, 2007). Music communicates with consumers' hearts and minds, it serves as a powerful connection into emotions. Overall, apart from fixing memory

memory in people's minds, music's main function in advertisement is to generate emotions (Dunbar, 1990; Lavack et al., 2008; Shen and Chen, 2006; Alexomanolaki et al., 2006; Oakes and North, 2006; Morris and Boone, 1998; North et al., 2004; Yalch, 1991; Park and Young, 1986). Nevertheless, in spite of its importance, the influence of music on the perception of the brand endorser and the brand itself has been only scarcely researched. The concept of brand endorser refers to a person who appears in commercials of the brand and advertises it through his or her image and voice, and/or the use of the product. Brand endorsers connect with consumers, and give an imaginary face to a brand through their appearance, their voices and their personalities (Debevec and Iyer, 1986). The study presented here addresses the extent to which music is capable of modifying the consumer's perception of the endorser and the brand, as well as the effect of emotional reactions and memories evoked by music in advertising on brand attitude. Conceptually, this study is constituted of two parts. The part of the study focusing on music's influences on endorser and brand perception is based on Zander's (2006) framework and research method, while for the analysis of the relations between emotions, memories and brand attitude a conceptual model was developed and tested in the scope of a structural equation

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analysis.

Effects of music on consumer's emotions and memory

Marketing is resorting to the music industry and its stars to generate effective brand communication strategies. Recent research in marketing highlights the significant influence that music can exert over the human brain and, consequently, on purchasing behaviour, through its powerful effects on consumer's emotions (Levitin, 2007; Konecni et al., 2008; Juslin and Sloboda, 2001; Gabrielsson and Juslin, 2003). Three basic components of emotional responses associated with music can be distinguished: the individual's subjective experience, expressive or observable behaviour and physiological responses (Scherer, 1993). People have a subjective emotional experience when they listen to music (Krumhansl, 1997; Sloboda, 1992; Waterman, 1996) and they may present expressive behaviour (e.g. people cry or display certain facial expressions that can be recorded by means of an electromyogram; Witvliet and Vrana, 1996). Also physical reactions due to the emotions felt towards music can be recorded (e.g. differences in their cardiorespiratory response in accordance with the emotions triggered; Nyklicek et al., 1997).

Studies using neuro-imaging techniques have revealed that the brain structures involved in processing emotions, such as the limbic system (e.g. the amygdala and the hippocampus) and the para-limbic system (insular and frontal orbital cortex), also seem to be responsible for our appreciation of emotion in a musical melody (Koelsch et al., 2006). Melodies considered as dissonant, which tend to produce negative emotions, activate areas such as the hippocampus, the parahippocampal gyrus and the amygdala, which are traditionally associated with the processing of negative emotional stimuli (Blood et al., 1999; Koelsch et al., 2006). Similarly, "consonant" melodies, which evoke pleasant emotions, have been correlated with the deactivation of the amygdala and the hippocampus (Blood and Zatorre, 2001), and with the activation of structures in the ventral striatum such as the nucleus accumbens and the insula (Brown et al., 2004; Koelsch et al., 2006; Menon and Levitin, 2005). Findings also revealed how slow-tempo music produced significantly enhanced affective response (satisfaction, positive disconfirmation of expectations, and relaxation) compared to fast-tempo music (Oakes, 2003).

Levitin (2007) lays out a possible neural basis for the relation between music and emotions. He observed that the cerebellum, typically associated with non-conscious timing and movement, appeared to take an active role in tracking the beat of a song, and the cerebellum becomes active in response to liking or finding music familiar. Levitin posits that, like the responses to sexual stimulation and drug consumption, music increases the

release of hormones in the brain, mainly endorphins (dopamine and adrenaline) and oxytocin, giving rise to activity in the circuits of the brain associated with the autonomous nervous system. It can faithfully produce physical reactions such as perspiration, sexual excitation and trembling or shivering in the spinal column.

Music also has a great power to evoke memories (Radocy and Boyle, 1997; Yalch, 1991; Kineta, 2000). Many researchers believe that music is encoded in the brain by the perceptual memory system, which organizes auditory information into melodies and rhythms, rather than by the semantic memory system, which encodes meaning (Jäncke, 2008). Researchers have suggested that the reason why music memory is better preserved than verbal memory is because - unlike language - music is not located in one specific area of the brain but processed across many different parts (Smith, 1985; Chan et al., 1998). Consumers associate songs with emotions, people, and places they have experienced (Snyder, 2000). Thus, music can activate memories (Gabrielsson, 2001; Sloboda, 1992), and when memory is activated, the emotion associated with that memory is also evoked (Baumgartner, 1992). *Episodic memory* - which refers to a process whereby an emotion is induced in a listener because the music evokes a memory of a particular event in the listener's life - is one of the induction mechanisms that have commonly been regarded as less "musically relevant" by music theorists, but recent evidence suggests that it could be one of the most frequent and subjectively important sources of emotion in music (Juslin and Sloboda, 2001; Juslin and Västfjäll, 2008). MacInnis and Park (1991) coined the term "indexicality" to define the extent to which music may induce strong emotions that are tied to past experience. Many listeners actively use music to remind them of valued past events, which indicates that music can serve an important nostalgic function in everyday life (Osborne, 1980).

Effects of music in advertising

In the specific context of advertising, music has been suggested as one of the main memory-stimulating factors (Snyder, 2000). Also, Huron (1989) posits that one of the basic ways in which music contributes to an effective advertisement is memorability. Thus, music that accompanies advertising may help remembering the brand. According to North et al. (2004), brands that are clearly defined by a given type of music are 96% easier to remember for consumers than those which use no sound of any kind. Wolfe (2001); Jantzen and Graakjaer (2009) stress the ability of music to create cognitive associations (melody - brand) through learning and their fixation in memory by means of associative memory. Associations between a melody and a brand may be established very quickly in the minds of consumers after

their exposure to an ad, to the extent that they subsequently find it difficult to identify or associate that brand with a different melody. Based on these findings, we suggest the following hypothesis to be tested in the empirical study:

H₁: The joint exposure to a specific piece of music and a brand establishes an associative link between that music and the brand that leads to the identification of the brand with that specific music.

Apart from its effects on memory, music plays a significant role in advertising because it attracts attention, transports implicit and explicit messages and generates emotions. Previous findings can be attributed to three predominant concepts in advertising research (North and Hargreaves, 1997): the classical conditioning paradigm, the Elaboration Likelihood Model (ELM) and the concept of musical fit.

Classical conditioning with music

A brand can be conditioned, that is, associations can be established with that brand as a consequence of the consumer's exposure to brand advertising. The theories on "brand conditioning" or "emotional conditioning" (Kroeber-Riel, 1984; Burke and Edell, 1989) are derived from Pavlov's (1927) classical conditioning theory. Conditioning mechanisms in human behaviour have been extensively researched as a means to address persuasion situations, through which a "transfer of affect" takes place from one stimulus to another (Allen and Madden, 1985; Allen and Janiszewski, 1989; Bierly, McSweeney and Vannieuwkerk, 1985; Brown and Stayman, 1992; Gorn, 1982; Janiszewski and Warlop, 1993; Kim et al., 1996; Stuart et al., 1987; Kim et al., 1998; Shimp, 1991).

Classical conditioning implies that pairing a product (neutral stimulus) with a well-liked piece of music (unconditioned stimulus) will produce an association between the two, and therefore a preference for the product (a conditioned response). One of the most popular experiments regarding the effects of music in advertising was Gorn's (1982) experiment. Keeping to the classical conditioning approach, he paired a light blue or a beige coloured pen (neutral stimulus) with both well-liked and disliked music (unconditioned stimulus). Seventy-nine percent of the subjects chose the pen with music they liked - a conditioned reaction. Further studies by Bierley et al. (1985); Tom (1995) supported Gorn's results, while other researchers (Allen and Madden, 1985; Pitt and Abratt, 1988) did not arrive at the same conclusions. Middlestadt et al. (1994) doubted that studies using the classical conditioning paradigm could measure affective reactions to music. However, they found that music was able to highlight different features

of products, to influence the recipients' feelings, and as well to influence their beliefs. Scherer and Zentner (2001) defined the affective changes that music is supposed to produce in the listener and identified the determinants of the listening situation including the musical structure of the piece, relevant listener state and trait characteristics, and respective context.

Music processing and the elaboration likelihood model

The Elaboration Likelihood Model (ELM) proposed by Petty and Cacioppo (1981) and the involvement-concept connected with it examined the topic in more detail and provided an integral basis to explain contradictory findings. ELM postulates two ways of changing or creating one's attitudes: a central route and a peripheral one. In theory, attitudes are defined as general evaluations of ourselves, other persons, objects or facts. These general evaluations rely on behavioural, affective and cognitive experiences and influence our behaviour, our emotions, our preferences and our knowledge. Attitudes are influenced through the central route when one has the motivation, opportunity and ability to carefully process information about a product. Then, the likelihood of elaboration is high and the person is in a state of high involvement with the product. If there is no motivation, opportunity or ability to process the product information, the peripheral route of persuasion remains in the foreground. Here, attitudes are formed less by active thinking about the object and its characteristics than by positive or negative associations with the object caused by music. The person in this case is in a state of low involvement with the product and conditioning effects are more likely. In a state of high involvement, the tendency of music to evoke emotion should disturb the recipients' purpose to elaborate the information within a commercial. The ELM was supported by several studies involving cues other than music (e.g. Petty et al., 1983; Stuart et al., 1987). Related musical effects were examined by Park and Young in 1986. As predicted by the ELM, music influenced subjects best in a state of lower involvement and disturbed subjects in a condition of high involvement. Recently, Olsen (2002) showed that information without sound is recalled better than information highlighted with music. Along the lines of the ELM, Chebat et al. (2001) described a model predicting that the effects of music on attitudes are moderated by cognitive processes (number of thoughts and depth of information processing).

Musical fit

MacInnis and Park (1991) argued that music that fits the ad that interacts with the recipients' individual perception of its relevance or appropriateness towards the central ad

message and product, may also have a positive effect on consumers in a state of high involvement: when elements of a stimulus set correspond with other items in the set, the individual parts are not perceived as separable, do not compete with one another for cognitive resources, and hence create 'emergent meaning'. In their experiment, the authors emphasized that music conforming to the commercial and its elements was able to change high-involvement consumers' attitudes positively because it literally 'undercoated' their convictions about the commercial's content. Thus, music here was less effective in influencing the attitudes toward the advertisement (as the classical conditioning approach would suggest) than by transporting and activating (further) relevant information. Hung (2000; 2001) considered the process by which consumers use music to create meanings. Her results indicated that the recipients' knowledge of cultural texts form a reference point for reading commercials. Music in congruent ads reduced 'noise' by reinforcing the connecting cultural context to communicate meanings (Mattila and Wirtz, 2001).

Different musical styles may provide different information for the same product. For example, either a rock song or a classical work could be used in a commercial for a car, which is considered as a typical high involvement product (Baker, 1993; Kroeber-Riel, 1993). The rock song would probably underline consumers' beliefs about the power, speed and competitiveness of the car, whereas the classical piece might emphasize beliefs about its interior trim, luxury and elegance. According to the idea of musical fit, both versions would make sense in their aim to transport relevant information about the car because both are congruent.

The influence of music on brand and endorser perception

Most previous research on music in advertising has been centred in the influence of music on attitudes towards the brand, the ad itself, and buying intentions (Gorn, 1982; Kellaris and Cox, 1989; Hung, 2000). Less attention has been paid to its effect on brand image, and its possible influence on the perception of the brand endorser has been scarcely attended. A testimonial or endorsement consists of a written or spoken statement, either from a celebrity or a common person, highlighting the virtue of some product or brand. Several studies have linked characteristics of an endorser to differential levels of persuasion, focusing primarily on endorser's attractiveness, similarity of the endorser to the recipient, endorser expertise and trustworthiness (Wilson and Sherrell, 1993). Endorsers have been found to be most effective when they are viewed as relatively attractive, similar to the audience, perceived as trustworthy and as more expert (Till and Busler, 1998). Nevertheless, the way in which music can influence the appraisal of an endorser's personality in an ad has been barely studied, with the exception of

Zander's (2006) study revealing a significant influence of music on endorser and brand perception. Regarding the abovementioned findings on perceptual effects of the exposure to music, we suggest in the following hypotheses that music in advertising may have a significant effect on the appraisal of the brand endorser's personality and the perception of the brand itself.

H₂: The exposure to different pieces of music leads to different impressions of the brand endorser.

H₃: The exposure to different pieces of music leads to different impressions of the brand.

The effect of emotional responses to music on brand attitude

There has been extensive research on the impact of affective reactions on attitude toward the advertisement and the brand. Emotions or feelings are postulated to affect the thinking response or information processing through mood states (Gardner, 1985; Bruner, 1990; Alpert and Alpert, 1991). Emotions can be associated with a brand, for example, through classical conditioning (Gorn, 1982). Positive emotional states can lead to a favourable attitude toward the ad, which then becomes associated with or transferred to the brand (Mitchell and Olson, 1981; Ray and Batra, 1983; Shimp, 1991; Kroeber-Riel, 1979). Music has been shown to induce either a pleasant or unpleasant affective state in advertising (Gorn et al., 2001). Products presented with music inducing a happy mood were liked better than products associated with an unhappy mood, unless consumers were aware of the source of their mood (Gorn et al., 1993). Also, music can be a critical component of store atmosphere and play, as such, a role in the purchase decision making process (Areni and Kim, 1993).

The influence of affect on decision-making has been proposed as a series of sequential events, beginning with the perception of an emotionally active stimulus, followed by an underlying affective state (unconscious at first and then conscious), then giving way to attributional or cognitive processes (brand assessment) and concluding with a behavioural act (Damasio, 2000; Bechara et al., 2000). Based on this approach, more recent studies conducted in affective neuroscience and neurology posit the activation of different neuronal circuits related to the anticipation of emotions that precede the purchase decisions consumers make, with these reaching the conclusion that the prospects of reward or punishment are what govern purchase decisions (Winkielman et al., 2007; Knutson et al., 2007). Accordingly if, as some scholars contend, music perceived as pleasant acts as an emotional reward stimulus for the consumer (Small et al., 2001; Blood and Zatorre, 2001; Levitin, 2007), then the use of this type of music in adverts favours the arousal of positive emotions in the latter, with the result of

an increase in their levels of brand attitude (Derbaix, 1995; Gorn et al., 2001). This leads us to suggest the following hypothesis:

H₄: An increase in the degree of positive emotional reactions evoked by the ad's music leads to a more favourable brand attitude.

Furthermore, several studies point to the preference for familiar songs or music (as opposed to those that are unknown) in advertising, as they generally generate a greater positive emotional response in consumers (Park and Young, 1986; Hébert and Peretz, 1997). This is due to the fact that in addition to the pleasant emotions caused directly by the exposure to music, there may also be an effect on the recall of past pleasant events (Peretz and Zatorre, 2005). Remembering pleasant situations in the past may have the effect of producing a similar level of endorphins as the past situation (Wallace, 1994; Pavelchak et al., 1988; Keller, 1987). This mechanism may lead to favourable effects on brand attitude, if pleasant emotions related with memories are associated with a brand through advertising exposure. The following hypotheses are suggested:

H₅: An increase in the degree of pleasant past experiences evoked by the ad's music leads to more positive emotional reactions.

H₆: An increase in the degree of pleasant past experiences evoked by the ad's music leads to a more favourable brand attitude.

METHOD

Experimental design

In order to address the hypotheses, an experimental field study was carried out, based partly on Zander's (2006) research method. The experimental design comprises one experimental factor - type of music- and four groups -three experimental groups and one control group. Personal interviews were conducted on a sample of 540 individuals (249 males and 291 females) aged 16 to 65, selected through random sampling (street interviews), and establishing age quota (50% between 16 and 40 years old, 50% between 41 and 65). Each subject was previously to the interview on random assigned to one of the three experimental groups or the control group and exposed to one out four different versions of an experimental radio commercial. Individuals pertaining to the three experimental groups were exposed each to one of three versions of the commercial featuring music, while subjects of the control group were exposed to a version of the commercial without music. The commercials featured an experimental brand of mineral water with the fictitious name 'Avora' and were produced for the purpose of the study in a radio recording studio. A professional radio speaker lent her voice to the endorser promoting the brand. The four experimental versions of the commercial differed in the selection of the background music (Table 1). A lively, joyful and easy-listening piece by Alec Gould (1998) entitled 'Soft Shoe' was added to the commercial presented to subjects assigned to group 1 (Music I). In the booklet accompanying the CD, the genre of this piece is described as 'entertainment' and 'amusing swing'. Group 2 listened

to a different version of the commercial. Slow, calm and contemplative music was in the background. The title of this composition of Mladen (2001) is 'Worth to Remember', it is described as an 'introspective, thoughtful piano ballad' (Music II). For group 3, "What a Wonderful World" was used (Music III). All music pieces were instrumental versions for the text of the song neither to interfere in the evocation of memories, nor to be associated with other types of emotional stimuli (Blood and Zatorre, 2001).

Despite being different in character (Table 1), all three pieces were considered as individually congruent with the commercial's content in terms of musical fit. Music pieces I and II stem from Zander's (2006) experiment. They were originally selected in collaboration with several advertising professionals. A detailed report of MacInnis and Park's study (1991) was given to the experts. Each expert presented three proposals of message-congruent music pairs. The final music pieces were selected on the criteria of musical fit (music-message-product congruency) and variety range. Music I was meant to highlight the refreshing and sportive aspect of the mineral water, whereas Music II emphasized its health and relaxation aspects. The third music piece "What a Wonderful World" was selected in previous qualitative research with university students. From a selection of music pieces, participants reached an agreement on which of the pieces presented was both well known and liked and would evoke a natural origin of the product. "What a Wonderful World" turned out to be most liked and known to all participants. Finally, subjects assigned to the control group (group 4), were exposed to a version of the radio commercial without background music.

Subsequent to the exposure to the experimental commercial, participants were surveyed on a number of items regarding their emotional reactions, memories evoked, endorser and brand perception. After the main survey, each of the individuals assigned to group 1 to 3 was exposed to all 3 versions of the ad and subsequently asked to point out which music piece would best fit for the promoted brand.

Measurement

The development of measurement scales and indicators was based on the literature and several qualitative focus group sessions. To assess the impressions of the endorser, a scale based on the personality inventory Gie en Test (Beckmann et al., 1990) was used. This measurement scale focuses on persons' social attitudes and social behaviours from a psychoanalytical and sociopsychological approach. For the measurement scale used, 18 bipolar items from the original Gie en Test were selected. Scales scored from -3 to +3. With regard to brand perception, this construct was measured as a multi-item construct on 10- point Likert scales (Osgood et al., 1957; Ertel, 1969; Aaker, 1997).

Likewise, the degree of pleasant memories evoked by the ad's music was also measured using ten-point Likert scales (Snyder, 2000). The variable emotional reaction evoked by the ad's music was assessed by a semantic differential scale, with scores from -3 to +3, using three items of antagonistic emotions (Oakes and North, 2006). Finally, in accordance with research within the field of *brand attitude* (Kim et al., 1998; Allen et al., 1992; Petty et al., 1991; Mitchel, 1986), this variable was established as a bidimensional construct through the indicators "overall appraisal" and "intention to buy" with scores from 1 to 10, using the pair of bipolar items: "I didn't like it at all / I liked it a lot", for the case of overall brand appraisal (Kempf and Smith, 1998) and "I'm sure I wouldn't buy it / I'm sure I would buy it", for the case of intention to buy (Homer, 1990; Miniard et al., 1990). Constructs and indicators are depicted in Table 2 and 4.

The measurement scales of the constructs brand attitude, pleasant memories evoked and emotional reactions were tested by confirmatory factor analysis (Table 2), as they were subsequently

Table 1. Music pieces used as experimental condition.

Music I: "Soft Shoe"	Music II: "Worth to Remember"	Music III: "What a wonderful world"
<i>Composer:</i> Alec Gould (1998) <i>Style:</i> Amusing swing	<i>Composer:</i> Mladen Franko (2001) <i>Style:</i> Piano Ballad	<i>Composer:</i> Bob Thiele and George David Weiss, first performed by Louis Armstrong (1967).
<i>Key/harmonization:</i> 79% major <i>Tempo:</i> 115 beats per minute	<i>Key/harmonization:</i> 56% minor <i>Tempo:</i> 70 beats per minute	<i>Style:</i> Instrumental

Table 2. Confirmatory factor analysis: standardized regression coefficients, correlations, variance extracted, construct reliability, model fit ($p < 0.001$ in all regression coefficients).

Indicator	Factor		
	Pleasant memories evoked	Positive emotional reactions	Brand attitude
Pleasant memories	0.94		
Remembering pleasant experiences	0.96		
Pleasure		0.73	
Happiness		0.67	
Passion		0.83	
Overall brand appraisal			0.94
Intention to buy			0.91
Correlations			
Positive Emotional Reactions	0.58		
Brand Attitude	0.76	0.55	
Extracted variance	0.90	0.56	0.85
Reliability	0.95	0.79	0.92
Model Fit:	CHI ₂ =20.56, p=0.04, RMR=0.09, GFI=0.99, AGFI=0.97, NFI=0.99, CFI=0.99, RMSEA=0.04		

Note: RMR = root mean square residual, GFI = Goodness-of-Fit Index, AGFI = Adjusted Goodness-of-Fit Index, NFI = Normed Fit Index, CFI = Comparative Fit Index, RMSEA = root mean square error of approximation.

treated as latent variables in the scope of a structural equation analysis. Criteria for model fit (Hu and Bentler, 1995; Jöreskog and Sörbom, 1984; Steiger and Lind, 1980; Kaplan, 2000) indicate adequate fit. The dimensionality of the constructs was established following Anderson and Gerbing (1988). Factor loadings of all indicators are significant ($p < 0.001$) and exceed the minimum recommended value of 0.50. Furthermore, the variance-extracted measures exceed the square of the correlation estimate in all constructs. Also, variance extracted and construct reliability exceed recommended thresholds (Bagozzi and Yi, 1994; Fornell and Larcker, 1981; Hair et al., 1998).

RESULTS

A contingency analysis of the variable "music best suited for the brand" was carried out to address Hypothesis 1 on an associative link established between music and a brand as a consequence of the mere joint exposure to both. The results show that respondents preferred significantly (72.8%) the music to which they were

exposed initially as the experimental condition, regardless the particular piece of music (Table 3). The fact that respondents considered the initial music piece as the most suitable indicates that an associative connection between the brand and that specific music piece was established and, remarkably, rather quickly through a single exposure, thus confirming Hypothesis 1.

An analysis of variance (ANOVA) was performed to test hypotheses H2 and H3. The results show that, as predicted, the exposure to different pieces of music led to different impressions of the brand endorser and the brand (Table 4). With regard to the endorser perception, significant differences were observed in nearly all items of the measurement scale, with the sole exception of item pairs *daring-reserved* and *untidy-tidy*. Subjects exposed to the ad with the faster background-music I perceived the endorser, for instance, as significantly less relaxed, more vigorous, less reliable, happier, younger, and more enthusiastic. When subjects were exposed to music piece

Table 3. Music piece best suited for brand (observed frequency, Pearson's chi- square, p).

Experimental condition	Music best suited for brand		
	Music I	Music II	Music III
Music I	98	30	15
Music II	20	84	7
Music III	17	21	113
Music piece from initial experimental condition best suited: 295 (72.8%)			

N=405 (observations ads with music); Chi-square = 291.11; P < 0.001.

II with a slow rhythm, the endorser was perceived more relaxed, mature, obstinate, disciplined, reliable, languid/depressed, older, shy, unsatisfied with himself and less creative. The pattern changed again if exposed to music III "What a Wonderful World". In this case the endorser's personality is perceived as more delicate, sociable, creative, sadder, but also more satisfied with himself. This shift in perception as a consequence of different music pieces as background music was also confirmed for the brand itself. Individuals exposed to the ad's version with music I perceived the brand as significantly more energetic, exciting, refreshing, sportive, youthful, festive, tasty and less delicate, soft, relaxing, mature, natural, healthy and environmentally friendly. Music piece II lead principally to a perception of the brand as less energetic, exciting, vigorous, youthful, festive and tasty. Finally, after the exposure to music piece III, subjects perceived the brand as softer, more delicate, relaxing, mature, natural, healthy and environmentally friendly, but also less refreshing.

To address the influences of the emotions and memories evoked by the ad's music on the subjects' attitude toward the brand, a structural equation analysis is conducted within the framework of the suggested conceptual model (Table 5). The step from the measurement model to the structural model implies only minor modifications of the original confirmatory factor analysis that is, substituting the latent variable correlations of the measurement model with regression coefficients. Consequently, the fit of the structural model is nearly equal to that of the confirmatory factor analysis and can be considered adequate.

According to the results of the analysis, the effect of the latent variable "pleasant memories evoked" on brand attitude is both direct (Standardized Regression Coefficient [SRC] = 0.66) and indirect through its also positive effect on "positive emotional reactions" (SRC = 0.58). The combined direct effect of the "positive emotional reactions" construct and indirect effect of "pleasant memories" is also significant (SRC = 0.16). Thus the hypothesized effects are confirmed. Music in ads that evokes more pleasant memories leads to a more favourable brand attitude (H₆), as well as to more positive emotional responses (H₅), which, in turn, further enhance consumer's attitude toward the promoted brand

(H₄) (Figure 1).

DISCUSSION AND IMPLICATIONS

The empirical study addressed the influence of music in advertising on the perception of the brand endorser and the brand, the emotional reactions of the individual and his or her memories evoked. The findings contribute to the current state of research on music in advertising. Thus, the results of the experiment show that an associative connection between a brand and a specific music piece can be established rather quickly through a single exposure, and that the music piece first associated with a brand is subsequently perceived as the most suitable music for this brand, at least, if as in this study, alternative music pieces are all likeable.

Further results indicate that music in advertising can significantly influence the perception of the brand endorser, also at least, if as in this experimental setting, the endorser was not a celebrity known to the respondents. Attributes like youthful, calm, happy or trustworthy were attached differently to the same endorser depending on the specific piece of music chosen. The same pattern emerged for the effect of the ad's background music on brand perception. The impressions of the brand could be manipulated by means of specific music pieces. The same experimental brand, not known beforehand to the participants, was either perceived as energetic, exciting, vigorous and tasty or natural, healthy and environmentally friendly. Thus this study was able to show that not only the differentiation between well-liked and disliked music, which was made in other studies, leads to different reactions, but also that different but *product-message-congruent* music in terms of the 'musical fit' approach (MacInnis and Park, 1991) has its own differentiating effects. As a framework for the perceptual mechanisms involved, classical conditioning can be suggested (Gorn, 1982), with different music pieces constituting different unconditioned stimuli.

Variations in the characteristics of the music pieces used in the commercial may affect the perceptual outcomes of the conditioning process and lead to specific associations and emotional reactions (Kroeber-Riel, 1984; Burke and Edell, 1989). As earlier stated, it seems

Table 4. Structural equation model: regression coefficients (standardized, un-standardized, p).

Factor	Positive emotional reactions	Brand attitude
Pleasant memories evoked	0.58, 0.25, p<0.001	0.66, 0.58, p<0.001
Positive emotional reactions		0.16, 0.34, p<0.001
Model fit	Chi ² =20.56, p=0.04, RMR=0.09, GFI=0.99, AGFI=0.97, NFI=0.99, CFI=0.99, RMSEA=0.04	

Note: RMR = root mean square residual, GFI = Goodness-of-Fit Index, AGFI = Adjusted Goodness-of-Fit Index, NFI = Normed Fit Index, CFI = Comparative Fit Index, RMSEA = root mean square error of approximation.

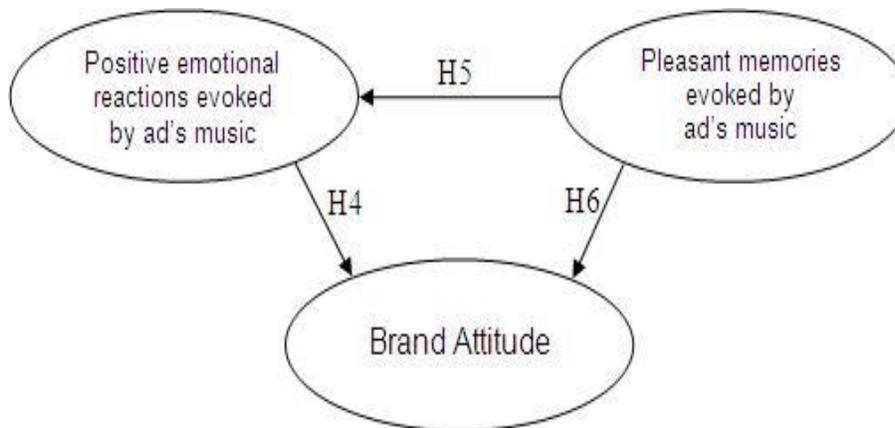


Figure 1. Conceptual model of the attitudinal effects of pleasant memories and positive emotional reactions evoked by music in advertising.

that conditioning effects through music can be achieved through a single pairing of the brand and the music piece. This “mere exposure” effect has been shown in earlier advertising research not related to the specific effects of music, suggesting that under certain circumstances, advertising effects can be achieved with only one exposure (Kim et al., 1998; Gibson, 1996; Mandese 1995; Surmanek, 1995).

The findings of the study also emphasize the effect of music in advertising on emotional reactions and memories evoked. Music in ads that evoked more pleasant memories led to more positive emotional reactions of the participants (Figure 1). Both positive emotions and pleasant memories enhanced brand attitude significantly. A high degree of interaction between memories and emotions as a consequence of exposure to music in the ad seems likely. These findings are in line with the opinions of several authors that familiar music evokes to a higher degree autobiographical memories and emotions associated with the specific music piece (Park and Young, 1986; MacInnis and Park, 1991; Hébert and Peretz, 1997; Janata et al., 2007). The use of well known music pieces is very common in advertising praxis.

For the advertising practitioner, the findings of this study advise to consider music under the musical fit

approach and the classical conditioning paradigm in a rather differentiated and specific way. Music can play a highly evocative role to generate and reinforce associations and emotions with the brand. The advertiser should pay special attention to use music with characteristics that enable positive emotions and desired associations to be linked with the endorser and the brand and avoid those that could trigger negative or otherwise undesired associations or rejection of the brand. In addition, brand perceptions instilled through advertising will not only involve what consumer’s eyes see and ears hear, but also memories and emotions evoked by the ad’s music. Music in advertising can establish a first and lasting impression of the brand.

Regarding the limitations of this study, the results should be treated with some caution, as the study was experimental and not conducted in a real-life setting. Still, the findings can be probably transferred to different national or cultural settings because the literature on the subject indicates that the analysed behaviours are not culture specific but universal human reaction patterns. Gender differences were not addressed in this study but are to be expected and should be object of future research. Another limitation, compared to real advertising up, to some extent, for the reduced number of exposures

and, after all, observed effects were significant, that is, different associations were indeed established as a consequence of the exposure to different music pieces. In a more real-life setting, with an advertising budget allowing for a high number of advertising exposures, stronger effects could possibly be expected.

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