

Feeling Mixed but Not Torn: The Moderating Role of Construal Level in Mixed Emotions Appeals

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This research examines how construal level (i.e., how abstractly or concretely people represent information in memory) affects consumers' responses to mixed emotions appeals. The results of five studies show that, consistent with prior research, participants experienced discomfort when they encountered mixed emotions appeals and developed less favorable attitudes toward the ad relative to pure positive emotional appeals, but this was the case only for those who construed information at a concrete, low level. Participants who construed information at an abstract, high level did not experience much discomfort; hence, they found mixed emotions and pure positive emotional appeals equally persuasive. We further demonstrate that the chronic construal level associated with people's age and cultural background underlies the moderating effects of age and culture on consumers' attitudes toward mixed emotions appeals documented in prior research.

Pleasure and pain, though directly opposite, are contrived to be constant companions. (PIERRE CHARRON, French thinker)

In a recent Bud Light commercial, a young woman was sharing her feelings of mixed emotions with her mother on her wedding day. While feeling happy and excited on this important day of her life, the bride expressed her worries and concerns and asked her mother how to make the marriage work. And the mother's advice was to do the things he likes, including giving him his Bud Light. Based on recent findings that mixed emotions often lead to discomfort and in turn less favorable attitudes (Williams and Aaker 2002), the advertiser might be well advised to replace the ad with one that associates Bud Light with festive celebrations of the wedding rather than with the mixed feelings of

the bride. Thus, an intriguing question relevant to advertisers is, can mixed emotions appeals be effective?

Positive and negative emotions have traditionally been viewed as two ends of a continuum and thus are considered to be mutually exclusive experiences (e.g., Russell 1979). However, recent theorizing suggests that people can simultaneously experience different emotions that are of opposite valence (e.g., Cacioppo, Gardner, and Berntson 1999). And the occurrence of mixed emotional experiences has been demonstrated in a variety of consumer contexts, ranging from important life events such as relocating to a foreign country (Thompson and Tambyah 1999), planning one's wedding (Otnes, Lowrey, and Shrum 1997), becoming a parent (Fischer and Gainer 1993), or disposing of one's long-held possessions (Price, Arnould, and Curasi 2000), to more common consumption episodes such as watching a movie (Andrade and Cohen 2007; Hemenover and Schimmack 2007; Larsen, McGraw, and Cacioppo 2001), listening to music (Hunter, Schellenberg, and Schimmack 2008), engaging in inadvertent indulgences or impulsive purchases (Ramanathan and Williams 2007; Rook 1987), or experiencing a disappointing win or a relieving loss in gambling (Larsen et al. 2004). Mixed emotional experiences have also made their way into advertising appeals, as illustrated in the Bud Light example.

Recent research examining the effects of emotional appeals on consumers' attitudes suggests that, when people experience emotions of opposite valence at the same time, they enter into a conflicting psychological state and feel torn

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and uncomfortable, akin to what people experience in situations of cognitive dissonance (Festinger 1957) or attitudinal ambivalence (Thompson, Zanna, and Griffin 1995). This feeling of discomfort evoked by advertisements using mixed emotions appeals (e.g., happiness and sadness) in turn leads to less favorable attitudes toward the ads, as compared to those that employ a pure positive emotional appeal (e.g., happiness; Williams and Aaker 2002). Williams and Aaker (2002) further suggest that the degree of discomfort and consumers' attitudes in response to mixed emotions appeals may vary as a function of age and cultural background. Specifically, the philosophy and outlook of life of Asians and older adults are such that they can handle duality better than North Americans and younger adults. Thus, Asians and older adults are less likely to experience discomfort when they encounter a mixed emotions appeal as compared to North Americans and younger adults. That is, Asians and older adults experience the mixed emotions but they do not feel torn, and they in turn develop more favorable attitudes toward the appeal.

The objective of the current research is to build on and extend prior research by examining construal level as a moderator of the effects of mixed emotions appeals. Our view is that different levels of abstractness at which consumers mentally construe information, referred to as construal level, may differentially affect their responses to mixed emotions appeals. We propose that people who construe information at an abstract, high level are less likely to feel discomfort when they experience mixed emotions and in turn will develop more favorable attitudes toward mixed emotions appeals relative to those who construe information at a concrete, low level. We further propose that the moderating effect of culture and age on consumers' attitudes toward mixed emotions appeals documented in previous research (Williams and Aaker 2002) may be accounted for by the chronic differences in construal level across people from different cultures and from different age groups.

THEORETICAL BACKGROUND

Construal level theory (CLT) posits that people may construe information in memory at an abstract, high level or at a concrete, low level (Trope and Liberman 2003). High-level construals are superordinate and decontextualized, and they reflect a more general understanding of actions and events. In contrast, low-level construals are subordinate and contextualized, and they reflect the details or specifics of actions and events. For example, the same act of going on a vacation can be thought of as having a good time and enjoying life—a high-level construal—or it can be conceived as lying on the beach with a tall, cold drink—a low-level construal. It has been shown that people with a high-level construal rely more on the primary features in making judgments (Trope and Liberman 2000); they focus more on the desirability of outcomes in making a decision (Liberman and Trope 1998; Sagristano, Trope, and Liberman 2002) and generate more pro arguments for an action (Eyal et al. 2004). In contrast, those with a low-level construal rely more on

peripheral features in making judgments; they focus more on the feasibility of outcomes and generate more con arguments. High-level construals have also been shown to lead to better self-control (Fujita et al. 2006) and greater correspondence bias (Nussbaum, Trope, and Liberman 2003) than low-level construals.

There are several reasons to believe that people's construal level may moderate their experience of discomfort arising from mixed emotions and in turn influence their attitudes toward mixed emotions appeals. First, people feel discomfort when experiencing mixed emotions because the apparent conflict and contradiction between the two emotions lead to a disharmonious and uncomfortable psychological state (Cacioppo et al. 1999). It has been suggested that people who organize conflicting ideas at a superordinate level process the ideas more inclusively, which renders them more coherent and less conflicting (Abelson 1959). Thus, evidence showing that people with a high-level (vs. low-level) construal use fewer and broader categories to classify different objects (Liberman, Sagristano, and Trope 2002, study 1) lends support to the notion that people with a high-level construal may feel less discomfort when experiencing mixed emotions. The stereotype literature also shows that high-level construals can help avoid intergroup conflicts by fostering perceptions of homogeneity across different social groups, which results in greater acceptance of stigmatized outgroups such as the homeless (Levy, Freitas, and Salovey 2002). This lends further credence to the view that high-level construal may facilitate a tolerance for mixed emotions. Thus, we argue that the tendency of those with high-level construals to process more inclusively may enable them to resolve the conflict arising from the coexistence of mixed emotions and hence experience less discomfort.

Second, high-level construals have been shown to promote a more flexible and creative processing style (Förster, Friedman, and Liberman 2004). To illustrate, Förster and his colleagues (2004, experiment 1) primed their participants to think more abstractly (concretely) by asking them to imagine what life would be like a year from now (vs. tomorrow). Participants primed with an abstract mind-set were more likely to generate creative solutions to problems than those primed with a concrete mind-set (e.g., thinking "dividing the rope in half" as unraveling the rope lengthwise to make it long enough for a prisoner to escape). To the extent that discomfort from mixed emotions arise because people cannot make sense of their simultaneously experiencing emotions of opposite valence, a more creative and flexible processing style associated with high-level construals might help them sort out the potentially disharmonious mixed emotions and hence reduce the discomfort they experience.

A third reason why a high-level construal is likely to attenuate people's feeling of discomfort arising from mixed emotions comes from the notion that various dimensions of proximity (e.g., psychological, temporal, physical, sensory) can elicit visceral responses that influence behaviors (Loewenstein 1996). As people's mental representation of objects

becomes more abstract, their psychological distance from the stimuli also increases (Liberman, Trope, and Stephan 2007). Recent research by Liberman and Förster (2009) shows that a high-level construal increases people's estimates of temporal distance from now (experiment 1), physical distance from here (experiment 2), social distance from self (experiment 3), as well as estimates of hypothetical distance from reality (experiment 4). Thus, it is plausible that the increased psychological distance invoked by a high level of construal may moderate the intensity and vividness of how people experience mixed emotions (Wong and Bagozzi 2005) and in turn reduce the impact of mixed emotions on discomfort and subsequent judgments.

Finally, to the extent that people with high-level construals are more likely to focus on the positives and pro arguments whereas those with low-level construals are more likely to focus on the negatives and con arguments (Eyal et al. 2004), it is also possible that those with high-level (low-level) construals focus more on the happy (sad) aspects in the mixed emotions ad and hence are less (more) likely to experience discomfort.

Thus, we hypothesize that construal level moderates the effect of mixed emotions appeals on consumers' feeling of discomfort and hence their attitudes toward the appeals. Specifically, we posit that the coexistence of mixed emotions should lead to a lesser degree of discomfort among individuals with high-level construals relative to those with low-level construals. As a result, individuals with high-level construals should evaluate mixed emotions appeals more favorably than those with low-level construals. Moreover, whereas individuals with low-level construals are less persuaded by appeals that evoke mixed emotions (e.g., happiness and sadness) than those that evoke pure positive emotions (e.g., happiness), as demonstrated in previous research (Williams and Aaker 2002), individuals with high-level construals, who are less likely to experience discomfort from mixed emotions, should be equally favorable toward mixed emotions appeals and happy appeals.

We further propose that chronic differences in construal level between older and younger adults may account for the moderating effect of age on mixed emotions documented in the literature. More specifically, Williams and Aaker (2002) find that older adults reported lower levels of discomfort when they experienced happiness and sadness simultaneously and consequently were more favorable toward mixed emotions appeals relative to younger adults. Others have also found that older adults could better cope with the conflict and tension associated with their complex feelings than younger adults (Labouvie-Vief, DeVoe, and Bulka 1989). We propose that the moderating effect of age on consumers' responses to mixed emotions appeals may be driven by their chronic construal levels. That is, older adults are more likely to have high-level construals and hence are less bothered by mixed emotions appeals. Consistent with this view, extant research in developmental psychology suggests that older adults are more abstract in their mental representation than younger adults (e.g., Koutstaal and

Schacter 1997; McGinnis and Zelinski 2000, 2003). For example, when asked to interpret unfamiliar words from a passage (e.g., *dippoldism*, which means "whipping school children"), older people came up with more abstract interpretations of the words (e.g., "misconduct"), whereas younger people were more likely to come up with specific and contextualized interpretations (e.g., "spanking"; McGinnis and Zelinski 2000). And when asked to recognize previously studied pictures, older adults were more likely than young adults to falsely identify items from the same category as "old," suggesting that they relied more on the abstract, general conceptual information in their learning and organization of information (Koutstaal and Schacter 1997). We posit that this tendency of older adults to process information more abstractly renders them better able to handle mixed emotions.

Williams and Aaker (2002) also report that consumers' attitudes toward mixed emotions appeals are moderated by their cultural background. In their study, European American participants reported higher levels of discomfort and less favorable attitudes as compared to Asian American participants when presented with a mixed emotion appeal that evoked happiness and sadness versus one that evoked just happiness. We propose that the chronic construal levels associated with the North American versus East Asian cultures may account for these effects. According to Nisbett and his colleagues, members of collectivist cultures (e.g., East Asians) maintain a holistic view of the world whereas members of individualist cultures (e.g., North Americans) have an analytic view of the world (Nisbett et al. 2001). Consistent with this notion, Kühnen and Oyserman (2002) find that participants primed with an interdependent self-construal (which is characteristic of the East Asian culture) were faster than those primed with an independent self-construal (which is characteristic of the North American culture) in identifying global features but slower in identifying local features. To the extent that holistic, global processing reflects abstract, high-level construals whereas analytic, local processing is indicative of concrete, low-level construals, these results suggest that East Asians are likely to represent information at a higher, more abstract level than North Americans. Therefore, we hypothesize that the difference in chronic construal level associated with the two cultures may account for the moderating effect of culture on consumers' responses to mixed emotions appeals.

In summary, we hypothesize that consumers who construe information at low levels would experience more discomfort and develop less favorable attitudes in response to mixed emotions appeals as compared to those consumers with high-level construals. We further hypothesize that the moderating effects of age and culture on consumers' attitudes toward mixed emotions appeals documented in the extant literature may be mediated by their chronic construal levels associated with age and cultural background. We tested these hypotheses in five experiments. In experiments 1–3, we examined the effects of construal level on people's felt discomfort and attitudes toward mixed emotions versus positive emotional ap-

peals by measuring participants' chronic construal level (experiments 1 and 3) and by situationally inducing participants to think at high versus low levels (experiment 2). In experiment 4, we tested the hypothesis that the moderating effect of age on consumers' attitudes toward mixed emotions appeals may be driven by their chronic construal levels associated with age. And finally, in experiment 5, we conducted a cross-cultural study and tested the hypothesis that the different construal levels associated with the North American versus East Asian cultures may account for the moderating effect of culture on consumers' attitudes toward mixed emotions appeals. Following past research (Williams and Aaker 2002), mixed emotions is operationalized across the five experiments using appeals that prompt participants to experience happiness and sadness concurrently.

EXPERIMENT 1

The objective of experiment 1 was to test the hypothesis that mixed emotions appeals would lead to more discomfort and consequently less favorable attitudes toward the ad among consumers with low-level construals compared to those with high-level construals. While low-level construal consumers would evaluate mixed emotions appeals less favorably than pure positive emotional appeals, there would be little difference between mixed emotions appeals and pure positive emotional appeals in terms of felt discomfort and attitudes among those who construe information at high levels. In this experiment, we operationalized construal level by measuring participants' chronic tendency to construe information at high versus low levels using the Behavior Identification Form (BIF; Vallacher and Wegner 1989).

Method

Procedures. Ninety-one undergraduate students from Northwestern University participated in the study for course credit. Participants first filled out the BIF (Vallacher and Wegner 1989). This is a 25-item questionnaire that measures individuals' chronic construal level as a personality trait. Each question requires participants to describe an action (e.g., locking a door) by choosing one of two options corresponding to either a more abstract, high-level (e.g., securing the house) or a concrete, low-level representation of that action (e.g., putting a key in the lock). Each answer was coded as one if participants chose the high-level construal or as zero if participants chose the low-level construal. The total score was summed for each participant, yielding a BIF score. Higher BIF scores indicate a greater tendency toward construing information more abstractly.

Following the completion of the BIF, participants were shown either an ad that evokes mixed emotions or an ad that evokes happiness. Adapted from Williams and Aaker (2002, experiment 2), the ad features a photo frame company. The stimuli contained a half-page photograph of a graduation ceremony. Ad type was manipulated within the text of the ad. Participants in the mixed emotions appeal condition read: "The moment has finally arrived. A chapter

in your life is beginning, and another one is ending. You're looking forward to the future and the exciting possibilities it holds. You'll also miss the friends you've made and the good times you've had together. It's such a happy and a sad time that you will never forget. Watson Custom Photo Frames—Let us help you keep this moment forever!" Those in the happy appeal condition read a similar ad that focused on happiness: "The moment has finally arrived. A chapter in your life is beginning. You're looking forward to the future and the exciting possibilities it holds. It's such a happy time that you will never forget. Watson Custom Photo Frames—Let us help you keep this moment forever!"

After reading the ad, participants indicated the extent to which they felt certain emotions on a series of 7-point scales (1 = not at all; 7 = a lot). The items were designed to measure happiness (happy, delighted, joyful), sadness (sad, sorrowful, depressed), and discomfort (uncomfortable, conflicted). The order of these items was randomized. Then participants were asked to evaluate the ad on a 4-item 7-point scale (1 = bad, not at all likable, negative, unfavorable; 7 = good, likable, positive, favorable). Finally, participants were thanked and debriefed.

Results

Manipulation Checks. We first examined whether the ads had successfully induced the intended emotions by first averaging the three happiness items to form a happiness index ($\alpha = .83$) and the three sadness items to create a sadness index ($\alpha = .78$). Following Williams and Aaker (2002), we calculated an emotional ambivalence index, which measures the extent to which one's emotions are mixed (Thompson et al. 1995).¹ Separate one-way ANOVAs examining the effect of ad type were performed on the happiness, sadness, and ambivalence indices. The results showed that the mixed emotions ad evoked a similar level of happiness ($M = 4.18$) as the happy ad ($M = 3.91$; $F < 1$). However, the mixed emotions ad evoked more sadness ($M_{\text{mixed emotions}} = 3.27$ vs. $M_{\text{happy}} = 2.10$; $F(1, 89) = 18.64$, $p < .001$) and more ambivalence ($M_{\text{mixed emotions}} = 3.84$ vs. $M_{\text{happy}} = 2.03$; $F(1, 89) = 8.24$, $p < .01$) relative to the happy ad, providing evidence that our manipulation to induce the intended emotions was successful.

Discomfort. We hypothesized that participants with low-level construals would experience more discomfort when presented with the mixed emotions (vs. happy) appeal as compared to those with high-level construals. We first created a discomfort index by averaging the two discomfort items ($r = .46$) and then conducted a regression analysis with ad type (mixed emotions ad = 1; happy ad = -1), construal level (mean-centered BIF score), and the interaction term included in the model as predictors of discomfort.

¹Emotional ambivalence is calculated as a linear function of three times the conflicting reactions minus the dominant reactions ($\text{Ambivalence} = 3C - D$), where the dominant reaction (D) is defined as whichever positive or negative reaction is more intense and the conflicting reaction (C) is defined as the less intense emotion.

TABLE 1

DISCOMFORT AS A FUNCTION OF AD TYPE AND CONSTRUAL LEVEL (EXPERIMENTS 1-5)

	Ad type	
	Mixed emotions ad	Happy ad
Experiment 1:		
Chronic high level	2.17 (1.26)	2.29 (1.29)
Chronic low level	3.06 (1.62)	1.90 (1.04)
Experiment 2:		
Primed high level	2.39 (1.20)	2.44 (1.28)
Primed low level	3.48 (1.74)	1.82 (1.07)
Experiment 3:		
Chronic high level	1.94 (1.12)	2.18 (1.26)
Chronic low level	2.65 (1.45)	2.16 (1.20)
Experiment 4:		
Chronic high level	1.85 (1.12)	1.72 (1.19)
Chronic low level	3.05 (1.69)	2.05 (1.15)
Experiment 5:		
Chronic high level	2.57 (1.34)	2.45 (1.35)
Chronic low level	3.15 (1.47)	2.25 (1.24)

NOTE.—Standard deviations are in parentheses.

fort. The result showed a nonsignificant main effect of construal level ($\beta = -.09, p > .40$) and a marginally significant main effect of ad type ($\beta = .18, p = .07$) such that participants felt more discomfort in the mixed emotions ad condition than in the happy ad condition. Central to our hypothesis, the interaction between ad type and construal level was significant ($\beta = -.24, p < .05$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants experienced more discomfort in the mixed emotions ad condition ($M = 3.06$) than in the happy ad condition ($M = 1.90; F(1, 87) = 7.29, p < .01$; table 1). In contrast, the discomfort experienced by high-level construal participants did not differ between the mixed emotions ad ($M = 2.17$) and the happy ad condition ($M = 2.29; F < 1$). And among those who saw the mixed emotions ad, low-level construal participants reported more discomfort ($M = 3.06$) than their high-level construal counterparts ($M = 2.17; F(1, 87) = 5.98, p < .05$).

Attitude toward the Ad. Our hypothesis was that the effects of ad type on attitude are moderated by construal level. More specifically, we hypothesized that low-level construal participants who experienced discomfort would evaluate the mixed emotions ad less favorably than the high-level construal participants; they would also be less positive toward the mixed emotions ad than the happy ad. To test

this hypothesis, we conducted a regression analysis with ad type, construal level, and the interaction term as predictors of participants' attitudes toward the ad ($\alpha = .93$). Neither the main effect of ad type ($\beta = -.05, p > .60$) nor the main effect of construal level ($\beta = .05, p > .65$) was significant. Importantly, the predicted ad type \times construal level interaction was significant ($\beta = .26, p < .05$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants evaluated the mixed emotions ad ($M = 3.69$) less favorably than the happy ad ($M = 4.93; F(1, 87) = 8.10, p < .01$), whereas high-level construal participants were more favorable toward the mixed emotions ad ($M = 4.44$) than the happy ad ($M = 3.58; F(1, 87) = 4.26, p < .05$; table 2). Further, high-level construal participants evaluated the mixed emotions ad ($M = 4.44$) more favorably than low-level construal participants ($M = 3.69; F(1, 87) = 4.13, p < .05$). Thus, these results provide support for our hypothesis that construal level moderates consumers' attitudes toward mixed emotions appeals.

The rationale for the moderating role of construal level on attitudes toward mixed emotions appeals is that high-

TABLE 2

ATTITUDE TOWARD THE AD (AAD) AND PURCHASE INTENTION (PI) AS A FUNCTION OF AD TYPE AND CONSTRUAL LEVEL (EXPERIMENTS 1-5)

	Ad type	
	Mixed emotions ad	Happy ad
Experiment 1 (AAd):		
Chronic high level	4.44 (1.31)	3.58 (1.30)
Chronic low level	3.69 (1.52)	4.93 (1.32)
Experiment 2 (AAd):		
Primed high level	3.94 (.97)	3.60 (.96)
Primed low level	2.95 (1.04)	4.36 (1.15)
Experiment 3 (AAd):		
Chronic high level	4.39 (1.39)	4.47 (1.44)
Chronic low level	3.76 (1.36)	4.58 (1.29)
Experiment 4 (AAd):		
Chronic high level	4.58 (1.77)	4.53 (2.08)
Chronic low level	3.47 (1.62)	4.84 (1.77)
Experiment 5 (AAd):		
Chronic high level	4.00 (1.38)	3.88 (1.23)
Chronic low level	3.25 (1.14)	4.24 (1.15)
Experiment 5 (PI):		
Chronic high level	3.26 (1.68)	2.64 (1.44)
Chronic low level	2.23 (1.20)	3.29 (1.37)

NOTE.—Standard deviations are in parentheses.

level construal individuals are less likely to feel discomfort when they experience mixed emotions. That is, the effect of construal level on consumers' attitudes toward mixed emotions appeals is mediated by discomfort. To test this hypothesis, we conducted a mediation analysis in the mixed emotions ad condition following Baron and Kenny (1986). First, a regression analysis showed a positive effect of construal level on attitudes toward the mixed emotions ad ($\beta = .33, p < .05$). A second regression analysis showed a negative effect of construal level on discomfort ($\beta = -.33, p < .05$). A third regression analysis showed a negative effect of discomfort on attitudes toward the ad ($\beta = -.39, p < .01$). Finally, when both construal level and discomfort were included in the model to predict attitudes, the effect of construal level became marginally significant ($\beta = .22, p = .10$), while the effect of discomfort remained significant ($\beta = -.31, p < .05$). A Sobel test confirmed that the reduction in the effect of construal level was significant ($z = 2.01, p < .05$). Mediated moderation analyses (Baron and Kenny 1986) conducted for the full model in this and subsequent experiments (experiments 1–4) showed that the construal level \times ad type interaction on attitudes toward the ad was mediated by discomfort. To ensure that it is participants' inability to handle mixed emotions (i.e., discomfort) and not their experience of mixed emotions per se (i.e., ambivalence) that is driving the results, we investigated whether ambivalence could account for the construal level effect on attitudes toward the ad in the mixed emotions condition. A regression analysis showed that ambivalence did not predict participants' attitudes toward the mixed emotions ad ($\beta = -.08, p > .50$); construal level was also not a predictor of ambivalence ($\beta = -.09, p > .40$). These results suggest that the effect of construal level on participants' attitudes toward the mixed emotions ad was driven by their (in)tolerance of the mixed emotions experience as reflected in their self-reported level of discomfort, and not by their experience of having mixed emotions. Similar analyses excluded ambivalence as a mediator in all subsequent experiments.

Discussion

The results of experiment 1 provide support for our hypothesis that consumers' responses to mixed emotions (vs. pure positive emotion) appeals are moderated by their construal level. In particular, low-level construal participants felt more discomfort and in turn developed less favorable attitudes in response to the mixed emotions appeal as compared to the high-level construal participants. Mediation analysis confirms that the construal level effect on participants' attitudes toward the ad was mediated by discomfort. It is interesting to note that whereas low-level construal participants evaluated the mixed emotions appeal less favorably than the happy appeal, replicating previous findings (Williams and Aaker 2002), high-level construal participants actually evaluated the mixed emotions appeal more favorably. This issue will be discussed in more detail later.

One limitation of this experiment is that the results are

correlational in nature, as construal level was measured as an individual difference variable. We sought to provide further evidence in support of our hypothesis that construal level moderates the effect of mixed emotions appeals on attitudes by systematically varying participants' construal level in experiment 2.

EXPERIMENT 2

The objective of experiment 2 was to replicate the findings of experiment 1 by manipulating participants' construal level using a situational prime. Following Fujita et al. (2006), we presented participants with a list of nouns and asked them to either generate category labels (high-level construals) or exemplars (low-level construals) for the nouns. We then presented them with either the mixed emotions ad or the happy ad used in experiment 1. Thus, a 2 (ad type: mixed emotions vs. happy) \times 2 (construal level: high vs. low) between-participant design was used.

Method

Procedures. Seventy-five undergraduate students from Northwestern University participated in the study. At the beginning of the study, participants were primed with either high-level or low-level construals using a category/exemplar generation task (Fujita et al. 2006). Specifically, we gave all participants a list of 12 nouns (e.g., dog). Participants in the high-level construal condition were asked to generate a superordinate category label for each noun (e.g., pet), and those in the low-level construal condition were asked to generate a subordinate exemplar (e.g., golden retriever).

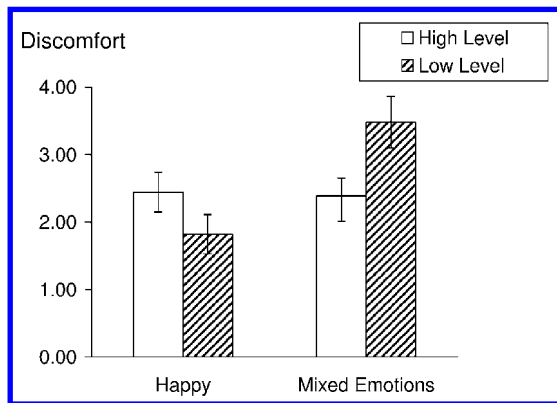
Participants were then presented with the same mixed emotions ad or happy ad for Watson photo frames as used in experiment 1. Using similar scales as those in experiment 1, participants indicated their felt emotions (happiness and sadness), discomfort, and attitude toward the ad. Prior research has shown that high-level construals lead people to expect actions to be performed in a more distant future relative to low-level construals (Lieberman, Trope, McCrea, et al. 2007). Thus, as a manipulation check for construal level, we asked participants to imagine that they had decided to purchase a Watson photo frame and to indicate when they would buy the frame on a 13-point scale (1 = today, 13 = in 6 months).

Results

Manipulation Checks. First, we checked the adequacy of our construal level manipulation. A 2 (ad type: mixed emotions vs. happy) \times 2 (construal level: high vs. low) ANOVA was performed on participants' response as to when they would purchase the photo frame. The results showed a significant main effect of construal level ($F(1, 70) = 7.12, p < .01$) such that participants who were primed with low-level construals indicated that they would purchase the photo frame sooner ($M = 6.76$) than those primed with high-level construals ($M = 9.10$). This provides evidence

FIGURE 1

DISCOMFORT AS A FUNCTION OF AD TYPE AND CONSTRUAL LEVEL (EXPERIMENT 2)



that our construal level manipulation was successful. Neither the main effect of ad type nor the interaction was significant ($F < 1$).

To check whether our manipulation of ad type was successful, we conducted three separate 2 (ad type: mixed emotions vs. happy) \times 2 (construal level: high vs. low) ANOVAs on participants' felt happiness ($\alpha = .89$), sadness ($\alpha = .85$), and ambivalence. In terms of participants' felt happiness, none of the effects was significant ($p > .10$). In terms of felt sadness, the main effect of ad type was significant such that participants who saw the mixed emotions ad felt more sad ($M = 2.92$) than those who saw the happy ad ($M = 1.95$; $F(1, 71) = 11.89, p = .001$). Neither the main effect of construal level ($F < 1$) nor the interaction between ad type and construal level was significant ($F(1, 71) = 2.16, p > .10$). Finally, for felt ambivalence as calculated using the same formula as in experiment 1, the main effect of ad type was significant such that those in the mixed emotions ad condition felt more ambivalent ($M = 3.37$) than those in the happy condition ($M = 1.89$; $F(1, 71) = 6.51, p < .05$). Neither the main effect of construal level ($F(1, 71) = 1.25, p > .25$) nor the interaction was significant ($F(1, 71) = 1.82, p > .15$). These results gave us the confidence that our emotion induction manipulation was successful.

Discomfort. To test the hypothesis that construal level moderates people's feeling of discomfort in response to mixed emotions appeals, a 2 (ad type: mixed emotions vs. happy) \times 2 (construal level: high vs. low) ANOVA was performed on participants' discomfort index ($r = .65$). The results showed a significant main effect of ad type such that participants who saw the mixed emotion ad reported feeling more discomfort ($M = 2.92$) than those who saw the happy ad ($M = 2.17$; $F(1, 71) = 6.14, p < .05$). The main effect of construal level was not significant ($F < 1$). As predicted, the interaction between ad type and construal level was significant ($F(1, 71) = 7.07, p < .05$; table 1; fig. 1). Consistent with our hypothesis, planned contrasts showed that low-level

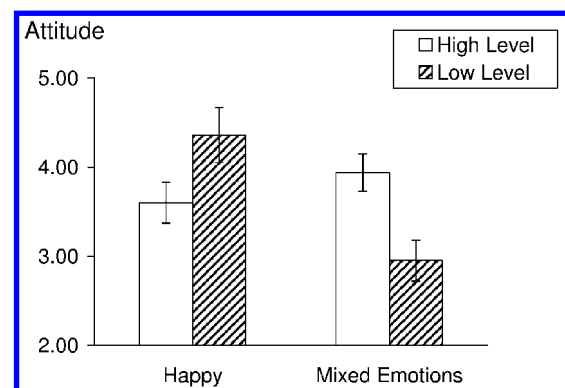
construal participants experienced more discomfort in the mixed emotions ad ($M = 3.48$) than in the happy ad condition ($M = 1.82$; $F(1, 71) = 12.19, p = .001$), whereas our high-level construal participants reported similar levels of discomfort regardless of whether they were in the mixed emotions ($M = 2.39$) or the happy ad condition ($M = 2.44$; $F < 1$). Also as predicted, among participants who saw the mixed emotions ad, those primed with low-level construals reported more discomfort ($M = 3.48$) than those primed with high-level construals ($M = 2.39$; $F(1, 71) = 6.76, p < .05$).

Attitude toward the Ad. To test the moderating effect of construal level on consumers' attitudes toward mixed emotions appeals, a 2 (ad type: mixed emotions vs. happy) \times 2 (construal level: high vs. low) ANOVA was performed on participants' attitude toward the ad ($\alpha = .82$). The results showed a significant main effect of ad type such that participants preferred the happy ad ($M = 3.93$) to the mixed emotions ad ($M = 3.46$; $F(1, 71) = 4.88, p < .05$). The main effect of construal level was not significant ($F < 1$). Central to our hypothesis, the interaction between ad type and construal level was significant ($F(1, 71) = 13.33, p < .001$; table 2; fig. 2). As predicted, our low-level construal participants evaluated the mixed emotions ad less favorably ($M = 2.95$) relative to the happy ad ($M = 4.36$; $F(1, 71) = 15.87, p < .001$), whereas our high-level construal participants did not differ in their evaluations of the mixed emotions ad ($M = 3.94$) and the happy ad ($M = 3.60$; $F(1, 71) = 1.13, p > .25$). And central to this research, among participants who saw the mixed emotions ad, those primed with low-level construals reported less favorable attitudes toward the ad ($M = 2.95$) than those primed with high-level construals ($M = 3.94$; $F(1, 71) = 10.10, p < .01$).

A mediation analysis was conducted in the mixed emotions ad condition to examine the mechanism underlying the construal level effect on attitudes. Consistent with earlier results, regression analyses showed that construal level has a positive effect on attitude ($\beta = .45, p < .01$) and a negative

FIGURE 2

ATTITUDE TOWARD THE AD AS A FUNCTION OF AD TYPE AND CONSTRUAL LEVEL (EXPERIMENT 2)



effect on discomfort ($\beta = -.35, p < .05$). Further, discomfort has a negative effect on participants' attitudes toward the mixed emotions ad ($\beta = -.46, p < .01$). Finally, when we included both construal level and discomfort in the model to predict attitudes, the effect of construal level was significantly reduced ($\beta = .33, p < .05$; Sobel $z = 1.93, p = .05$), while the effect of discomfort remained significant ($\beta = -.34, p < .05$). These results suggest that the effect of construal level on participants' attitudes toward mixed emotions appeals was partially driven by the discomfort induced by the mixed emotions appeal.

Discussion

By employing a situational prime to manipulate construal level, these results provide further support for our hypothesis that consumers' responses to mixed emotions appeals are moderated by their construal level. Specifically, participants primed with low-level construals experienced more discomfort and developed less favorable attitudes toward the mixed emotions appeal compared to those primed with high-level construals. We also showed that the effect of construal level on attitudes toward the mixed emotions appeal was partially mediated by discomfort.

While the results from the two studies provide convergent evidence that construal level moderates consumers' attitudes toward mixed emotions appeals, several concerns deserve attention. First, participants' chronic construal level as measured using the BIF in experiment 1 was administered at the beginning of the experimental session, which might have influenced how participants processed the ad or responded to the measures. Second, participants' emotional responses to the ad were measured prior to their attitudes toward the ad in both experiments, which could have potentially called participants' attention to their feelings and inflated the observed effects on their attitudes. Finally, although we showed that participants' construal level (as measured by the BIF or manipulated) moderates their responses to mixed emotions appeals, direct evidence that high-level versus low-level construal participants were indeed processing the ad at different levels of abstractness is still lacking. We addressed these issues in the next study.

EXPERIMENT 3

Experiment 3 was designed to achieve several objectives. First, we aimed to demonstrate the robustness of experiment 1's findings by administering the BIF at the end rather than at the beginning of the experiment session to avoid any potential measurement order effects. Second, to address the concern that measuring participants' emotional responses to the ad prior to measuring their attitudes might have inflated the observed effects, we varied the order of these two measures. Finally, to provide evidence that participants with high-level versus low-level construals were processing the ad at different levels of abstractness, we asked participants to list their thoughts while reviewing the ad. It is expected that participants with high-level construals would have more

abstract thoughts about the ad as compared to those with low-level construals.

Method

Procedures. Two hundred and fifty undergraduate students from Northwestern University participated in the study. They were randomly assigned to one of the experimental conditions. The procedures were similar as in experiment 1 except for the following changes. First, half of the participants were asked to indicate their attitudes toward the ad prior to their emotional responses, and the remaining half completed these measures in the reverse order. And after participants indicated their attitudes and emotional responses to the ad, they wrote down all the thoughts they had while they were reviewing the ad. Finally, all participants completed the BIF questionnaire.

Results

Manipulation Checks. To examine whether the ads had successfully induced the intended emotions in the participants, we performed three separate one-way ANOVAs to examine the effects of ad type on the happiness index ($\alpha = .91$), sadness index ($\alpha = .77$), and ambivalence index. The results showed that relative to the happy ad, the mixed emotions ad evoked less happiness ($M_{\text{mixed emotions}} = 3.32$ vs. $M_{\text{happy}} = 3.74$; $F(1, 248) = 5.50, p < .05$) but more sadness ($M_{\text{mixed emotions}} = 2.38$ vs. $M_{\text{happy}} = 1.94$; $F(1, 248) = 8.81, p < .01$) and more ambivalence ($M_{\text{mixed emotions}} = 2.78$ vs. $M_{\text{happy}} = 1.57$, $F(1, 248) = 11.44, p = .001$). These results suggest that the ads successfully induced the intended emotions in our participants.

Discomfort. To examine the effect of construal level on participants' feeling of discomfort, we conducted a regression analysis with ad type (mixed emotions ad = 1; happy ad = -1), construal level (mean-centered BIF score), measurement order of felt emotions versus attitude (attitude-emotions = 1; emotions-attitude = -1), and all the interaction terms included in the model as predictors of discomfort ($r = .50$). The result showed a marginally significant main effect of construal level ($\beta = -.11, p < .09$) such that high-level construals were associated with less discomfort. Central to our hypothesis, the interaction between ad type and construal level was significant ($\beta = -.14, p < .05$). No other effects were significant ($p > .15$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants experienced more discomfort in the mixed emotions ad condition ($M = 2.65$) than in the happy ad condition ($M = 2.16$; $F(1, 246) = 4.80, p < .05$; table 1). In contrast, the discomfort experienced by high-level construal participants did not differ between the mixed emotions ad ($M = 1.94$) and the happy ad condition ($M = 2.18$; $F(1, 246) = 1.21, p > .25$). And among those who saw the mixed emotions ad, low-level construal participants reported more discomfort

fort ($M = 2.65$) than their high-level construal counterparts ($M = 1.94$; $F(1, 246) = 9.83, p < .01$).

Attitude toward the Ad. To examine the moderating effect of construal level on consumers' attitudes toward the appeals, we conducted a regression analysis with ad type, construal level, measurement order of felt emotions versus attitude, and all the interaction terms included in the model as predictors of attitude toward the ad ($\alpha = .83$). The results showed that there was a significant main effect of ad type ($\beta = -.16, p < .05$) such that participants evaluated the happy ad more favorably than the mixed emotions ad. As predicted, the ad type \times construal level interaction was significant ($\beta = .14, p < .05$). No other effects were significant ($p > .10$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants evaluated the mixed emotions ad ($M = 3.76$) less favorably than the happy ad ($M = 4.58$; $F(1, 246) = 11.17, p = .001$; table 2). In contrast, high-level construal participants were equally favorable toward the mixed emotions ad ($M = 4.39$) and the happy ad ($M = 4.47$; $F < 1$). Further, high-level construal participants evaluated the mixed emotions ad ($M = 4.39$) more favorably than low-level construal participants ($M = 3.76$; $F(1, 246) = 6.27, p < .05$). These data provide convergent evidence for our hypothesis that construal level moderates consumers' attitudes toward mixed emotions appeals. Further, the absence of any measurement order effects suggests that measuring participants' emotional responses first did not bias their attitudes toward the appeals.

To examine the role of discomfort in the construal level effect on attitudes, we conducted a mediation analysis in the mixed emotions ad condition: First, construal level had a positive effect on attitude toward the mixed emotions ad ($\beta = .17, p = .05$). Construal level also had a negative effect on discomfort ($\beta = -.24, p < .01$). A third regression showed that discomfort negatively affected participants' attitudes toward the mixed emotions ad ($\beta = -.24, p < .01$). Finally, when we included both construal level and discomfort in the model as predictors of attitude, the effect of construal level became nonsignificant ($\beta = .12, p > .15$; Sobel $z = 1.90, p = .05$), while the effect of discomfort remained significant ($\beta = -.21, p < .05$). Replicating earlier findings, these results suggest that the effect of construal level on participants' attitudes toward mixed emotions appeals was driven by the discomfort elicited by the appeal.

Thought Listing. We investigated whether participants with different chronic construal levels as measured by the BIF were processing the ad at different levels of abstractness by examining their thought listing. A coder blind to the experimental conditions coded participants' thoughts as they pertained to the ad and the graduation scenario depicted in the ad. A thought was coded as abstract if it pertained to participants' general impression or overall evaluation of the ad or the graduation scenario depicted in the ad (e.g., "the ad was kind of cheesy"; "graduation means starting a new life"); it was coded as concrete if it pertained to a specific or detailed aspect of the ad or the graduation scenario de-

scribed in the ad (e.g., "I didn't like the font choice—it was hard to read it"; "I thought about having to pay bills when I graduate"). We summed the total number of abstract (concrete) thoughts for each participant to form an abstract (concrete) thought index. Next, we conducted a regression analysis with ad type, construal level, measurement order, and all the interaction terms as predictors of participants' abstract thought index. The results showed a significant main effect of construal level such that participants with higher BIF scores had more abstract thoughts while reading the ad ($\beta = .14, p < .05$). There was also a marginally significant main effect of ad type such that participants had more abstract thoughts while reading the happy ad relative to the mixed emotions ad ($\beta = -.11, p < .09$). No other effects were significant ($p > .10$). A similar analysis on the concrete thought index showed that none of the effects was significant ($p > .10$). A similar analysis on the total number of thoughts showed a marginally significant main effect of measurement order such that participants listed more thoughts when their attitudes toward the ad was measured prior to their emotional responses ($\beta = .12, p = .07$). No other effects were significant ($p > .25$). These results suggest that participants with higher chronic construal levels indeed processed the ad at a more abstract level.

Discussion

The results of experiment 3 provide further support for our hypothesis that consumers' responses toward mixed emotions (vs. happy) appeals are moderated by construal level. In particular, low-level construal participants felt more discomfort and were less favorable toward the mixed emotions ad compared to the happy ad; this difference was not observed among those with high-level construals. Further, high-level construal participants had more favorable attitudes toward the mixed emotions ad than low-level construal participants. We also demonstrated that these results remained robust regardless of whether participants' attitudes toward the ad were measured prior to or after measuring their emotional responses and when the BIF was administered at the end. Finally, data from the thought listing task provide evidence that high-level construal participants were indeed processing the ad more abstractly relative to the low-level construal participants.

Previous research has shown that age moderates the effect of mixed emotions on consumers' attitudes toward advertising appeals (Williams and Aaker 2002). Specifically, younger people are shown to prefer ads eliciting happiness to ads eliciting mixed emotions, whereas older people are equally favorable toward mixed emotions appeals and happy appeals. Drawing from the developmental psychology literature suggesting that older adults represent information in memory at a more abstract level relative to younger adults (e.g., Koutstaal and Schacter 1997; McGinnis and Zelinski 2000, 2003), we hypothesize that the moderating effect of age on attitudes toward mixed emotions appeals may be driven by the difference in construal level chronically as-

sociated with different age groups. We tested this hypothesis in experiment 4.

EXPERIMENT 4

The main objective of experiment 4 was to test the prediction that the moderating effect of age on consumers' attitudes toward mixed emotions appeals is driven by the chronic construal level associated with age. A second objective was to demonstrate the external validity of the construal level effect using a nonstudent sample. Using a nonstudent sample also provided the variance needed to examine the effect of age on consumers' attitudes toward mixed emotions appeals.

Method

Procedures. One hundred and forty-nine participants were recruited from the community to take part in the study. The age of the participants ranged from 19 to 70 (mean = 40; median = 37). Participants were first presented with either a mixed emotions ad or a happy ad adapted from the stimuli used in experiments 1–3. We used the same text as that used in experiments 1–3 to convey the sentiments of someone relocating to a different city, but we changed the product from a photo frame to a moving company to make the context more relevant to our participants in this experiment who came from all walks of life. After reading the ad, participants indicated their felt emotions and attitudes toward the ad on similar measures as those used previously. Finally, all participants completed the BIF.

Results

Manipulation Checks. To check whether the stimuli successfully evoked the intended emotions in participants, we performed three separate regressions to examine the effects of ad type (mixed emotions = 1; happy = -1), age (mean-centered), and the interaction term on the happiness index ($\alpha = .92$), sadness index ($\alpha = .89$), and ambivalence index. The results showed that on the happiness index, there was a significant main effect of ad type such that the happy ad evoked more happiness than the mixed emotions ad ($\beta = -.31, p < .001$). Neither the main effect of age ($p > .10$) nor the interaction term ($p > .75$) was significant. On the sadness and ambivalence indices, there was a main effect of ad type such that the mixed emotions ad induced more sadness ($\beta = .44, p < .001$) and more ambivalence ($\beta = .30, p < .001$) relative to the happy ad. The main effect of age was also significant such that age was negatively associated with sadness ($\beta = -.32, p < .001$) and ambivalence ($\beta = -.25, p = .001$). The ad type \times age interaction was not a significant predictor of sadness or ambivalence ($p > .15$). These results suggest that the ads successfully induced the intended emotions in our participants.

Construal Level and Age. We predicted that people's construal level increases with age. A regression analysis ex-

amining the effect of age on participants' BIF score confirmed that age is positively associated with construal level ($\beta = .30, p < .001$).

Discomfort. We next examined the effect of age on discomfort. A regression analysis with ad type, age, and the interaction term as predictors of discomfort ($r = .79$) showed a significant main effect of ad type ($\beta = .24, p = .001$) such that the mixed emotions ad prompted more discomfort. The main effect of age was also significant ($\beta = -.40, p < .001$) such that older participants reported lower levels of discomfort. The expected interaction between ad type and age was not significant ($\beta = -.09, p > .25$). A closer examination of the data using a median split on age (median = 37) suggested that the null interaction effect was due to younger participants reporting higher levels of discomfort ($M = 2.35$) than the older participants even in the happy ad condition ($M = 1.63; F(1, 144) = 4.67, p < .05$). And among those who saw the mixed emotions ad, consistent with Williams and Aaker's (2002) finding, younger participants reported higher levels of discomfort ($M = 3.38$) than older participants ($M = 2.08; F(1, 144) = 16.04, p < .001$).

We next examined the effect of participants' chronic construal level on discomfort. The results of a regression analysis with ad type, construal level, and the interaction term as predictors of discomfort showed a significant main effect of ad type ($\beta = .19, p < .05$) such that the mixed emotions ad evoked more discomfort. There was also a significant main effect of construal level ($\beta = -.32, p < .001$) such that a higher construal level was associated with less discomfort. More importantly, the predicted interaction between ad type and construal level was significant ($\beta = -.21, p < .05$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants reported more discomfort after seeing the mixed emotions ad ($M = 3.05$) versus the happy ad ($M = 2.05; F(1, 127) = 9.89, p < .01$; table 1); such a difference was not observed for high-level construal participants ($M_{\text{mixed emotions}} = 1.85$ vs. $M_{\text{happy}} = 1.72; F < 1$). And in the mixed emotions ad condition, high-level construal participants reported less discomfort ($M = 1.85$) than their low-level counterparts ($M = 3.05; F(1, 127) = 13.64, p < .001$). These results replicated our findings from experiments 1–3.

Attitude toward the Ad. We next examined the effect of age on attitudes toward the ad. A regression analysis with ad type, age, and the interaction term as predictors of attitudes toward the ad ($\alpha = .93$) showed a significant main effect of ad type ($\beta = -.20, p < .05$) such that participants preferred the happy ad to the mixed emotions ad. The main effect of age was not significant ($\beta = .12, p > .10$). Consistent with prior findings, the interaction between ad type and age was significant ($\beta = .19, p < .05$). Subsequent contrasts based on a median split of participants' age showed that younger participants had less favorable attitudes toward the mixed emotions ad ($M = 3.46$) than the happy ad ($M = 4.85; F(1, 145) = 10.20, p < .01$), whereas older participants' attitudes toward the mixed emotions ad ($M = 4.25$) and the happy ad ($M =$

4.34) were equally favorable ($F < 1$). And among those who saw the mixed emotions ad, older participants evaluated the ad more favorably ($M = 4.25$) than younger participants ($M = 3.46$; $F(1, 145) = 3.63, p = .05$). These results replicated the age effects reported by Williams and Aaker (2002).

Also replicating Williams and Aaker's (2002) findings, a mediation analysis in the mixed emotions condition showed that the age effect on consumers' attitudes toward the mixed emotions appeal is mediated by discomfort. The first regression analysis showed that age positively predicted attitudes toward the mixed emotions ad ($\beta = .34, p < .01$); a second regression analysis showed that age also negatively predicted discomfort ($\beta = -.44, p < .001$). A third regression showed that discomfort negatively affected participants' attitudes toward the mixed emotions ad ($\beta = -.48, p < .001$). Finally, when we included both age and discomfort in the model to predict attitudes, the effect of age was no longer significant ($\beta = .16, p > .10$; Sobel $z = 3.15, p < .01$), while the effect of discomfort remained significant ($\beta = -.41, p = .001$).

Next, we examined the effect of construal level on participants' attitudes toward the ad. A regression analysis with ad type, construal level, and the interaction term as predictors of attitudes showed a significant main effect of ad type ($\beta = -.18, p < .05$) such that the happy ad was evaluated more favorably than the mixed emotions ad. The main effect of construal level was not significant ($\beta = .11, p > .15$). As predicted, the interaction between ad type and construal level was significant ($\beta = .23, p < .01$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants preferred the happy ad ($M = 4.84$) to the mixed emotions ad ($M = 3.47$; $F(1, 128) = 9.89, p < .01$; table 2). In contrast, there was no difference between high-level construal participants' evaluation of the mixed emotions ad ($M = 4.58$) and the happy ad ($M = 4.53$; $F < 1$). Moreover, high-level construal participants reported more favorable attitudes toward the mixed emotions ad ($M = 4.58$) relative to low-level construal participants ($M = 3.47$; $F(1, 128) = 6.21, p < .05$). These results replicated the findings from experiments 1–3.

Consistent with earlier results, a mediation analysis in the mixed emotions condition showed that the construal level effect on consumers' attitudes toward the mixed emotions ad is mediated by discomfort: regression analyses showed that construal level was a significant predictor of attitude ($\beta = .35, p < .01$) as well as a significant predictor of discomfort ($\beta = -.46, p < .001$). Further, discomfort negatively affected participants' attitudes toward the mixed emotions ad ($\beta = -.48, p < .001$). Finally, when we included both construal level and discomfort in the model to predict attitudes, the effect of construal level was no longer significant ($\beta = .20, p > .10$; Sobel $z = 3.10, p < .01$), while the effect of discomfort remained significant ($\beta = -.32, p < .05$).

The Mediating Role of Construal Level. We hypothesized that consumers' chronic construal level associated with age underlies the moderating effect of age on attitudes

toward mixed emotions appeals documented in the literature (Williams and Aaker 2002). To test this hypothesis, we conducted a mediation analysis (Baron and Kenny 1986) in the mixed emotions condition. The first regression analysis showed that age positively predicted participants' attitudes toward the mixed emotions ad ($\beta = .34, p < .01$). A second regression analysis showed that age was positively associated with construal level ($\beta = .31, p < .05$). A third regression analysis showed that construal level had a positive effect on attitudes ($\beta = .35, p < .01$). Finally, when we included both age and construal level in the model to predict attitudes, the effect of age was significantly reduced ($\beta = .22, p < .08$; Sobel $z = 1.97, p < .05$), while the effect of construal level remained significant ($\beta = .28, p < .05$). These results provide support that the age effect on participants' attitudes toward the mixed emotions appeal was partially mediated by the chronic construal level associated with age. Further, a mediated moderation analysis (Baron and Kenny 1986) conducted in the full model showed that construal level \times ad type fully mediated the moderating effect of age on participants' attitudes toward the mixed emotions versus the happy appeal. Reporting of these analyses is omitted for simplicity.

Discussion

Using a nonstudent sample that ranged from 19 to 70 in age, experiment 4 replicated the moderating effect of construal level on participants' attitudes toward mixed emotions appeals observed in experiments 1–3. Our results also replicated the age effect on attitudes toward mixed emotions appeals reported by Williams and Aaker (2002). Moreover, we found that participants' evaluation of the mixed emotions ad increased with their propensity to think more abstractly, which correlates positively with age. Not surprisingly, differences in construal level only accounted for some and not all of the age effect on attitudes toward the mixed emotions ad. People accumulate a diverse range of emotional and life experiences as they age, all of which may influence how they respond to mixed emotions appeals; hence, a partial mediation effect was observed.

In their investigation of consumers' responses to mixed emotions appeals, Williams and Aaker (2002) also reported that East Asians had more favorable attitudes toward mixed emotions versus happy appeals relative to North Americans. Drawing from findings in the culture literature suggesting that Asians tend to process information more holistically and globally than North Americans (e.g., Kühnen and Oyserman 2002; Nisbett et al. 2001), it is possible that the moderating effect of culture on attitudes toward mixed emotions appeals documented by Williams and Aaker (2002) is also driven by construal level. We conducted experiment 5 to examine the role of construal level in the moderating effect of culture on consumers' attitudes toward mixed emotional appeals.

EXPERIMENT 5

The objective of experiment 5 was to test the hypothesis that construal level may underlie the difference between East Asians and North Americans in their attitudes toward mixed emotions versus happy appeals. To this end, we recruited participants from two cultures (European Americans living in the U.S. and Chinese living in Hong Kong) and presented them with an ad designed to evoke either mixed emotions or happiness.

Method

Procedures. Two hundred and seventeen undergraduate students participated in the study. One hundred and three European Americans were recruited from the United States and 114 Chinese were recruited from Hong Kong. Participants from each cultural sample were randomly assigned to either the happy or mixed emotions ad condition. All participants first completed the BIF. Then they saw one of the two ads used in experiment 1 and responded to similar dependent measures. In this experiment, we also asked participants to indicate how likely they were to purchase the advertised product (Watson Photo frame; 1 = not at all likely; 7 = very likely).

Results

Manipulation Checks. We first examined whether the stimuli successfully evoked the intended emotions. We conducted three separate 2 (ad type: mixed emotions vs. happy) \times 2 (culture: Chinese vs. American) ANOVAs on participants' felt happiness ($\alpha = .88$), sadness ($\alpha = .83$), and ambivalence. In terms of participants' felt happiness, there was a significant main effect of ad type such that the happy ad evoked more happiness ($M = 3.97$) than the mixed emotions ad ($M = 3.50$; $F(1, 213) = 7.16, p < .01$). The main effect of culture was also significant such that Chinese participants experienced more happiness after seeing the ad ($M = 3.93$) as compared to their American counterparts ($M = 3.52$; $F(1, 213) = 5.42, p < .05$). The interaction between ad type and culture was not significant ($F < 1$). In terms of participants' felt sadness, participants who saw the mixed emotions ad felt more sad ($M = 2.95$) than those who saw the happy ad ($M = 2.08$; $F(1, 213) = 30.27, p < .001$). Neither the main effect of culture ($F < 1$) nor the interaction between ad type and culture ($F(1, 213) = 1.68, p > .15$) was significant. Finally, for felt ambivalence, participants in the mixed emotions ad condition felt more ambivalent ($M = 3.84$) than those in the happy condition ($M = 1.73$; $F(1, 213) = 32.81, p < .001$). Neither the main effect of culture ($F(1, 213) = 1.06, p > .30$) nor the interaction was significant ($F(1, 213) = 2.62, p > .10$). These results suggested that our emotion induction was successful.

Construal Level and Culture. We expected that Chinese are associated with higher construal levels compared to Americans. An ANOVA examining the effect of culture on

participants' BIF score showed that our Chinese participants indeed had higher chronic construal levels ($M = 16.93$) than their American counterparts ($M = 14.71$; $F(1, 215) = 11.07, p = .001$).

Discomfort. We next examined the effect of culture on discomfort. The results of a 2 (ad type) \times 2 (culture) ANOVA on discomfort ($r = .51$) showed that the main effect of ad type was significant such that participants reported more discomfort after reading the mixed emotions ad ($M = 2.86$) than the happy ad ($M = 2.35$; $F(1, 213) = 8.08, p < .01$). Neither the main effect of culture ($F < 1$) nor the expected interaction between culture and ad type was significant ($F(1, 213) = 1.71, p > .15$). Nonetheless, planned contrasts showed that the mixed emotions ad evoked more discomfort than the happy ad only among our American participants ($M_{\text{mixed emotions}} = 2.91$ vs. $M_{\text{happy}} = 2.14$; $F(1, 213) = 8.20, p < .01$), but not among our Chinese participants ($M_{\text{mixed emotions}} = 2.81$ vs. $M_{\text{happy}} = 2.53$; $F(1, 213) = 1.24, p > .25$).

To examine the construal level effect on discomfort, we conducted a regression analysis with ad type (mixed emotions = 1; happy = -1), construal level (mean-centered BIF score), and the interaction term in the model to predict discomfort. The analysis yielded a significant main effect of ad type ($\beta = .18, p < .01$) such that the mixed emotions ad was associated with more discomfort. The main effect of construal level was not significant ($\beta = -.04, p > .50$). Central to this research, the predicted interaction between ad type and construal level was significant ($\beta = -.16, p < .05$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants reported more discomfort after seeing the mixed emotions ad ($M = 3.15$) versus the happy ad ($M = 2.25$; $F(1, 213) = 12.08, p = .001$; table 1). In contrast, there was no difference between the mixed emotions and happy ad for high-level construal participants ($M_{\text{mixed emotions}} = 2.57$ vs. $M_{\text{happy}} = 2.45$; $F < 1$). And in the mixed emotions ad condition, high-level construal participants reported less discomfort ($M = 2.57$) than their low-level counterparts ($M = 3.15$; $F(1, 213) = 4.88, p < .05$). These results replicated our previous findings.

Attitude toward the Ad. Next, we examined the culture effect on attitudes toward the ad. A 2 (ad type) \times 2 (culture) ANOVA on attitudes toward the ad ($\alpha = .89$) showed a significant main effect of ad type such that the happy ad was evaluated more favorably ($M = 4.06$) than the mixed emotions ad ($M = 3.63$; $F(1, 213) = 6.96, p < .01$). The main effect of culture was also significant such that Chinese participants indicated more favorable attitudes ($M = 4.11$) than American participants ($M = 3.56$; $F(1, 213) = 11.00, p = .001$). More importantly, the interaction between culture and ad type was significant ($F(1, 213) = 3.68, p = .05$). Planned contrasts showed that American participants evaluated the mixed emotions ad less favorably ($M = 3.18$) compared to the happy ad ($M = 3.94$; $F(1, 213) = 9.88, p < .01$), whereas Chinese participants' evaluation of the

mixed emotions ad ($M = 4.05$) and the happy ad did not differ ($M = 4.17$; $F < 1$). And among those who saw the mixed emotions ad, American participants had less favorable attitudes toward the ad ($M = 3.18$) relative to their Chinese counterparts ($M = 4.05$; $F(1, 213) = 13.41$, $p < .001$). These results replicated the culture effects reported by Williams and Aaker (2002).

We also replicated the effect of construal level on attitudes toward the ad as found in experiments 1–4. The results of a regression analysis with ad type, construal level, and the interaction term as predictors showed a significant main effect of ad type such that the happy ad was associated with more favorable attitudes ($\beta = -.16$, $p < .05$). The main effect of construal level was not significant ($\beta = .10$, $p > .10$). Importantly, the predicted interaction between ad type and construal level was significant ($\beta = .20$, $p < .01$). Planned contrasts based on a median split of participants' BIF score showed that those with low-level construals had less favorable attitudes toward the mixed emotions ad ($M = 3.25$) than the happy ad ($M = 4.24$; $F(1, 213) = 17.45$, $p < .001$; table 2). In contrast, participants with high-level construals were equally favorable toward the mixed emotions ad ($M = 4.00$) and the happy ad ($M = 3.88$; $F < 1$). And among those who saw the mixed emotions ad, high-level construal participants had more favorable attitudes ($M = 4.00$) than low-level construal participants ($M = 3.25$; $F(1, 213) = 9.91$, $p < .01$).

A mediation analysis conducted in the mixed emotions condition showed that construal level had a positive effect on participants' attitudes toward the mixed emotions ad ($\beta = .29$, $p < .01$) and a negative effect on discomfort ($\beta = -.19$, $p = .05$). Further, discomfort negatively impacted participants' attitudes toward the mixed emotions ad ($\beta = -.19$, $p < .06$). However, when both construal level and discomfort were included in the model to predict attitudes, the effect of construal level remained significant ($\beta = .26$, $p < .01$; Sobel $z = 1.39$, $p > .10$), while the effect of discomfort was no longer significant ($\beta = -.14$, $p > .15$). Thus, we did not replicate the earlier finding that discomfort mediated the construal level effect on attitudes toward the mixed emotions ad. Further, although the effect of culture on attitudes toward the ad was significant ($\beta = .33$, $p = .001$) such that Chinese participants evaluated the mixed emotions ad more favorably than American participants, culture did not influence discomfort ($\beta = -.04$, $p > .70$). Thus, we did not replicate Williams and Aaker's (2002) finding that discomfort mediated the culture effect on consumers' attitudes toward the mixed emotions ad. We discuss this in more detail later.

The Mediating Role of Construal Level in the Culture Effect on Attitudes. We conducted a mediation analysis to shed light on the role of construal level underlying the culture effect on participants' attitudes toward the mixed emotions appeal. First, culture was a significant predictor of attitudes ($\beta = .33$, $p = .001$) such that Chinese participants evaluated the mixed emotions ad more favorably than American participants. Culture was also a significant pre-

dictor of construal level ($\beta = .30$, $p < .01$) such that Chinese participants were associated with higher construal levels than Americans. A third regression showed that construal level positively predicted participants' attitudes toward the mixed emotions ad ($\beta = .29$, $p < .01$). Finally, when we included both culture and construal level in the model to predict attitudes, the effect of construal level remained significant ($\beta = .21$, $p < .05$), while the effect of culture was significantly reduced ($\beta = .27$, $p < .01$; Sobel $z = 2.19$, $p < .05$). These results provide evidence that the culture effect on participants' attitudes toward the mixed emotions appeal was partially driven by the chronic construal level associated with their respective cultural orientation. Further, a mediated moderation analysis (Baron and Kenny 1986) conducted in the full model showed that construal level \times ad type fully mediated the moderating effect of culture on participants' attitudes toward the mixed emotions versus the happy appeal.

Purchase Intention. Next, we examined the culture effect on purchase intention. A 2 (ad type) \times 2 (culture) ANOVA on participants' purchase intention of the photo frame showed that the main effect of ad type was not significant ($F(1, 213) = 1.24$, $p > .25$). The main effect of culture was significant such that Chinese participants indicated higher purchase intentions ($M = 3.08$) than American participants ($M = 2.62$; $F(1, 213) = 5.38$, $p < .05$). Importantly, the interaction between culture and ad type was significant ($F(1, 213) = 3.74$, $p = .05$). Planned contrasts showed that American participants indicated lower purchase intentions in response to the mixed emotions ad ($M = 2.31$) relative to the happy ad ($M = 2.92$; $F(1, 213) = 4.43$, $p < .05$). In contrast, Chinese participants were equally likely to make a purchase in response to the mixed emotions ad ($M = 3.16$) and to the happy ad ($M = 3.00$; $F < 1$). Chinese participants also indicated higher purchase intentions in response to the mixed emotions ad ($M = 3.16$) than American participants ($M = 2.31$; $F(1, 213) = 8.85$, $p < .01$). These results suggest that the culture effect on participants' responses to mixed emotions appeals extended beyond attitudes toward the ad to influence purchase intention of the advertised product.

Next, we conducted a regression analysis with ad type, construal level, and the interaction term as predictors of purchase intention. Results showed that neither the main effect of ad type ($\beta = -.07$, $p > .30$) nor the main effect of construal level was significant ($\beta = .10$, $p > .10$). Central to our research, the interaction between ad type and construal level was significant ($\beta = .28$, $p < .001$). Subsequent contrasts based on a median split of participants' BIF score showed that low-level construal participants were less likely to purchase the product when they were presented with the mixed emotions ad ($M = 2.23$) than the happy ad ($M = 3.29$; $F(1, 213) = 14.53$, $p < .001$). However, this negative response to the mixed emotions ad was not observed among high-level construal participants; in fact, these participants expressed higher purchase intentions when they were presented with the mixed emotions ad ($M = 3.26$) than with

the happy ad ($M = 2.64$; $F(1, 213) = 5.12$, $p < .05$). And among those who saw the mixed emotions ad, high-level construal participants were more likely to make a purchase ($M = 3.26$) than their low-level construal counterparts ($M = 2.23$; $F(1, 213) = 13.57$, $p < .001$). These results suggest that the construal level effect extended beyond attitudes to influence purchase intention.

Mediation analysis results in the mixed emotions condition as well as in the full model mirrored those conducted on participants' attitudes toward the ad, suggesting that the culture effect on purchase intention was mediated by participants' chronic construal level associated with their cultural orientation.

Discussion

Using participants from two cultural samples, we replicated prior findings that Americans responded less favorably to mixed emotions (vs. happy) appeals than Chinese. We also replicated the moderating effect of construal level on participants' attitudes toward the appeals as well as showed that this effect extended to purchase intention of the advertised product. More importantly, we demonstrated that the culture effect on consumers' attitudes toward the mixed emotions appeal is partially mediated by the chronic construal level associated with the two cultural orientations.

Although we replicated the moderating role of construal level in the effect of ad type on discomfort and attitudes as well as the moderating effect of culture on attitudes, we did not replicate the moderating effect of culture on discomfort or the mediating role of discomfort in the culture effect as reported by Williams and Aaker (2002) or the mediating role of discomfort in the construal level effect observed in our earlier studies. One possibility is that the items used to measure discomfort were not sensitive enough to capture differences in our two cultural samples, as the predicted culture \times ad type interaction on discomfort was not significant, although planned contrasts showed that only our American (but not Chinese) participants reported different levels of discomfort in the mixed emotions versus the happy ad conditions. Another possibility is that culture and construal level may be influencing the way people process and respond to mixed emotions (vs. happy) appeal through other routes besides discomfort. For example, mixed emotions appeals may be more complex and have a richer context than pure emotion appeals, and people with high-level construals who do not experience discomfort may elaborate more on the mixed emotions appeals and hence develop more favorable attitudes. High-level construal consumers may also perceive mixed emotions ads to be more vivid and realistic and hence resonate more with these appeals. Our results showing that high-construal participants reported more favorable attitudes toward the mixed emotions (vs. happy) ad in experiment 1 ($M_{\text{mixed emotions}} = 4.44$ vs. $M_{\text{happy}} = 3.58$; $p < .05$) and higher purchase intention in experiment 5 ($M_{\text{mixed emotions}} = 3.26$ vs. $M_{\text{happy}} = 2.64$; $p < .05$) provide some credence to this account. Further investigation of this effect and other potential mediators await future research.

GENERAL DISCUSSION

This research contributes to extant literature on multiple fronts. First, the findings add to the literature on mixed emotions and persuasion by identifying construal level as a moderator of the effect of mixed emotions on attitudes. Using multiple operationalizations of construal level (i.e., chronic construal level in experiments 1 and 3–5 and a situational prime in experiment 2) across different populations (students in experiments 1–3 and 5; nonstudents in experiment 4) and from different cultures (Americans in experiments 1–5 and Chinese in experiment 5), and using two different dependent variables (attitudes toward the ad in experiments 1–5 and purchase intention in experiment 5), we provide convergent evidence that construal level influences consumers' responses to mixed emotions appeals. Individuals with high-level construals experience less discomfort and responded more favorably to mixed emotions appeals relative to those with low-level construals. Further, those with low-level construals responded less favorably to mixed emotions appeals than to happy appeals, whereas those with high-level construals responded equally or more favorably to mixed emotions versus happy appeals.

This research also contributes to the mixed emotions literature by uncovering one cognitive mechanism that underlies the effects of two moderators documented in the literature. Prior research shows that culture and age moderate consumers' responses to mixed emotions appeals (Williams and Aaker 2002). Our results replicate the findings that older people and East Asians respond more favorably to mixed emotions appeals than younger people and Americans (experiments 4 and 5). More importantly, we demonstrate that these age and culture effects are driven in part by the chronic construal levels associated with different age groups and different cultural orientations. Our result showing that discomfort does not mediate the moderating effect of construal level in our cross-cultural sample (experiment 5) is notable as it suggests that culture and construal level may influence people's attitudes toward mixed emotions appeal through multiple routes and that discomfort arising from people's inability to handle mixed emotions is only one of them.

From a broader perspective, the current research also adds to the ambivalence literature. Previous research suggests that preference for consistency and the simultaneous accessibility of conflicting attitudes moderate the aversive feeling people experience when they have attitudinal ambivalence (Newby-Clark, McGregor, and Zanna 2002). To the extent that attitudinal ambivalence also represents conflicts between two psychological states, our findings offer a productive avenue for future research to explore the role of construal level as a potential moderator of people's reactions to attitudinal ambivalence.

The present research also contributes to the construal level literature (Trope and Liberman 2003). Prior research on CLT has primarily examined the consequences of construal level from the perspective of what people focus on when they process information (Trope and Liberman 2003). For example, prior research shows that people focus

more on the desirability of outcomes when they have a more abstract mind-set but place more emphasis on the feasibility of outcomes when they have a concrete mind-set (Liberman and Trope 1998; Sagristano et al. 2002). High-level construals also lead people to put more weight on the primary features of the object (e.g., sound quality of a radio), whereas low-level construals lead to more emphasis on the peripheral features (e.g., clock function of a radio; Trope and Liberman 2000). This research sheds light on our understanding of construal level by examining its influence on how people handle mixed emotions and respond to mixed emotions appeals. The results also add to the construal level literature by demonstrating the effects of age and culture on construal level.

Our findings also contribute to the aging literature. Research in developmental psychology posits an abstraction-deficit hypothesis, suggesting that older adults tend to think more abstractly due to their memory deficits as compared to younger adults (McGinnis and Zelinski 2000, 2003). Our data from experiment 4 showing a positive correlation between people's age and their chronic construal level provide evidence consistent with this view. However, because we only have one experiment examining the relationship between age and construal level, more systematic research is needed to fully understand this relationship.

Extant cross-cultural research suggests that members of East Asian cultures process information at a more holistic, global level than members of North American culture (Nisbett et al. 2001). By administering an individual difference measure (BIF) that assesses one's chronic tendency to think at an abstract versus concrete level (experiment 5), our findings provide some evidence that Chinese may construe information more abstractly than Americans. However, we note that the relationship between culture and construal is a complex issue. Although there is evidence suggesting that Asians tend to think more holistically and globally, and hence more abstractly, relative to North Americans (e.g., Kühnen and Oyserman 2002; Nisbett et al. 2001), they also pay more attention to concrete, contextual details (Nisbett et al. 2001). Further, Asians have been shown to be characterized by a prevention focus (Aaker and Lee 2001; Lee, Aaker, and Gardner 2000), which is associated with low-level construals (Lee, Keller, and Sternthal 2010), whereas North Americans were shown to have a promotion focus, which is associated with high-level construals (Lee et al. 2010). Recent research examining the influence of culture on time perspectives shows that, while Asians are more likely to perceive a future event to have longer-term consequences than North Americans, they are also more likely to construe the event in the more proximal future (Lee, Lee, and Kern, forthcoming). These findings suggest that culture may influence construal level on multiple dimensions. More research is warranted to better understand how culture and construal level interact to influence consumer judgment and decision making.

It should be noted that the objective of the current research is to examine the effectiveness of mixed emotions appeals.

In particular, the focus is on identifying conditions under which message persuasiveness will not be undermined by the use of mixed emotion, and a positive emotion appeal serves as the control for comparison purposes. However, the employment of sadness in advertising is also rather common, and it would be interesting to examine how construal level might affect the processing of mixed emotions versus sad appeals. Our current findings show that high-level construal consumers developed more favorable attitudes toward the mixed emotions ad relative to the low-level construal consumers because they are less bothered by the conflicting emotions. An interesting question is whether high-level construal consumers would also respond more favorably toward sad appeals. To the extent that high-level construals prompt people to focus on positive information whereas low-level construals prompt them to focus on negative information (Eyal et al. 2004), regulatory fit theory would suggest that a sad appeal may be more compatible and thus more persuasive to those with low-level than high-level construals (Lee and Higgins 2009). Future research should more systematically investigate how construal level may influence the persuasiveness of sad versus mixed emotions appeals.

Finally, this research offers practical implications for marketers planning their advertising campaigns. Our results suggest that, in developing advertising campaigns that employ mixed emotions appeals, advertisers should frame the benefits of the products at a more abstract, high level so that the viewers would not experience discomfort when watching the commercial that would otherwise hurt its effectiveness. Given the close relationship between construal level and temporal distance (Liberman, Trope, McCrea, et al. 2007), advertisers could consider setting a more distal temporal frame in mixed emotions appeal to induce a high-level construal. In a recent advertisement of the Chase Bank, the father of a little girl is shown imagining his daughter on her wedding day and feeling mixed emotions. Our findings would suggest that the use of such a distal temporal frame should render this ad more effective than ones that rely on a more proximal temporal frame, as in the Bud Light ad described earlier.

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