What happens when you're lost between happiness and sadness? Effects on consumers' cognitive responses

Baris Ursavas a,⁎, Ozlem Hesapci-Sanaktekin b,⁎⁎

⁎⁎ Correspondence to: B. Ursavas, Istanbul Bilgi University, Department of Advertising, Santral Istanbul 34060 Eyup Istanbul, Turkey. Tel.: +90 212 311 7547.
⁎⁎⁎ Correspondence to: O. Hesapci-Sanaktekin, Bogazici University, Department of Management, Santral Istanbul 34060 Eyup Istanbul, Turkey.

A R T I C L E   I N F O
Article history:
Received 1 June 2011
Received in revised form 1 August 2011
Accepted 1 October 2011
Available online 28 December 2011

Keywords:
Mixed emotions
Emotional ambivalence
Memory
Temporal perception

A B S T R A C T
Two experiments examine the effects of dramatic contrast between the music and the message of an ad on consumers' temporal perceptions and memory. Results suggest that individuals' level of discomfort with ambiguity (DWA) plays a significant role in memory and temporal perceptions when being exposed to auditory stimuli that incorporate two oppositely-valenced affective components. Music that creates dramatic contrast with the ad message leads to weaker recall and recognition for the ad messages, and lower ad duration estimates for subjects with high discomfort with ambiguity. Further, results reveal an effect of prior mood on cognitive responses toward stimuli that create dramatic contrast. Participants in a positive (vs. negative) mood report better recall and recognition, and lower but more accurate duration estimates in the case of a stimulus creating dramatic contrast.

1. Introduction

Music is an integral feature of human culture. Whether listening to a symphony from a majestic orchestra or humming a simple melody, music penetrates deep into the soul and enables connections with a higher, emotional realm. Music may be one of the most ancient forms of human communication (Geissmann, 2000). As a communication tool, music creates a universal language, uniting complete strangers around common emotions and ideas.

The ability of music to influence human emotions and behavior has attracted the attention of advertising practitioners since the early 20th century. Music took great leaps into advertising, first with radio in the 1930s and then with television in the 1950s (Kellaris, Cox, & Cox, 1993). Today, however, music goes beyond being an executional advertising element, becoming a ubiquitous aspect in the everyday lives of modern consumers. Whether in a bank queue, a supermarket or at home, music surrounds consumers (Kellaris, 2008). Music penetrates into almost all consumption contexts, and shapes consumers' experiences profoundly.

The pervasiveness of music in consumers' lives makes music studies an extremely relevant area for consumer research. Not surprisingly, consumer research has increasingly directed scholarly attention to music since the early work of Smith and Curnow (1966). However, due to music's complex effects on affective and cognitive mechanisms, existing research findings are very controversial. The objective of this paper is to contribute to the existing literature by investigating how individuals form temporal perceptions and memories in response to ads that contain dramatic contrast, a specific type of emotional ambivalence which results from conflicting background music and ad message. Further, the study explores how discomfort with ambiguity (DWA) as a personality trait and prior mood affect the cognitive responses toward stimuli that contain emotional ambivalence.

2. Theoretical framework

Consumer research typically investigates the effects of stimulus congruity in a picture-word consistency context. A general finding from the studies (Childers & Houston, 1984; Heckler & Childers, 1992; Lutz & Lutz, 1977; Unnava & Burnkrant, 1991) displays that recall of advertising, brand name, and product attributes enhances when both pictures and words communicate the same information. Music-related consumer research begins to focus on stimulus congruity. Kellaris et al. (1993) manipulate stimulus congruity in terms of the music's relevance to the ad message. In contrast to MacInnis and Park (1991), Kellaris et al. (1993) operationalize stimulus congruity in terms of the music's relevance to the ad message. In this respect, their study is the first to investigate the role of music in the context of stimulus congruity. Kellaris et al. (1993) manipulate music's attention-gaining quality and its
congruity with the ad arguments. The authors suggest that high congruity between music and message moderates the effect of music's attention-gaining property on ad recall and recognition. Similarly, North, Mackenzie, Law, and Hargreaves (2004) show that a high music–message congruity leads subjects to generate better recall of ad content.

With regard to incongruous emotions, emotion theory suggests that simultaneous experience of oppositely-charged emotions is a frequent phenomenon in the lives of individuals. The advertising industry uses conflicting emotions to increase the persuasiveness of ad appeals (Williams & Aaker, 2002). Music–message contrast may activate different cognitive and affective processing mechanisms. As a result, consumers may develop quite different reactions toward music–message contrast in comparison to music–message congruity. Therefore, the music-related stimulus congruity literature may have a lot to gain from studies that explore consumer responses toward stimuli containing contrasting emotions.

2.1. Emotional ambivalence

Since the seminal work of Holbrook and Hirschman (1982), and Hirschman and Holbrook (1982), emotions occupy a pivotal position in the field of consumer research. Although research effort traditionally focuses on investigating the effects of pure emotions, a nascent body of research is emerging on the experience of conflicting emotions (Williams & Aaker, 2002). Some evidence suggests that conflicting emotions can be experienced simultaneously (Aaker, Drolet, & Griffin, 2008; Cacioppo, Gardner, & Bernston, 1997; Larsen, McGraw, & Cacioppo, 2001; Priester & Petty, 1996; Thompson, Zanna, & Griffin, 1995; Williams & Aaker, 2002). According to this viewpoint, emotional valence represents two independent dimensions; hence, oppositely charged emotions can cooccur. An alternative viewpoint postulates that opposite emotions lie on a single bipolar dimension (Brehm & Miron, 2006; Hesapci-Sanaktekin & Ursavas, 2011; Russell, 1980; Russell & Carroll, 1999). Therefore, opposite emotions cannot occur simultaneously, but can occur in close sequential proximity.

A body of research in the emotional ambivalence literature centers on factors that determine when and how people are likely to experience emotional ambivalence. Findings suggest that such factors as age (Labouvie-Vief, De-Voe, & Bulka, 1998; Williams & Aaker, 2002), gender (Bagozzi, Gopinath, & Nyer, 1999; Fong & Tiedens, 2002), culture (Bagozzi & Pieters, 1998; Williams & Aaker, 2002), and discomfort with ambiguity (Janssens, De Pelsmacker, & Weverbergh, 2007) can play a moderating role in the experience of emotional ambivalence.

Age and gender are important factors that influence the experience of emotional ambivalence. For instance, research suggests that, in comparison to younger adults, older adults better deal with complex and conflicting emotions (Carstensen, Isaacowitz, & Charles, 1999; Labouvie-Vief et al., 1998), and better recall mixed emotional stimuli (Aaker et al., 2008). Gender is another variable that affects the experience of conflicting emotions. In general, women experience more emotional ambivalence than men (Fong & Tiedens, 2002). In addition to age and gender, culture has a strong impact on the experience of emotional ambivalence. Williams and Aaker (2002) and Bagozzi et al. (1999) report that elderly people and individuals from Eastern cultures possess relatively higher propensity to cope with the concept of duality. Because such individuals can more easily process duality, they develop less negative responses toward messages conveying conflicting emotions.

Research also examines the influence of personality traits in experiencing emotional ambivalence. Janssens et al. (2007) investigate the moderating role of comfort with ambiguity (DWA) on the processing of mixed-emotional ad appeals. DWA refers to a personality trait that determines how individuals experience ambiguous thoughts and feelings. DWA is a subconstruct of the need for closure scale (NFCL), which reflects an individual's need for clear, structured knowledge. Individuals with a high need for closure seek to arrive at quick conclusions about a stimulus event, and are motivated to quickly end cognitive information processing related to the event (Webster & Kruglanski, 1994). Similarly, individuals with a high discomfort with ambiguity possess a lower level of propensity to accept and process duality. Hence, they experience a higher level of displeasure when confronted with ambivalent emotions and meanings. Conversely, individuals scoring low on discomfort with ambiguity tend to react more positively toward stimuli containing ambiguous emotions and meanings.

2.2. Memory

Research investigating the effects of stimulus congruity on memory generally report that subjects’ information processing and recall of a stimulus event are lower when the elements related to the stimulus convey different information (Childers & Houston, 1984; Heckler & Childers, 1992; Lutz & Lutz, 1977; Sull, Lichtenstein, & Rothbart, 1985; Unnava & Burnkrant, 1991). This result may emerge from a number of factors ranging from the difficulty of encoding incongruent information (Heckler & Childers, 1992; Meyers-Levy & Tybout, 1989) to the weaker linkages between unrelated nodes in the associative network (Schmitt, Tassavoli, & Milliard, 1993). Emotional ambivalence research also suggests a negative relationship between conflicting emotions and information processing (Aaker et al., 2008).

Translating these findings, the present research expects to find a negative relationship between dramatic contrast and ad processing. Since individuals experience difficulty in processing conflicting emotions, an ad that contains dramatic contrast (versus dramatic congruity) should generate a poorer ad memory. Therefore, the first hypothesis expects a direct negative effect of dramatic contrast on memory.

H1. Dramatic contrast (versus dramatic congruity) will generate a significant negative effect on subjects' a) recognition, and b) recall of central ad arguments.

Research also suggests that the experience of emotional ambivalence can be moderated by discomfort with ambiguity. As previously explained, discomfort with ambiguity (DWA) refers to a personality trait which determines how individuals experience ambiguous emotions and meanings. The greater discomfort with ambiguity implies a reduced capacity for the processing of ad appeals containing conflicting emotions. Therefore, the effect of dramatic contrast on memory should be stronger for those individuals with high DWA.

H2. Subjects high (versus low) on DWA will generate significantly lower message a) recognition, and b) recall in the presence of dramatic contrast.

2.3. Temporal perception

Perhaps, one of the most magnificent qualities of music is its ability to influence listeners' temporal perceptions. Given that consumers often sacrifice their time in the form of experiencing delays, waiting for service, spending time to search for product information and to shop, researchers conceptualize time as a significant component of the total cost of such transactions (Kellaris & Kent, 1992). Thus, a possible way to minimize the cost of time for consumers is to manipulate their temporal perceptions by controlling the properties of external stimuli that surround and influence them.

Prior research investigates human time perception either from a prospective or a retrospective paradigm (Zakay, 1990). Findings suggest that different cognitive mechanisms characterize prospective and retrospective duration estimates (Sucal, Scheckner, & David,
2010; Ursavas & Hesapci-Sanaktekin, 2012). In the prospective paradigm, subjects are aware that the experimental task involves estimating the duration of a stimulus (Zakay & Block, 1997). Cognitive research on prospective time perception explains the phenomenon with attentional models, which suggest a negative relationship between the amount of information processing from an event and the magnitude of duration estimates (Zakay & Block, 1994). In contrast to prospective time perception, the retrospective paradigm involves estimating subjects’ duration estimates after the completion of a stimulus task (Zakay & Block, 1997). In the retrospective research scenario, individuals base their duration estimates about a stimulus event on the amount of encoding and retrieval of information from the event (Block, 1990; Ornstein, 1969; Zakay & Block, 1996). Therefore, retrospective models predict a positive relationship between the amount of memory processed and the magnitude of duration estimates about a stimulus.

This process should also govern the relationship between dramatic contrast and duration. In other words, because individuals cannot easily process emotional ambivalence, they should process less information from an ad containing dramatic contrast. When these individuals report duration estimates of an ad, they should produce shorter estimates because their judgments depend on the amount of information their memory stores. This relationship should be even stronger for individuals with high discomfort with ambiguity.

**H3.** Subjects will generate significantly shorter duration estimates in the presence of an ad conveying dramatic contrast (versus dramatic congruity).

**H4.** Subjects with high (versus low) DWA will report significantly shorter duration estimates in the presence of an ad conveying dramatic contrast.

### 2.4. Prior mood

A substantial literature provides insight on the influence of mood on information processing (e.g., Bless, Mackie, & Schwarz, 1992; Schwarz & Bless, 1991; Schwarz & Clore, 1996). Although there are several competing perspectives on the effects of mood on information processing (see Forgas, 2002), most research suggests that happy moods result in heuristic processing, whereas sad moods result in more effortful processing (Bless, Bohner, Schwarz, & Strack, 1990; Clore, Schwarz, & Conway, 1994). Alternatively, researchers such as Matmur and Chattopadhayay (1991) report that positive mood actually increases the elaborative processing of happy ads.

There are three main perspectives to account for mood effects on processing, namely, mood-repair (Isen, 1987), memory effects (Mackie & Worth, 1989), and problem signaling (Schwarz & Bless, 1991) approaches. The first perspective focuses on the mood-maintenance hypothesis that suggests people are generally motivated to maintain positive moods and to repair negative moods (Isen, 1987). Isen mainly argues that individuals seek to maintain positive mood, and avoid exerting cognitive effort that is not directed at either maintaining or regaining positive mood. Second, Mackie and Worth (1989) suggest that moods influence cognitive capacity, where happy moods result in reduced capacity with less systematic processing. Schwarz and Bless’s (1991) motivational interpretation, in the third approach, posit that negative mood signals problematic situations, which require more cognitive resource that results in information processing that is relatively analytical, effortful, and cautious. When people are in a positive mood, their environment seems to pose no threat, and they are more likely to rely on heuristics (Bless et al., 1990).

On the contrary, other researchers suggest that negative moods lead to a reduced effort (Hertel & Hardin, 1990; Lassiter, Koenig, & Apple, 1996), which can reduce processing capacity through the encroaching of negative thoughts during processing (e.g., Ellis & Ashbrook, 1988). In general, mood states tend to influence behavior, judgment and recall. However, negative mood states tend to have diverse effects in comparison to positive moods (Gardner, 1985). According to Gardner’s review, one might expect positive affect to enhance recall of information, while less positive affect might decrease coding and storage of information. Gardner (1985) suggests that positive affect leads to an increase in cognitive elaboration by enhancing coding and storage of information. In other words, positively valenced external stimuli encourage more information processing from the event.

Despite the generally accepted evidence of mood-congruent memory, opposing results exist. While positive mood leads to improved recall of positive memories, negative mood does not always enhance the recall of negative material. A popular explanation for these results is that of the “mood repair” perspective (Isen, 1985): people in bad moods actively resist the remembering of negative items so as to prevent a further decline in their mood states. Findings report no such evidence for positive mood.

Experiencing mixed emotions results in increased levels of felt discomfort (Williams & Aaker, 2002). With the mood-repair perspective, increased levels of felt discomfort, further deteriorating the initial mood state, may lead people in negative moods to a resistance in processing information in the emotionally ambivalent communication. Thus one may expect to find people in positive moods with higher levels of processing of mixed emotional content, resulting in a stronger memory and longer duration estimates (Kellaris & Kent, 1992) in comparison to people in negative mood states.

**H5.** Positive mood (vs. negative) will lead to (a) longer duration estimates, better (b) recognition, and (c) recall of the ad message estimates in the presence of an ad conveying dramatic contrast.

### 3. Study 1

The first study manipulates dramatic tone, and categorizes discomfort with ambiguity (DWA) in a 2 (dramatic tone: contrast, congruity) × 2 (DWA: high, low) between subjects design. The term dramatic tone refers to a differentiation between the two types of dramatic qualities. Depending on the dramatic tone of the ad, the background music either contrasts (dramatic contrast) or supports (dramatic congruity) the central ad argument. Dramatic contrast differs from emotional ambivalence in that it refers to the specific state of experiencing conflicting emotions via conflicting auditory stimuli.

#### 3.1. Stimuli development

Four experimental ads are designed for a fictitious NGO. A professional actor voiced the ad copy and a professional musician composed original music scores for the ads to bolster the dramatic quality. Music and voiced copy combine to create a single audio track. The ads are identical in terms of duration (45 s) and the information they contain.

#### 3.2. Pretest

32 participants (50% female, μ age = 23.4) evaluate the music and the copies. Participants rate the degree to which each copy and music evoke certain emotions on a seven point scale (1 = not at all, 7 = very strongly). For the emotion types, the study uses happiness as an example of positive emotion and sadness as an example of negative emotion. Prior research displays similar experience, recognition, and expression of these emotions across different settings (Ekman & Friesen, 1971; Williams & Aaker, 2002). The emotion scale contains happiness index (happy, delighted, joyful, pleased, cheerful), sadness index (sad, downhearted, distressed, sorrowful, dejected, regretful), as well as 15 filler emotions. Results of the pretest show that two
musical pieces out of six and two ad copies out of four are successful in evoking either happiness or sadness.

3.3. Participants and the procedure

137 undergraduate students (61.3% female, μ age = 22.32) participate in the study for course credit. The procedure involves randomly assigning subjects to each experimental condition in small groups, and asking them to complete a self administered questionnaire.

3.4. Measures

As key dependent variables, measures include ad duration estimates and ad message recall. In addition, participants provide information on demographics, measures of discomfort with ambiguity, and manipulation checks for emotions.

Following prior research (Oakes, 1999, 2003) the present study measures subjects’ duration estimates by asking them to mark a number from a table that includes numbers ranging from 1 to 180 s. Following prior research, subjects report recall by listing as many number from a table that includes numbers ranging from 1 to 180 s.

Participants in the negatively framed message condition report significantly higher positive feelings (μ = 4.33) and sadness (μ = 2.58) (t = .38; p > .01). More specifically, subjects viewing the happy dramatic congruity ad report significantly more positive feelings than negative feelings. Similarly, under the sad dramatic congruity ad condition, felt sadness (μ = 4.13) is significantly greater than felt happiness (μ = 2.38, t = 3.5; p < .01). All together, manipulation checks reveal that the experimental ads successfully inhibit the two dramatic tone conditions (contrast vs. congruity).

4. Results

Significant intercorrelations exist between duration estimates and message recall (r = .17, p = .04). A multivariate analysis of variance (MANOVA) is performed on the intercorrelated measures to avoid a Type I error. Analysis reveals that dramatic tone has significant main effects on message recall (F(1, 133) = 25.75; p < .01) (Wilks’ Lambda = .93). Furthermore, dramatic tone and DWA have a significant interaction effect on message recall (F(1, 133) = .94; p = .028) and duration estimates (F(1, 133) = 6.06; p = .01) (Wilks’ Lambda = .93).

Based on the positive MANOVA findings for main and interaction effects, a series of univariate analysis of variance (ANOVA) are also performed on each dependent variable.

4.1. Message recall

Results reveal a significant mean difference on message recall between two dramatic tone conditions (F(1,135) = 23.09, p < .01). The dramatic contrast condition yields lower recall than the congruent ad condition (μ = 1.20, μ = 2.07, respectively). Thus, hypothesis 1b (H1) receives support. Further post hoc comparisons indicate significant, mean differences between negative–positive dramatic contrast condition (μ = 1.18) and positive–positive (μ = 1.94, F(1, 64) = 8.63, p = .005) and negative–negative (μ = 2.19, F(1,66) = 13.31, p < .01) congruent ad conditions.

Findings reveal significant mean differences between positive–negative dramatic contrast (μ = 1.23) and positive–positive (F(1,65) = 9.41, p = .01) and negative–negative (F(1,64) = 14.31, p = .01) congruent ad conditions. No significant mean difference exists between two dramatic contrast conditions (positive–negative and negative–positive) (F(1,67) = .05, p = .83). Though negative–negative ad condition yields higher recall than positive–positive congruent condition, there is no significant mean difference between these two congruent ad conditions (F(1,66) = .91, p = .35).

Discomfort with ambiguity seems to produce a significant main effect (F(1,133) = 9.59; p = .01), such that individuals low on DWA report higher levels of ad message recall (μ = 1.90) than do individuals with high DWA (μ = 1.38). Dramatic tone also has a significant main effect (F(1,133) = 25.75; p ≤ .01). In general, individuals who view the congruent ads recall many more ad arguments (μ = 2.07) than those who view the dramatic contrast ads (μ = 1.20), such that, individuals low on DWA report higher levels of ad message recall (μ = 1.90) than do individuals with high DWA (μ = 1.38). DWA and dramatic contrast produce a significant interaction effect on ad message recall (F(1,133) = 4.94; p = .03). Planned comparisons reveal that in the congruent ad conditions no significant mean difference in ad message recall is present (F(1,66) = .31, p = .58) among participants with high
DWA ($\mu=2.00$) and participants with low DWA ($\mu=2.15$). On the other hand, in the dramatic contrast ad conditions, participants with high DWA recall fewer ad message items ($\mu=0.74$) than participants with low DWA ($\mu=1.66; F_{1,67} = 18.02; p<.01$). Thus, hypothesis 2b receives support.

4.2. Duration estimates

While no significant main effects of DWA ($F_{1,133} = .36, p = .55$) and dramatic tone ($F_{1,133} = .29, p = .59$) seem to be present, the interaction effect of DWA and dramatic tone on duration estimate is significant ($F_{1,133} = 6.06; p = .01$). Therefore, hypothesis 3 (H3) does not receive support. However, planned comparisons reveal that in the congruent ad conditions, no significant mean difference in duration estimate variations is present ($F_{1,66} = 1.96, p = .17$) among participants with high DWA ($\mu=32.46$) and participants with low DWA ($\mu=28.30$). On the other hand, in the ad conditions creating dramatic contrast, participants with high DWA report shorter estimates of ad duration ($\mu=25.76$) than participants with low DWA ($\mu=32.57; F_{1,67} = 4.21; p = .04$) (Fig. 1). Hence, hypothesis 4 (H4) receives support.

5. Study 2

Study 2 aims to extend the findings of study 1 and explores the impact of prior mood on cognitive responses toward dramatic contrast. The study entails a 2 (mood: positive or negative) $\times$ 2 (dramatic tone: contrast or congruity) between subject design.

5.1. Pretest

In a pretest to choose music for the mood manipulations, participants (42.86% female, $\mu$ age = 22.1) evaluate a total of eight music pieces that induce either a positive or a negative mood. Judgments and advice from music professionals guide the selection of musical pieces. Participants rate the degree to which each musical piece makes them feel a certain type of emotion on a seven point scale ($1$ = not at all, $7$ = very strongly). The pretest shows that a piece from “Adagio”, by Tomaso Albinoni (negative mood condition), and the song “Let’s Twist Again”, by Chubby Checker (positive mood condition) successfully induce the target moods.

5.2. Participants and the procedure

279 (54.8% female, $\mu$ age = 21.43) undergraduate students participate in the study. The ad music and ad message manipulation materials are the same as study 1.

The study follows a procedure similar to study 1.

5.3. Measures

The key dependent variables of the present study are ad duration estimates, ad message recall, and ad message recognition (see Experiment 1). To measure message recognition, a 22-item checklist asks subjects to identify the advertised message arguments (Singh, Rothschild, & Churchill, 1988). In order to increase the sensitivity of the measure, the checklist uses filler items including ‘I can’t remember’ and ‘none of the above’ (Keller et al., 1993). The present study adopts the items from Webster and Kruglanski (1994) to measure DWA ($\alpha = .856$).

5.4. Manipulation checks

After listening to one of the two music conditions for five minutes, participants rate their mood on a four-item semantic scale ($\alpha = .90$). Participants in the positive mood condition report significantly higher positive mood than participants in the negative mood condition ($\mu=5.96, \mu=3.40$; respectively, $F_{1,277} = 183.79, p<.01$).

Participants also rate how much the ad music makes them feel happy ($\alpha = .91$) and sad ($\alpha = .93$). Participants in the positively valenced ad music condition report significantly higher positive feelings in comparison to the participants in the negatively valenced ad music condition ($\mu=78.68, p<.01, \mu=2.16$, respectively). Participants in the negatively valenced ad music condition report significantly higher negative feelings ($F_{1,277} = 52.53, p<.01$) in comparison to the participants in the positively valenced ad music condition ($\mu=4.98, \mu=2.77$, respectively).

Participants also rate how much the ad message makes them feel happy ($\alpha = .94$) and sad ($\alpha = .89$). Participants in the positively framed message conditions report significantly higher positive feelings ($F_{1,277} = 47.61, p = .02$) in comparison to the participants in the negatively framed ad message conditions ($\mu=4.11, \mu=2.67$, respectively). Participants in the negatively framed message conditions report significantly higher negative feelings ($F_{1,277} = 12.32, p<.01$) in comparison to the participants in the positively framed ad message conditions ($\mu=4.61, \mu=3.77$, respectively).

In the ad conditions where there is dramatic contrast between the ad music and the ad message, no significant mean difference exists in emotions evoked by the music and the message. More specifically, when participants view the ad with a positively valenced music and a negatively framed message, no significant mean difference occurs among positive and negative feelings ($\mu=4.68, \mu=4.52$, $t = -24, p = .81$). When participants view the ad with a negatively valenced music and a positively framed message, no significant mean difference exists among positive and negative feelings ($\mu=4.51, \mu=5.18$, $t = -1.76, p = .84$). Findings reveal that the two ad conditions are successful in creating dramatic contrast.

6. Results

A significant correlation exists between the two memory measures (message recognition and message recall) ($r = .35, p<.01$). There is also a significant correlation between duration estimates and message recognition ($r = -.16, p<.05$). Multivariate analysis of variance (MANOVA) reveals that dramatic tone has significant main effects on message recognition ($F_{1,271} = 8.11; p<.01$), and duration estimates ($F_{1,271} = 4.09; p<.05$; Wilk’s Lambda = .94). A significant main effect of mood exists on message recognition ($F_{1,271} = 25.91; p<.01$), message recall ($F_{1,271} = 21.49; p<.01$), and duration estimates ($F_{1,271} = 12.35; p<.01$; Wilk’s Lambda = .85). MANOVA reveals no main effect of DWA on any of the dependent variables. Furthermore, dramatic tone, DWA and mood seem to have an interaction effect on message recall ($F_{1,271} = 3.99; p<.05$) and message recognition ($F_{1,271} = 7.33; p<.01$) (Wilk’s Lambda = .96).
6.1. Message recall

ANOVA results reveal a significant main effect of prior mood on ad message recall ($F_{(1,271)} = 21.24, p<.01$), such that in the positive mood condition, message recall is higher in comparison to the negative mood condition ($μ=1.52; μ=0.93$, respectively). Another main effect appears to be DWA ($F_{(1,271)} = 4.07, p<.05$). Individuals low on DWA produce more recall for message items than individuals with high DWA ($μ=1.36; μ=1.16$, respectively).

The interaction effect of DWA, dramatic tone and prior mood on ad message recall is significant ($F_{(1,271)} = 9.64; p<.01$). Planned comparisons for the dramatic contrast conditions reveal that when a negative mood is present prior to the ad, individuals with high DWA recall fewer message items ($μ=.77$) than individuals with low DWA scores ($μ=1.57; F_{(1,61)} = 11.04, p<.01$). On the other hand, in the dramatic contrast conditions, mood appears to have a main effect on message recall ($F_{(1,130)} = 5.29, p<.05$) such that, when a positive mood (vs. negative mood) is present prior to the ad, participants report better recall ($μ=1.52$ vs. $μ=1.13$) of the message arguments. Therefore, hypothesis $5c$ ($H5$) receives support.

6.2. Message recognition

Prior mood, dramatic tone and DWA produce significant main effects ($F_{(1,271)} = 25.52, p<.01$; $F_{(1,271)} = 5.10, p<.05$; $F_{(1,271)} = 5.56, p<.05$, respectively). Overall, individuals with high DWA recognize fewer message items than low DWA individuals ($μ=3.36; μ=3.71$, respectively). In the positive mood condition (vs. negative), individuals display better recognition for message items ($μ=3.91; μ=3.04$, respectively). Dramatic contrast conditions (vs. congruity) produce lower recognition ($μ=3.20; μ=3.76$, respectively). Hypothesis $1a$ ($H1$) receives support.

Significant interaction effect of DWA and dramatic congruity on message recognition supports hypothesis $2a$ ($F_{(1,271)} = 10.99, p<.01$). Planned comparisons reveal that high (vs. low) DWA individuals recognize fewer message arguments in response to a dramatic contrast ad ($μ=2.94; μ=3.74$, respectively, $F_{(1,130)} = 8.98, p<.01$).

Furthermore, similar to the findings on message recall, DWA, dramatic tone, and prior mood have a significant interaction effect on ad message recognition ($F_{(1,271)} = 4.58; p<.05$). Planned comparisons reveal that in the dramatic contrast condition, when a negative mood is present prior to the ad, high (vs. low) DWA individuals recognize fewer message items ($μ=2.06, μ=3.57, F_{(1,61)} = 19.29, p<.01$). On the other hand, in the dramatic contrast conditions there is a main effect of mood on message recognition ($F_{(1,130)} = 13.54, p<.01$) such that, when a positive mood (vs. negative mood) is present prior to the ad, participants report better recognition ($μ=3.64$ vs. $μ=2.73$). Therefore, hypothesis $5b$ ($H5$) receives support.

6.3. Duration estimates

ANOVA reveals a main effect of mood ($F_{(1,271)} = 12.35, p<.01$), implying that negative mood leads to longer duration estimates than positive mood ($μ=59.30, μ=49.99$, respectively). A significant main effect of dramatic tone is also present ($F_{(1,271)} = 4.085, p<.05$), such that participants in the dramatic contrast (vs. congruity) conditions report longer duration estimates ($μ=57.77, μ=51.44$, respectively). Planned comparisons display a main effect of mood and a marginal main effect of DWA ($F_{(1,128)} = 4.88, p<.05$; $F_{(1,128)} = 3.62, p=.06$, respectively). Participants in the negative mood condition report longer time estimates than participants in the positive mood condition ($μ=63.01, μ=52.93$, respectively) ($F_{(1,271)} = 3.50, p<.01$). On the other hand, participants with high (vs. low) DWA report longer duration estimates ($μ=60.49, μ=53.30$, respectively).

Analysis also reveals an interaction effect of DWA with dramatic tone on duration estimates ($F_{(1,271)} = 6.21, p<.05$). Further comparisons reveal a main effect of DWA in the dramatic contrast condition where a negative mood is present prior to the ad ($F_{(1,61)} = 4.44, p<.05$), such that high DWA individuals report significantly longer duration estimates than low DWA individuals ($μ=69.91, μ=56.01$, respectively).

No such effect of DWA exists in the positive mood dramatic contrast condition ($F_{(1,61)} = .51, p=.48$). Furthermore, in the dramatic contrast condition, mood has a main effect on duration estimates ($F_{(1,130)} = 4.32, p<.05$), such that, when a positive mood (vs. negative mood) is present prior to the ad, participants report lower but more accurate duration estimates ($μ=52.93$ vs. $μ=63.06$) ($F_{(2,271)}$). Hence, hypothesis $5b$ ($H5$) does not receive support.

7. Discussion

7.1. Message recognition and recall

The results of two experiments indicate that using contrasting emotions in ad appeals has distorting effects on consumers’ memory. Consumers, especially those who feel a higher level of discomfort when confronted with ambiguous meanings, tend to demonstrate lower recall and recognition for the persuasive arguments conveyed in the ad. Dual meanings in the ad impair the information processing capacity of high DWA individuals and, hence, result in lower memory for the ad messages. As previously discussed, DWA is a construct of the need for closure scale (NFC), which reflects an individual’s desire for clear and definite knowledge (Janssens et al., 2007). Such individuals experience greater difficulty while processing ambiguous information about stimulus events. In line with previous research, the present study documents that high DWA subjects generate better
recognition for ads containing congruent emotions. On the other hand, individuals report much lower recognition for ads that contain contrasting music and message emotions. While viewing a dramatic contrast ad, high DWA consumers fail to elaborate on central ad arguments due to the relative difficulty of comprehending two opposite emotions simultaneously. When music and message emotions support the central ad argument, however, these consumers generate no less ad memory than low DWA consumers.

Similar effects seem to appear also in situations where high DWA individuals experience negative mood prior to ad exposure. Such individuals demonstrate a lower recall and recognition for ad messages as compared to those with a lower level of DWA. These results establish that discomfort with ambiguity moderates the processing of ads that contain dramatic contrast. Within the mixed emotions literature, Janssens et al. (2007) investigate the moderating role of DWA on the effects of mixed emotions on consumer evaluations. The authors elicit mixed emotions by contrasting the mood generated by the medium context with the emotions induced by an ad appeal embedded in the medium. Results in two experiments indicate that DWA has a moderating effect on attitudinal responses toward ad stimuli that contain mixed emotions. More specifically, individuals with a high DWA appear to respond less positively to mixed emotions. Findings of the current study add to the findings of Janssens et al. (2007) and report the effect of DWA on memory and temporal perception in the presence of a mixed emotional stimulus.

7.2. Temporal perception

Data provide no support for the hypothesis that dramatic contrast in an ad shrinks retrospective duration estimates. Findings imply that the diminishing effect on consumers’ time perceptions occurs regardless of the dramatic tone of the ad. In general, consumers perceive the duration of an ad as being shorter when emotions evoked by music and message contrast, rather than support each other.

As study 1 suggests, DWA moderates the effect of dramatic contrast, such that higher DWA individuals tend to have a more distorted perception of time. This finding seems in line with the previous retrospective time perception research. Retrospective time perception models postulate a negative relationship between the amount of information processed during an event, and duration estimates about the event (Boltz, 2004; Ornstein, 1969). According to these models, individuals typically remember event durations as being shorter when they store and retrieve less information related to an event (Zakay & Block, 1997).

As for the mood effects, negative mood appears to inhibit the duration estimation capacity and lead to less recall and recognition. On the other hand, in dramatic contrast conditions, positive (vs. negative) mood leads to better recognition and recall, but shorter duration estimates. These findings break the expected underlying reasoning on retrospective time perception. Effects of mood on coping mechanisms with contrast may play a role in these findings on temporal perceptions and need further exploration.

Study 2 also reveals an amplifying effect of dramatic contrast on duration estimates, which can be in harmony with the conventional wisdom dictating that “a watched pot never boils”. This phrase expresses the naïve theory that when an event involves an arduous task, time seems to slow down. In fact, previous research also suggests that individuals generate longer duration estimates for stressful stimuli (Vohs & Schmeichel, 2003). This insight may also help explain why individuals estimate longer durations for ads conveying dramatic contrast.

8. Limitations and future directions

An important limitation is that the study measures message recall through single exposure. Low level of recall may stem from this very factor. In real life, however, an ordinary consumer views an ad for more than a single shot. Therefore, a multiple exposure recall measurement in future research may provide a more realistic picture of the relationship between dramatic contrast and consumer memory. A second limitation stems from transforming the score of the DWA variable into a categorical variable by means of median split to meet the statistical requirements of ANOVA. Previous research suggests that this technique may reduce the statistical power to detect interaction (Irwin & McClelland, 2001). Therefore, future research may benefit from employing a different data analysis method (e.g., moderated regression analysis) that accepts DWA as a numerical variable (Janssens et al., 2007).

The present research operationalizes dramatic contrast by using a happiness–sadness emotion couple. The use of such a basic emotion couple has practical benefits. Future research can evoke dramatic contrast through more complex emotion couples (e.g., pride, shame, empathy, anger) (Hesapci-Sanaktekin, 2007) to provide a more thorough investigation of the topic. Although eliciting complex emotions through music may be a challenging task, one can manage to do so by carefully controlling the structural elements within the music.

Another avenue for future research is to explore the effects of dramatic contrast in different contexts. The present research design involves a music–text context. Future research should attempt to evoke dramatic contrast in music–picture or music-only contexts. Developing experimental stimuli in a music–picture context should not be very difficult. However evoking dramatic contrast in a music-only context may be a rather difficult task. Still, a music-only context should be possible through a solid understanding of the nature of structural musical elements. Finally, previous research suggests that music conveys not only emotions, but also meanings (Zhu & Meyers-Levy, 2005). Therefore, future research can explore the construct of dramatic contrast in a wider framework, which includes emotive meanings as well as emotions.

9. Conclusion

Through two experiments, the present study investigates the influence of dramatic contrast on consumers’ memory and time perceptions. The study provides a genuine contribution to consumer research in various respects. Drawing a demarcation line between dramatic contrast and other types of emotional ambivalence is important because the former involves evoking emotional conflict through auditory cues, whereas the latter operates through visual cues. These two different types of cues may activate different cognitive and affective mechanisms that result in the experience of emotional ambivalence. Therefore, the term dramatic contrast makes a clear distinction between different types of emotional ambivalence.

A second contribution of this study is that, for the first time in the emotional ambivalence literature, music acts as an independent variable to operationalize emotional ambivalence. In this respect, this study also sets a unique methodological example for future investigators for using music as an experimental variable in emotional ambivalence research. Lastly, the experiments extend the current state of emotional ambivalence research by introducing to the literature a novel dependent variable: time perception. Given the value of time in exchange relationships, consumer research should investigate the topic of time perception in a wider domain. In this respect, this study is also the first to document empirical evidence on the relationship between dramatic contrast and time perception.

References
