

Research Article

The moderating role of emotional differentiation on satiation

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Abstract

People tend to like experiences less the more they repeat them, a process commonly referred to as satiation. Despite an increasing interest in satiation among consumer researchers, we still know very little about the role that emotions play in the process. Through a series of three experiments, we show paradoxically that when individuals differentiate between the positive and negative emotions that arise during repeated consumption, they satiate at a slower rate. We show that a cognitive re-appraisal process drives this emotional differentiation effect, whereby, when individuals focus on negative emotions they exhibit increased enjoyment of repeated consumption sequences. We demonstrate these effects for both trait and state emotional differentiation and across both continued and repeated consumption contexts. Theoretical implications of these findings for satiation, emotional differentiation, and emotion regulation literatures are then discussed.

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Keywords: Satiation; Repeated consumption; Emotional differentiation; Emotion regulation; Cognitive reappraisal

Introduction

Sunday night you make your favorite macaroni and cheese and enjoy every bite of it. Four days and three nights of leftovers later though, and the mere thought of eating more macaroni and cheese causes a twinge of dread and exasperation. Now consider two scenarios. In one, you simply interpret your growing dislike as part of your overall emotional reaction toward your favorite dish, and as a result, evaluate your subsequent enjoyment of the meal as being less pleasant than on previous nights. In the second scenario, though, you take a moment to acknowledge the negative emotions you are experiencing, separate them from the positive emotions associated with the meal and/or consumption experience. Does this process of focusing on your negative emotions allow you to actually enjoy the meal more than if you had incorporated the negative emotions into your overall evaluation?

Extant research related to the negativity bias and attitude ambivalence would suggest that drawing attention to the negative emotions experienced during repeated or continued consumption would increase the rate with which one satiates on a particular experience, so that the meal described above would be enjoyed less. For instance, past research on the negativity bias demonstrates the tendency for negative information to strongly influence subsequent judgments, as such information is considered more diagnostic and given more weight than positive or neutral information (Herr, Kardes, & Kim, 1991; Mizerski, 1982). Similarly, research on attitude ambivalence suggests that the experience of both positive and negative emotions is aversive in nature and can cause psychological discomfort (Haas, Katz, Rizzo, Bailey, & Moore, 1992; van Harreveld, van der Pligt, & de Liver, 2009). Consequently, one might expect that differentiating between the positive and negative emotions experienced during repeated consumption would heighten such discomfort and in effect speed up satiation due to a greater focus on negative emotions. However, other theories support the notion that focusing on negative emotions can be helpful. For example, research on the psychological construct of mindfulness suggests

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that mindfully attending to negative emotional states can allow individuals to learn that such emotions eventually pass and thus need not be feared or avoided (Segal, Williams, & Teasdale, 2002).

In the present research, we propose a new pathway through which focusing on negative emotions may impact satiation. We hypothesize that emotional differentiation, that is, the extent to which an individual distinguishes between specific feeling states (Barrett, 1998; Barrett, Gross, Christensen, & Benvenuto, 2001; Feldman, 1995; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995), can actually slow the decrease in enjoyment that typically occurs in repeated consumption contexts. Specifically, we propose that when consumers adopt a more differentiated representation of their emotional experience, parsing out the positive emotions associated with the product or experience and the negative emotions associated with the repetitive nature of the consumption experience, they actually enjoy the repeated consumption experience longer than if they had assessed their emotions more holistically and/or not focused on their negative emotions. To explain these effects, we draw on the emotion regulation and cognitive reappraisal literatures and show that when individuals differentiate between positive and negative emotions during repeated consumption, they reinterpret the consumption situation in a way that allows them to attenuate the influence of the negative emotions on their momentary enjoyment of the product or experience being consumed, and in effect, satiate at a slower rate (see Fig. 1).

The current research reveals the importance of studying the relationship between emotions and satiation. While researchers have begun to identify various ways to counter satiation, either by preventing it before it occurs (e.g., Kahn & Wansink, 2004; Nelson & Meyvis, 2008; Nelson, Meyvis, & Galak, 2009; Redden, 2008) or by reversing it once it has already set in (e.g., Epstein, Rodefer, Wisniewski, & Caggiula, 1992; Galak, Redden, & Kruger, 2009; McSweeney & Swindell, 1999; Thompson & Spencer, 1966), most of these efforts have focused on ways to change the stimulus, the consumption experience, or cognition related to perception of the stimulus and/or consumption experience. In contrast, researchers know very little about the role that emotions play in influencing the rate with which consumers satiate.

This gap in the satiation literature is surprising given that satiation is typically characterized by a change in the emotional

reaction toward a product or experience. For example, Redden (2008) describes satiation as “a common barrier to happiness” in which “pleasure often declines with greater consumption” (p. 624). Similarly, Galak et al. (2009) describe the process of satiation as one in which “consumers frequently consume products and experiences to the point where they no longer enjoy them” (p. 575). As well, the dependent variable used to measure satiation is conventionally affect based (e.g., enjoyment, liking, pleasure) and mirrors the singular view of emotion, in which positive and negative emotions are considered two ends of a continuum (e.g., pleasant–unpleasant) and thus mutually exclusive experiences (e.g., Russell, 1979). That is, previous research in satiation has commonly examined overall experienced utility, in which any and all emotions are integrated into one overall evaluation. In the current research, we contend that repeated consumption may breed emotion rich experiences, which can be characterized by the simultaneous experience of both positive and negative emotions (Williams & Aaker, 2002). Accordingly, we propose that emotional differentiation is an important factor in determining whether and how these mixed emotions are interpreted and integrated when evaluating ongoing enjoyment during repeated consumption. We next develop our framework linking emotional differentiation and satiation.

Conceptual framework

The subjective nature of satiation

The term satiation describes a decrease in enjoyment of an experience as exposure to the experience is continued or repeated. People seem to satiate on a wide range of experiences, from physiological experiences, such as eating food (Redden, 2008), to sensory experiences, such as receiving a massage (Nelson & Meyvis, 2008), and even social experiences, such as “hanging out” with others (Galak et al., 2009). With enough consumption, satiation is generally inevitable. However, previous research has demonstrated ways to counter satiation, either by changing the stimulus, the consumption experience, or consumers’ perception of the stimulus or consumption experience. In regard to the stimulus, considerable research has shown that adding variety, whether real or perceived, to a stimulus set can reduce satiation

Conceptual Model

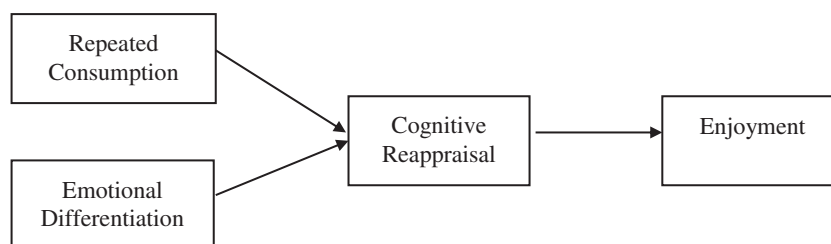


Fig. 1. Conceptual model.

(Epstein et al., 1992; Kahn & Wansink, 2004; Ratner, Kahn, & Kahneman, 1999; Rolls et al., 1981). Galak et al. (2009) examined perceived variety and satiation, demonstrating that people could recover from satiation by recalling the variety of alternative items that they had consumed in the past. Similarly, Redden (2008) showed that categorizing a stimulus at a lower level (e.g., red jelly bean, yellow jelly bean, etc. versus just jelly bean) focused consumers' attention on the details that differentiated the consumption episodes, which consequently reduced perceptions of repetition and as a result, slowed satiation.

Researchers have also shown that satiation can be reduced or reversed by changing the consumption experience. Nelson and Meyvis (2008), for example, slowed satiation to pleasant experiences by inserting short breaks during consumption and showed that television commercials could actually slow satiation to the consumption experience (Nelson et al., 2009). Likewise, Galak, Kruger, and Loewenstein (2011) showed that slowing the rate of consumption can also slow the rate with which one satiates during consumption. Finally, a natural remedy for satiation has long been believed to be allowing for the passage of time before resuming consumption (McSweeney & Swindell, 1999).

In sum, previous research has shown that satiation is not simply a fixed physiological process, so much as a subjective feeling constructed in the moment. As such, an array of factors initiated before, during, and after consumption has been shown to be important moderators capable of reducing satiation. These factors, however, have all been relatively cognitive in nature, focusing on how consumers interpret the stimulus or the consumption experience and not necessarily how they interpret their feelings about the stimulus and/or consumption experience. If satiation is indeed a subjective feeling then emotions may also influence satiation. In the current research, we address this gap in the satiation literature by examining emotion.

Mixed emotions in repeated consumption

Consumers experience a myriad of emotions during consumption. Two streams of research, one focused on single emotions and another focused on multiple emotions, have contributed to our understanding of consumption emotions. Extant research in satiation has adopted a singular view of emotion in which positive and negative emotions are considered two ends of a continuum and thus mutually exclusive experiences (e.g., Russell, 1979). For example, the first jellybean an individual eats will likely be very pleasant, but with each successive jellybean, that pleasantness slowly turns to unpleasantness (Redden, 2008, study 3). This view is consistent with a behavioral economic view in which experienced utility is conceptualized as a unitary on-line momentary measure of integrated pleasure (e.g., Kahneman, 2000; Kahneman, Wakker, & Sarin, 1997).

Recent theorizing, however, suggests that positive and negative affect represent separate dimensions, such that people can simultaneously experience different emotions that are of opposite valence (e.g., Cacioppo, Gardner, & Bernston, 1999; Larsen, McGraw, & Cacioppo, 2001; Williams & Aaker, 2002). The experience of mixed emotions has been thought to more aptly characterize most consumption situations (Ruth, Brunel, &

Otnes, 2002) and has been found in various hedonic consumption experiences, including watching a movie (Andrade & Cohen, 2007), listening to music (Hunter, Schellenberg, & Schimmack, 2008), and gambling (Larsen, McGraw, Mellers, & Cacioppo, 2004). Indeed, Kahneman (2000) acknowledged the limitation in adopting a two-dimensional representation of affect when examining experienced utility, but argued that the description of valence as a bipolar dimension served as a useful approximation, even if not a perfectly correct one. We rely on the mixed emotion view as a basis for examining the process through which emotional differentiation influences satiation.

Although, mixed emotions have yet to be examined in repeated consumption experiences, it is reasonable to assume that they develop in this context. For one, repeated consumption means longer consumption periods, which present more opportunity for the consumer to experience multiple emotions, including emotions of opposing valence. As well, repeated consumption experiences are inherently repetitive and likely to lead to boredom, irritation, or frustration with the task, separate from the enjoyment of or liking for the stimulus (Davies, Shackleton, & Parasuraman, 1983; Smith, 1955). To the extent that some of these negative emotions set in with repeated consumption, then, an initially positive emotion consumption experience (e.g. listening to a well liked song) will likely become a mixed emotion consumption experience with repetition (listening to the same well liked song 10 times in a row) as negative emotions arise. In effect, we theorize that satiation can be characterized as the simultaneous decrease in positive emotion and increase in negative emotion. In the next section we examine how emotional differentiation can influence whether and how these mixed emotions are interpreted during repeated consumption and influence subsequent satiation.

The influence of emotional differentiation on satiation

The emotions literature suggests perceptual differences in the extent to which people represent emotional experiences as either discrete, highly differentiated responses (e.g., joyful, excited, angry, nervous) or as global responses along a single pleasant–unpleasant dimension (Barrett & Gross, 2001). Such *emotional differentiation*, also referred to as “emotion granularity” (Barrett, 2004) or “emotional clarity” (Gohm & Clore, 2000; Salovey et al., 1995), has been defined as the extent to which individuals identify, describe and distinguish specific feeling states (Barrett, 1998; Barrett et al., 2001; Feldman, 1995; Salovey et al., 1995). Previous research has emphasized that identifying and describing or labeling emotions are inherent in the process of distinguishing between specific feeling states, however, we focus specifically on the distinguishing component as the key driver influencing the rate with which satiation unfolds. Further, although previous research has typically characterized differences in emotional differentiation between individuals, research suggests there may also be differences in emotional differentiation within any one person across situations (Barrett & Aronson, 1998; Barrett et al., 2001). Indeed, the same individual may be able to clearly identify, describe, and distinguish the exact emotions they are experiencing in one situation, but not in another.

Emotional differentiation can be distinguished from similar constructs found in the emotional tradeoff literature and the affective forecasting literature. First, research on emotional tradeoff shows that increases in negative emotion related to choice (i.e., increases in emotional tradeoff) lead to increased avoidance in choice (Luce, 1998). In this literature, individuals focus on conflicting attributes, which produces negative emotion and thus delays choice. In contrast, in the case of emotional differentiation, individuals actually focus on conflicting emotions (e.g., positive versus negative), which we argue increases overall on-line enjoyment. Second, in the literature on affective forecasting, Patrick, Chun, and Macinnis (2009) examined the differential influence of anticipating a negative emotion (shame) versus a positive emotion (pride) on subsequent self-control and found that the former (anticipating shame) led to less self-control than the latter (anticipating pride). Here though, the authors treat the two emotions as though they are mutually exclusive and focus on anticipating one emotion versus another. Our theory based on emotional differentiation, in contrast, assumes that both positive and negative emotions can coexist and that individuals can differentiate between them, slowing satiation. Specifically, we propose that when individuals parse their emotional experience in a discrete, differentiated manner (high emotional differentiation), clearly distinguishing between emotions of opposing valence during repeated or continued consumption, they satiate at a slower rate.

To explain this effect, we draw on the literature in emotion regulation. Emotion regulation can be defined as all of the conscious and nonconscious strategies used to increase, maintain, or decrease one or more components of an emotional response, including the feelings, behaviors, and physiological responses that make up the emotion (Gross, 1999). Several researchers have related emotional differentiation to emotion regulation (e.g., Barrett et al., 2001; Larsen, 2000; Wilkowski & Robinson, 2008). For example, research has shown that individuals who have highly differentiated emotion experiences also have more highly activated discrete emotion knowledge during the representation process, including the abstract cause of an experience, its relational context, the expected bodily sensations, its expressive modes, and sequences of action to take to enhance or reduce the experience (i.e., plans of emotion regulation; Mesquita & Frijda, 1992; Shweder, 1993). Thus, individuals who generate differentiated emotional experiences are armed with this wealth of information regarding the behavioral repertoire for dealing with an emotional experience and coping with the larger situation, and in effect, are at an advantage in regulating their emotions (Barrett et al., 2001; Duhachek & Kelting, 2009).

Support for the relationship between emotional differentiation and emotion regulation can also be garnered from work in the affect-as-information literature. According to this perspective, a distinguishing feature of discrete emotions is that they are typically associated with a causal object, whereas global affective states are not (Russell & Barrett, 1999). As a result, experiences of specific, differentiated emotional states are also less subject to misattribution errors than global affective states (Clore & Parrott, 1991; Keltner, Locke, & Audrain, 1993; Schwarz, 1990; Schwarz & Clore, 1996). For example, Schwarz and Clore (1983) and

Keltner et al. (1993) showed that specific emotions with clearly defined causes have less influence on judgments of life satisfaction than more global affective states such as moods, whose causes are not clearly specified. In effect, because discrete emotions are more easily attributed to a causal object, they are also more easily regulated when a judgment needs to be made.

One strategy we believe drives the relationship between emotional differentiation and satiation is cognitive reappraisal, which involves construing a potentially emotion-eliciting situation in a way that neutralizes its emotional impact (Gross, 2001; Lazarus & Alfert, 1964). Previous research has shown that individuals who adopt cognitive reappraisal strategies are more likely to negotiate stressful situations by taking an optimistic attitude, reinterpret what they find stressful, and make active efforts to repair bad moods (Gross & John, 2003). Similarly, we argue that when individuals adopt a more differentiated representation of their emotional experience during repeated consumption, parsing out the positive emotions associated with the product or experience and the negative emotions associated with the repetitive nature of the consumption episodes, they are more apt to reinterpret the consumption situation in a way that allows them to down-regulate the influence of the negative emotions on their momentary enjoyment of the product or experience being consumed. Consequently, such individuals will exhibit less satiation.

The current research contributes in three key areas. First, extending research on satiation, we explore the role that emotions play in the process of satiation and show that differentiating between the emotions, both positive (e.g., enjoyment, pleasure) and negative (e.g., boredom, irritation), experienced during repeated consumption can influence the rate with which one satiates on a particular stimulus or consumption experience. Second, we provide evidence for a new mechanism involved in the satiation process. That is, while previous research has focused on perceived repetition in influencing satiation, we show that down-regulating negative emotions through cognitive reappraisal can also slow the rate with which one satiates. Third, this research contributes to the literature on emotional differentiation by providing a rigorous test of the relationship between emotional differentiation and emotion regulation in a known phenomenon (i.e., satiation). We also provide evidence that the influence of emotional differentiation extends beyond short term instances of emotion regulation to include cognitive reappraisal in more long-term consumption contexts.

Overview of experiments

We investigate our predictions in a series of experiments to provide evidence and document our key process. First, in a pretest for experiment 1, we test the assertion that an initially positive emotion consumption experience will become a mixed emotion consumption experience with repeated consumption. In a second pretest for experiment 1 we test that emotional differentiation can be activated temporarily in certain contexts. In experiment 1 then, we test the proposed moderating role of emotional differentiation on satiation by manipulating emotional differentiation before participants listen to an extended length instrumental piece of

music. In experiment 2, we test the proposed mechanism by examining the influence of our emotional differentiation manipulation on cognitive reappraisal during the same music listening task. In a posttest for experiment 2 we also establish the relationship between emotional differentiation (when measured as a trait variable) and cognitive reappraisal. Finally, in experiment 3, we provide a final test of our overall conceptual model using a repetitive consumption context with discrete consumption episodes, an alternative manipulation of emotional differentiation, an alternative measure of cognitive reappraisal, and a different consumption domain (art).

Experiment 1

We predict that when individuals parse their emotional experience in a discrete, differentiated manner they satiate at a slower pace during repeated consumption than when they adopt a more global representation of their emotional experience. Accordingly, in experiment 1, we test this prediction by manipulating participants' emotional differentiation prior to a repetitive music listening task. We expect that participants primed with the high emotional differentiation manipulation will enjoy the music longer (i.e., satiate more slowly to the music) than participants primed with the low emotional differentiation manipulation.

Pretests

Pretest 1: mixed emotions

Recall, that an assumption of our conceptual framework is that an initially positive emotion consumption experience will likely become a mixed emotion consumption experience with repeated consumption, such that consumers experience a simultaneous decrease in positive emotion and increase in negative emotion. To establish the validity of this assumption we first ran a pretest in which 42 undergraduate students listened to either a short (45 s) or long (4 min and 30 s) version of an instrumental piece of music by an unknown artist. Another pretest confirmed that this particular piece of music was fairly repetitive in nature (1 = not at all repetitive, 9 = extremely repetitive; $M=6.57$; $t(34)=29.62$, $p<.001$). Immediately after listening to the music, participants reported the extent to which they experienced several positive (amused, interested, pleased, enthusiastic, delighted) and negative emotions (irritable, annoyed, bored, frustrated, distressed) during the music listening task (1 = not at all, 9 = very much). These emotion measures were averaged to form separate positive emotion ($\alpha=.95$) and negative emotion indexes ($\alpha=.84$) respectively.

Based on our conceptual framework, we would expect participants to experience mostly positive emotions after listening to the short version of the music, but a mix of both positive and negative emotions after listening to the long version of the music. The results were consistent with these predictions. Participants who listened to the short version of the music experienced significantly more positive emotions ($M_{\text{short}}=5.46$) compared to those who listened to the long version of the music ($M_{\text{long}}=4.08$, $F(1,40)=4.81$, $p<.05$). In contrast, participants who listened to the long version of the music reported experiencing significantly

more negative emotions ($M_{\text{long}}=4.71$) than those participants who listened to the short version of the music ($M_{\text{short}}=2.57$; $F(1,40)=22.26$, $p<.001$). Further, participants who listened to the long version of the music experienced a similar amount of positive and negative emotions, ($t(19)=-.78$, $p>.05$). In contrast, participants who listened to the short version of the song experienced significantly more positive emotions ($t(21)=5.16$, $p<.001$). Thus, consistent with our conceptual framework, these results show that what was initially a positive emotion consumption experience became a mixed emotion consumption experience after continued consumption of a repetitive nature and that this shift was due to a simultaneous decrease in positive emotion and increase in negative emotion.

Pretest 2: manipulating emotional differentiation

Despite the substantial literature on emotional differentiation, the construct has traditionally been treated as an individual difference variable. Like many other individual difference variables (e.g., approach–avoidance motivation, Kramer & Yoon, 2007; construal level, Kim & John, 2008; coping repertoire, Duhachek & Kelting, 2009; self-esteem, Park & John, 2011) however, we believe that emotional differentiation can be activated momentarily in certain contexts. To establish support for this premise, we conducted a pretest to establish the validity of our manipulation in affecting individuals' perception of their own emotional differentiation. Sixty-four undergraduate students completed the pretest in exchange for course credit. Participants were told that they were participating in a study about music and emotions and were first asked to read a recent news story about that very topic (see Appendix A). The news story incorporated key aspects of emotional differentiation in a music listening context. In the high emotional differentiation manipulation, the news story focused on clearly identifying, describing, and distinguishing between specific emotional states, whereas in the low emotional differentiation manipulation, the news story focused on the confusing nature of emotions and the difficulty in identifying, describing, and distinguishing between emotions as anything other than global emotional states. Next, emotional differentiation was assessed by having participants complete the eleven-item subscale (see Appendix B) from the Trait Meta Mood Scale (Salovey et al., 1995), which measures the ability to discriminate among feelings (Gohm & Clore, 2000) or what we refer to as trait emotional differentiation.

A one-way ANOVA using manipulated emotional differentiation as the independent variable and trait emotional differentiation ($\alpha=.86$) as the dependent variable revealed a significant effect of the emotional differentiation manipulation on reported emotional differentiation using an established trait scale reflective of the construct ($F(1,62)=8.23$, $p<.01$). Specifically, participants in the high emotional differentiation condition reported higher trait emotional differentiation ($M_{\text{high}}=5.31$) than those in the low emotional differentiation condition ($M_{\text{low}}=4.69$). Thus, we are confident that our manipulation works as intended, at least temporarily influencing participants' perceptions of their own emotional differentiation.

Taken together, these two pretests provide evidence for central assumptions in our theoretical framework. In the first pretest, we

show that mixed emotions emerge during repeated consumption, even when those consumption experiences start off primarily positive in nature. In the second pretest, we test the validity of our emotional differentiation manipulation to show that the construct is not simply an individual difference variable, but can also be activated temporarily in certain contexts. Next, in experiment 1, we manipulate emotional differentiation in order to test our key theory that identifying and distinguishing between emotions at a more discrete level lead to slower satiation.

Method

One hundred fourteen undergraduate students completed the experiment in exchange for course credit. Participants were told that the study involved listening to and evaluating music. First, they were asked to read the news story described in the second pretest about the interplay between music and emotion (see Appendix A). After reading the news story, participants completed a manipulation check in which they were asked the extent to which they believe that they experience emotional differentiation while listening to music using a four item scale adapted from Salovey et al. (1995) to test the emotional differentiation manipulation (see Appendix C).

Next, participants listened to the instrumental piece of music described in the first pretest, which lasted approximately four and a half minutes. To measure satiation, participants provided real-time ratings of their current enjoyment using a 101-point scale (anchored by “I hate it” and “I love it”). Participants were introduced to the rating scale at the very beginning of the study and given time to familiarize themselves with it. Every 30 s during the listening task, the scale appeared on the screen and asked the participants to indicate how much they were enjoying the music at that moment. After the participants provided their rating, the scale would disappear and a new unmarked scale would appear at the next rating interval. In total, participants provided eight real-time ratings. Once the music ended, all participants reported their overall enjoyment of the listening experience and liking for the song using the same 101-point scale.

Results

We started by testing whether the manipulation of emotional differentiation was successful. The four music specific emotional differentiation measures were combined to form an overall measure of emotional differentiation ($\alpha = .88$). A one-way ANOVA was conducted to compare perceived emotional differentiation for participants in the high and low emotional differentiation news story conditions. There was a significant difference in perceived emotional differentiation for participants in the two conditions ($F(1,112) = 10.05, p < .01$) such that those who read the high emotional differentiation news story reported greater emotional differentiation ($M_{\text{high}} = 7.00$) during the music listening task than those who read the low emotional differentiation news story ($M_{\text{low}} = 6.21$). These results show that our manipulation of emotional differentiation worked as intended.

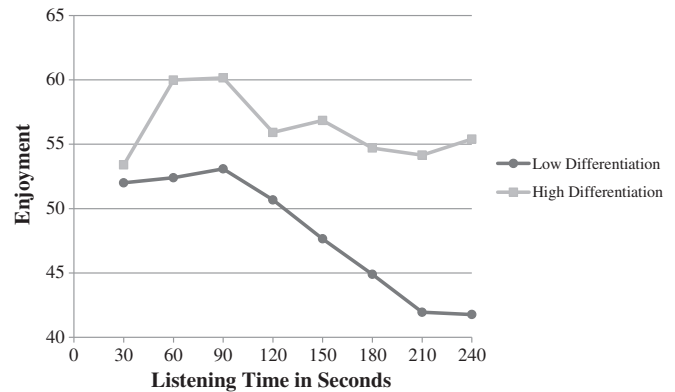


Fig. 2. Interim enjoyment ratings of music in experiment 1.

Next, we examined the effect of our manipulation of emotional differentiation on satiation. Fig. 2 presents the average interim enjoyment ratings for the two treatment groups throughout the music listening task. Participants in the high emotional differentiation condition became less satiated over time and reported a higher final interim rating for the music ($M_{\text{high}} = 56.02$) than participants in the low emotional differentiation condition ($M_{\text{low}} = 40.88$; $F(1,112) = 12.19, p < .01$). In contrast, the first interim rating taken after 30 s of listening to the music did not differ between the two groups ($F(1,112) = .47, p > .05$; $M_{\text{high}} = 53.81$ vs. $M_{\text{low}} = 51.16$).

To test for differences in the rate of satiation across treatment groups we ran a linear mixed model analysis with eight trials repeated within each subject, emotional differentiation treated as a between subjects factor, and subject number treated as a random effect. The results revealed a significant main effect of trial ($F(1,796.21) = 31.98, p < .001$) and a significant interaction between trial and emotional differentiation ($F(1,868.25) = 24.87, p < .001$). Thus, as predicted, participants in the high emotional differentiation condition satiated less quickly than those in the low emotional differentiation condition.

We also examined retrospective enjoyment by running separate ANOVAs using emotional differentiation as a between subjects variable and evaluations of the overall listening experience and the overall song as dependent variables respectively. Participants in the high emotional differentiation condition reported liking the overall listening experience ($M_{\text{high}} = 50.96$) significantly more than those in the low emotional differentiation condition ($M_{\text{low}} = 39.93$; $F(1,112) = 5.82, p < .05$). Participants in the high emotional differentiation condition also reported higher evaluations of the overall song ($M_{\text{high}} = 49.63$ vs. $M_{\text{low}} = 40.63$; $F(1,112) = 4.53, p < .05$).

Discussion

Experiment 1 provides evidence that differences in emotional differentiation can lead to differences in satiation. First, in two pretests, we showed that repeated consumption leads to mixed emotions and that emotional differentiation can operate as both a state and trait variable. In the main experiment then, we showed that participants exposed to a high emotional differentiation

manipulation enjoyed a repetitive instrumental piece of music longer than those participants exposed to a low emotional differentiation manipulation, despite both treatment groups reporting similar initial enjoyment of the music. Further, participants in the high emotional differentiation condition also expressed more enjoyment for the overall experience and higher liking for the music in retrospect. In experiment 2, we test the proposed mechanism that explains these findings.

Experiment 2

In experiment 2, we seek initial evidence to support our proposed mechanism for these findings. Recall, in our theorizing, we posited that high emotional differentiation would induce greater use of cognitive reappraisal in an effort to neutralize the emotional impact of negative emotions that commonly occur during repeated consumption. We test this account in experiment 2 by measuring participants' use of cognitive reappraisal strategies following the emotional differentiation manipulation and music listening task employed in experiment 1. We also measure participants' experience of various positive and negative emotions to show that emotional differentiation does not influence whether or not participants experience negative emotions, so much as whether participants regulate these negative emotions during repeated consumption. We examine the full model using an alternative manipulation of emotional differentiation and alternative measure of cognitive reappraisal in experiment 3.

Method

Seventy-four undergraduate students completed the experiment in exchange for course credit. The procedure mirrored that of experiment 1. First, participants read the same high and low emotional differentiation news stories as in experiment 1 and listened to the same piece of instrumental music. Importantly though, participants did not provide any online or retrospective evaluations of the listening experience, which allowed us to focus on measuring our proposed process. That is, participants listened to the music, but did not report their enjoyment at any point during the experiment. Instead, after listening to the approximately four and a half minute song, participants completed a modified version of the reappraisal subscale from Gross and John's (2003) Emotion Regulation Questionnaire (see Appendix D). Next, participants completed the two 10-item mood scales that comprise the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), as well as two additional negative items specific to repeated consumption experiences (i.e., boredom and frustration).

Results

We began our analysis by combining the six cognitive reappraisal items to create an overall measure of cognitive reappraisal ($\alpha = .89$). Next, we conducted a one-way ANOVA with emotional differentiation (high, low) as the independent variable and cognitive reappraisal as the dependent variable. The results revealed a significant effect for emotional differentiation ($F(1,72) =$

$5.32, p < .05$), such that participants in the high emotional differentiation condition relied more on cognitive reappraisal strategies ($M_{\text{high}} = 6.05$) during the music listening task than participants in the low emotional differentiation condition ($M_{\text{low}} = 5.31$).

Next we examined participants' experience of both positive and negative emotions. First, we averaged the ten positive emotions and twelve negative emotions to create a positive emotion index ($\alpha = .93$) and negative emotion index ($\alpha = .81$) respectively. Two one-way ANOVAs were run using emotional differentiation (high, low) as the independent variable and the positive emotion index as well as the negative emotion index as the dependent variables. The results revealed no significant differences between the two emotional differentiation conditions for either positive ($F(1,72) = .37, p > .05$) or negative emotions ($F(1,72) = .19, p > .05$).

Posttest

In order to provide convergent evidence for the results found in experiment 2, we conducted a posttest using an alternative measure of our key construct, emotional differentiation. Specifically, we measured emotional differentiation instead of manipulating it and then once again measured cognitive reappraisal. Sixty undergraduate students completed the experiment in exchange for course credit. Participants were told that they were participating in a scale development study about emotions. First, they completed the subscale from Salovey et al.'s (1995) Trait Meta Mood Scale used in the second pretest to measure trait emotional differentiation. After filling out several filler scales, they also completed the cognitive reappraisal subscale of Gross and John's (2003) Emotion Regulation Questionnaire. We regressed emotion regulation ($\alpha = .79$) on emotional differentiation ($\alpha = .90$). As predicted, emotional differentiation significantly predicted cognitive reappraisal scores, $b = .30, t(58) = 2.70, p < .01$.

Discussion

The results of experiment 2 provide evidence for the proposed mechanism, cognitive reappraisal. By employing the same emotional differentiation manipulation and music listening task as in experiment 1, but measuring cognitive reappraisal instead of satiation, we were able to show that individuals adopting a high emotional differentiation interpretation of their emotional experience also relied more on cognitive reappraisal strategies to regulate their emotions during the repetitive music listening task. We also showed that participants in the high emotional differentiation condition did not experience more or less negative emotions than participants in the low emotional differentiation condition. They were simply more likely to regulate away these negative emotions using cognitive reappraisal strategies. In a posttest we also showed that individuals that are high in trait emotional differentiation utilize cognitive reappraisal strategies to a greater extent than individuals low in emotional differentiation. Together these findings show that emotional differentiation maps onto our proposed mechanism, cognitive reappraisal.

Experiment 3

The primary objective of experiment 3 is to test our full conceptual model in a new consumption domain (art). A secondary objective is to show that the observed effects occur not only in continued consumption experiences of a repetitive nature (e.g. Nelson & Meyvis, 2008; Nelson et al., 2009), but also in repeated consumption experiences with discrete episodes (e.g., Galak et al., 2009; Redden, 2008). Our final objective in experiment 3 is to replicate the findings from experiment 1 and experiment 2 using a different manipulation of emotional differentiation and a different measure of cognitive reappraisal.

First, instead of manipulating emotional differentiation with a prime, we manipulate it by employing either single (low emotional differentiation) or mixed (high emotional differentiation) emotional measures during the repeated consumption experience. While the former measure focuses on the positive emotions experienced during consumption, the latter measure directs attention to both the negative and positive emotions characteristic of repeated consumption. This manipulation more directly captures the proposed process of distinguishing between the positive and negative emotions one experiences during repeated consumption. Also, note that if demand effects were operating, one might expect to find the opposite of what we predict. That is, those participants focusing only on positive emotions (low emotional differentiation) would satiate slower (enjoy the photograph longer) and those participants focusing on negative and positive emotions (high emotional differentiation) would satiate faster due to a negativity bias. Finally, instead of measuring participants' cognitive reappraisal with a scale, we use an open ended prompt that should provide a strong test linking reappraisal to the satiation process.

Method

One hundred and nineteen undergraduate students completed the experiment in exchange for course credit. Participants were told that they would be participating in an art appreciation study. Before beginning the viewing task they were told that a photograph would be displayed on the next screen for approximately 5 s, after which the computer would automatically move them on to a ratings task and that they would repeat this process for a total of 14 trials. Emotional differentiation was manipulated by having participants rate their emotional experience during the repeated consumption task using either two synonymous emotional scales (low emotional differentiation) or two more discrete emotional scales of opposing valence (high emotional differentiation). Specifically, participants in the low emotional differentiation condition reported their ongoing enjoyment and pleasure, whereas participants in the high emotional differentiation condition reported their ongoing enjoyment and boredom.

Before beginning the study, all participants were introduced to the slider scale that they would be using later in the study in order to familiarize themselves with the procedure. After participants were ready, they began the viewing and rating tasks. First, a photograph of a striking beach scene at sunset was displayed on the screen for five seconds. This photograph was rated highly in a pretest (1 = hate it, 9 = love it; $M=7.55$; $t(19)=25.00$, $p<.001$).

After viewing the photograph, participants in the low emotional differentiation condition were asked to indicate how much they enjoyed viewing the photograph during the most recent viewing trial using a 101-point scale anchored by "hated it" and "loved it", as well as how much pleasure (a synonym of enjoyment) they experienced during the most recent viewing trial using the same 101-point scale this time anchored by "no pleasure" and "a great deal of pleasure". Participants in the high emotional differentiation condition also indicated how much they enjoyed viewing the photograph after each viewing trial, but instead of evaluating the pleasure they felt, they went on to rate how bored they felt during the most recent viewing trial using a 101-point scale anchored by "no boredom" and a "a great deal of boredom". The viewing and rating task was repeated using the same photograph and the same measures for a total of 14 trials.

After all the trials were completed, participants indicated their desire to continue viewing the photograph using a 101-point scale anchored by "no desire at all" and "great desire". Next, in an open-ended essay question, participants were asked to explain any strategies they used to control or manage their emotions during the photograph viewing task. Finally, it is possible that participants in the low emotional differentiation condition could become more fatigued during the photo viewing and rating task because the measures they complete are synonymous and thus may be perceived as the same measure answered twice. If this were the case, the increase in the rate of satiation predicted among participants in the low emotional differentiation condition may be due to measurement fatigue and not emotional differentiation. To account for this, participants also completed the following three items related to measurement fatigue (1 = not at all, 9 = very much): (1) How tired did you get during the photograph viewing task, (2) How fatigued did you feel completing the photograph viewing task, and (3) To what extent did the photograph viewing task leave you feeling drained?

Results

Our primary interest in this experiment is whether our manipulation of emotional differentiation influenced the rate with which participants satiated during repeated consumption. Fig. 3 presents the average interim enjoyment ratings for the two treatment groups across all 14 trials of the photograph viewing task. As illustrated, participants in the high emotional differentiation condition became less satiated as the viewing task went on and reported a higher final enjoyment rating ($M_{\text{high}}=36.71$) than participants in the low emotional differentiation condition ($M_{\text{low}}=21.08$; $F(1,117)=8.54$, $p<.01$). In contrast, the first enjoyment rating taken after the first viewing trial did not differ between the two groups ($F(1,117)=.65$, $p>.05$; $M_{\text{high}}=81.49$ vs. $M_{\text{low}}=83.58$).

To test for differences in the rate of satiation across treatment groups we also ran a linear mixed model analysis with fourteen trials repeated within each subject, emotional differentiation as a between subjects factor, and subject number as a random effect. The results revealed a significant main effect of trial ($F(1,1545.01)=1517.70$, $p<.001$) and a significant interaction between trial and emotional

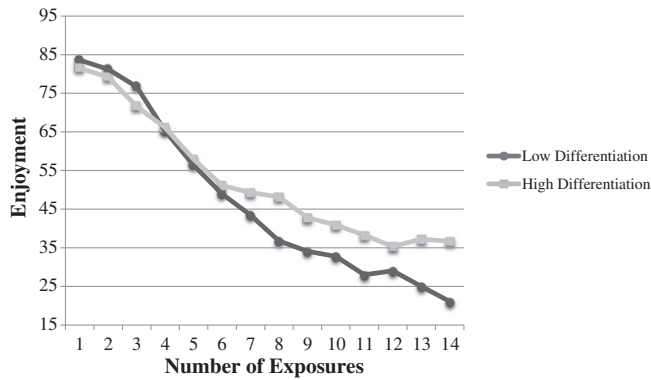


Fig. 3. Interim enjoyment ratings of art in experiment 3.

differentiation ($F(1,1553.77)=36.83, p<.001$). Thus, as predicted, participants in the high emotional differentiation condition satiated less quickly than those in the low emotional differentiation condition.

Statistical analyses using the retrospective rating of the viewing experience were not significant, but in the right direction. Specifically, participants in the high emotional differentiation condition reported a marginally greater desire to continue viewing the photograph ($M_{\text{high}}=14.29; F(1,117)=3.50, p=.06$) than participants in the low emotional differentiation condition ($M_{\text{low}}=6.80$).

To ensure that the above results were due to differences in satiation and not simply a byproduct of measurement fatigue, we also examined participants' responses to the three measurement fatigue questions. After averaging the three items ($\alpha=.93$), we conducted a one-way ANOVA with emotional differentiation as the independent variable, and measurement fatigue as the dependent variable. The results revealed that there was no significant difference in the amount of fatigue experienced between participants in the high emotional differentiation ($M_{\text{high}}=6.51$) condition versus the low emotional differentiation condition ($M_{\text{low}}=6.36; F(1,117)=.17, p>.05$). We also ran the linear mixed model analysis using the fatigue index as a covariate ($F(1,1553.07)=.02, p>.05$) as well as fatigue as a within subjects factor ($F(1,155.86)=.12, p>.05$). In both cases the results were nonsignificant, which makes fatigue an unlikely alternative explanation for these results.

Testing cognitive reappraisal process

Recall, we theorized that when individuals adopted a high emotional differentiation strategy, they would be more likely to use cognitive reappraisal strategies and that this would lead to slower satiation. Thus, for our mediation analysis, we examined the emotional regulation strategies that participants reported using during the photograph viewing task. Participants' thoughts were coded into three strategy categories: cognitive reappraisal, avoidance, and no strategy (all thoughts fell into one of these three categories). Thoughts were coded as a cognitive reappraisal strategy if participants mentioned some tactic used or effort made to reinterpret the situation in a way that allowed them to control and/or manage the emotions experienced ("I tried to change my

negative feelings by changing the way I viewed the situation", "I looked for any subtle differences in the picture so that I wouldn't get bored", "I talked to myself with some positive words"). Thoughts were coded as an avoidance strategy if they suggested that the participant simply avoided the task at hand (e.g., "keep clicking continue", "clicked faster to see if it would ever end", "ignore it"). Finally, thoughts were coded as no strategy if the participant either stated outright that they did not use a strategy to manage their emotions or said something else unrelated to any kind of strategy at all (e.g., "none", "I didn't control them at all", "I let them out"). Two independent coders rated the thoughts. Inter-coder reliability was 86% and disagreements were resolved through discussion.

Next, we examined differences in the types of strategies mentioned in the high and low emotional differentiation conditions. As predicted, the mean number of cognitive reappraisal strategies used during the consumption experience was significantly higher for participants in the high versus low emotional differentiation conditions ($M_{\text{high}}=1.08, M_{\text{low}}=.53; F(1,117)=9.66, p<.01$). In contrast, the mean number of avoidance strategies was higher for participants in the low versus high emotional differentiation conditions ($M_{\text{low}}=.32, M_{\text{high}}=.12; F(1,117)=5.43, p<.05$). There were no significant differences in the mean number of no strategy thoughts between the two treatment groups ($F(1,117)=.28, p>.05$).

Finally, we relied on the mediation procedures outlined by Zhao, Lynch, and Chen (2010). Specifically, we performed the Preacher and Hayes (2004, 2008) bootstrap test for indirect effects, using emotional differentiation as the independent variable (0 = low, 1 = high), the final enjoyment rating during the viewing task as the dependent variable, the total number of cognitive reappraisal thoughts as the mediating variable, and initial liking of the photograph as a covariate. We found that the mean indirect effect from the bootstrap analysis was positive and significant ($a \times b=3.87$), with a 95% confidence interval excluding zero (.43 to 8.75), indicating that cognitive reappraisal did mediate the relationship between emotional differentiation and the final enjoyment rating. In order to determine the nature of this mediation, we also examined the specific paths in our model. The indirect paths between emotional differentiation and cognitive reappraisal (path a) and between cognitive reappraisal and the final enjoyment rating (path b) were both positive and significant (path a = .56, $p<.01$; path b = 6.93, $p<.05$), while the direct path between emotional differentiation and the final rating was positive and significant (path c = 16.01, $p<.01$). The partial effect of the covariate, initial liking, on the final rating of the artwork was not significant ($p>.05$). Finally, the product of $a \times b \times c$ (60.78) was positive, suggesting partial mediation (Zhao et al., 2010).

Discussion

The results of experiment 3 replicate the results of experiments 1 and 2 using a new manipulation of emotional differentiation in a different consumption domain and in a repeated consumption context. These findings provide corroborating evidence in support of our proposed conceptual framework. Recall our theoretical

account states that those individuals high in emotional differentiation separate out the positive emotions from the negative and effectively regulate these negative emotions away using cognitive reappraisal strategies, thereby prolonging their enjoyment. To directly manipulate this differentiation, we guided participants to either focus exclusively on the positive emotions of enjoyment and pleasure (low emotional differentiation) or to distinguish boredom (a common negative emotion experienced during repeated consumption) from enjoyment (high emotional differentiation). Consistent with our conceptual framework, participants exposed to the high emotional differentiation evaluation measures during a repeated photograph viewing experience enjoyed viewing the photograph longer than those participants exposed to the low emotional differentiation evaluation measures.

Importantly, we also showed that the observed effects were driven by participants' use of cognitive reappraisal emotion regulation strategies during the repeated consumption experience. Participants that differentiated positive and negative emotions were able to enjoy the photograph viewing experience longer than those participants that considered their emotions using undifferentiated global measures based on two synonymous pleasant–unpleasant dimensions. While the mean number of cognitive reappraisal strategies employed was somewhat low in both the high and low emotional differentiation conditions, we were not surprised given that the task itself lasted on a few minutes and may not have required a multitude of different cognitive reappraisal strategies. A longer satiation task should work to further amplify these results.

General discussion

In the present research, we took a first step in exploring the role that emotions play in the evolution of enjoyment during repeated consumption, focusing specifically on the moderating role of emotional differentiation in influencing satiation. In a series of three experiments, we showed that when individuals parse their emotional experience in a discrete, differentiated manner, clearly distinguishing between emotions of opposing valence, they satiate at a slower pace during repeated consumption. Further, we provided robust evidence for our proposed process. That is, we showed that separating out the negative and positive emotions experienced during repeated consumption allowed individuals to more readily apply cognitive appraisal strategies to regulate away the negative emotions and continue to enjoy the consumption experience longer than otherwise. We demonstrated these effects using two different manipulations of emotional differentiation (news story prime in experiments 1 and 2 and evaluation measure in experiment 3) and two different measures of cognitive reappraisal (Reappraisal Scale in experiments 1 and 2 and open-ended thought listing in experiment 3). The results also generalize to different consumption domains (listening to music in experiments 1 and 2 and viewing photographs in experiment 3) and were found in two consumption contexts commonly studied in the satiation literature (continued consumption in experiments 1 and 2 and repeated consumption in experiment 3).

These findings are counterintuitive when considered in the light of extant research on the negativity bias and attitude

ambivalence. Both literatures demonstrate the tendency for negative information and emotions to negatively influence subsequent judgments (e.g., Haas et al., 1992; Herr et al., 1991; Mizerski, 1982; van Harreveld et al., 2009). As such, one might expect that drawing attention to the negative emotions experienced during repeated consumption would increase the rate with which one satiates on a particular experience. In contrast, we show that when consumers adopt a more differentiated representation of their emotional experience they actually enjoy the repeated consumption experience longer than if they had assessed their emotions more holistically and/or not focused on their negative feelings. Thus, our research is more in line with research on mindfulness and the positive outcomes that can result from focusing on negative emotions (Segal et al., 2002). Still, there may be instances in which focusing on negative emotions during repeated consumption leads to faster satiation. Future research should also examine whether emotional differentiation influences other important consumer consequences, such as anticipated consumption, sequential consumption, depletion, or savoring. For example, individuals that adopt a high emotional differentiation approach when consuming hedonic products may savor the experience more precisely because they experience more discrete positive emotions.

From a theoretical standpoint, our research is among the first to explore the role that emotions play in the process of satiation, showing the way that emotions, both positive (e.g., enjoyment, pleasure) and negative (e.g., boredom, irritation), experienced during consumption can likewise influence the rate with which one satiates on a particular stimulus or consumption experience. Still, there is much more to explore about the role that emotions play in the process of satiation. Future research could investigate the relationship between emotions and satiation in other capacities. For instance, we presume that transient emotional states, such as happiness and sadness, experienced prior to, during, or after consumption, may also influence satiation.

Further, we believe that our findings are of interest to other researchers in the satiation literature. For instance, Redden (2008) showed that people satiate less if they categorize the consumption episodes at lower levels. Similarly, we show that people satiate less if they categorize their emotional reactions to consumption episodes at lower levels, differentiating between reactions that are positive and negative in nature. Future research should explore whether when combined, these two types of subcategorization work synergistically to further reduce satiation, especially since both moderators appear to influence satiation through different processes. Another example is the research by Ratner et al. (1999), which demonstrated that people enjoy the repeated consumption of music when they select less valued (i.e., more negative) alternatives, because it allows them to benefit from enhanced variety. Likewise, we demonstrate that people enjoy repeated consumption when they focus on differentiated and less favorable emotions during repeated consumption because it allows them to benefit from emotion regulation. An interesting avenue for future research would be to examine whether emotion regulation itself confers attitudinal and behavioral advantages to the product by enhancing the process of consumption.

Our conceptual framework offers unique insight into the role that emotion regulation plays in determining satiation. We identify a new proposed mechanism, whereas previous research has focused on reducing perceptions of repetition (or increasing perceptions of variety) in order to reduce satiation (Epstein et al., 1992; Kahn & Wansink, 2004; Ratner et al., 1999; Redden, 2008). Our findings provide evidence that satiation is attenuated by successfully distinguishing and regulating emotional experiences.

Our results further contribute to the satiation literature by reiterating the importance of individual difference variables in determining the rate with which different individuals satiate during repeated consumption. Previous research examining individual difference variables related to satiation is limited (for exceptions see: Bornstein, Kale, & Cornell, 1990; Nelson et al., 2009; Steenkamp & Baumgartner, 1992). For example, Nelson et al. (2009) showed that as consumers age they are more likely to enjoy the same experience without requiring additional stimulation from constant changes and thus satiate to repeated consumption at a slower rate. We add to this developing stream of research by showing that individual differences in emotional representation (high versus low emotional differentiation) can also influence the rate with which satiation unfolds. Future research should explore how individual differences in sensation seeking, depression, and locus of control can likewise lead to differences in satiation.

This research is not without its limitations. The study of repeated consumption presents unique methodological challenges in that repeated measures of enjoyment are collected over a short period of time, thereby increasing internal validity threats from demand and measurement bias. We believe our findings are robust to these potential sources of bias and that neither can fully explain the pattern of results operating through a cognitive reappraisal mediator. However, these threats raise some interesting opportunities for future research. One possibility is that perhaps the process of cognitive reappraisal we outline proves more depleting over time such that an inflection point exists beyond which emotional differentiation actually accelerates satiation. This process may be subconscious and may require a program of research focused on detecting non-conscious effects to address subconscious measurement fatigue. Future research may also examine whether the satiation process can lead to changes in emotional differentiation. It is possible that under certain conditions changes in liking could cause changes in emotional differentiation. Research is needed to examine this complex, dynamic process. Finally, we also attempted to minimize demand effects by triangulating across a variety of measures and methods. Future research should strive to identify subtle ways of inducing emotional differentiation (perhaps by priming known antecedents) in order to guard against measurement and demand biases.

Appendix A.

Emotional differentiation manipulation

Low (high) emotional differentiation

Music is said to be the language of emotions. But only in recent years have scientists sought to explain and quantify the way music impacts us at an emotional level. Researching the

links between melody and the mind indicates that listening to and playing music can elicit a variety of emotions, particularly as the musical piece unfolds. In many cases, the listening experience produces an emotional reaction that is *confusing (clear)* for the listener. That is, listeners *may not fully understand their emotional reaction to the music or be able to clearly describe it (tend to fully understand their emotional reaction to the music and be able to clearly describe it)*. For example, a 2010 study by Finn and Lisbon (2010) revealed that 70% of individuals listening to various instrumental pieces of music were only able to describe their emotional reaction in *general terms — I feel bad/good/pleasant/unpleasant (specific terms — I feel joyful/sorrowful/calm/frustrated)*. Instrumental music, in particular was found to produce the most *muddying of emotion (emotionally clarifying experience)*. More research is needed to understand the emotional *confusion (clarity)* that certain music can cause. One fact remains clear though — music affects us all.

Appendix B.

Subscale from Trait Meta Mood Scale (Salovey et al., 1995)

1. Sometimes I can't tell what my feelings are. R
2. I am rarely confused about what my feelings are.
3. I can never tell how I feel. R
4. My belief and opinions always seem to change depending on how I feel. R
5. I am often aware of my feelings on a matter.
6. I am usually confused about how I feel. R
7. I feel at ease about my emotions.
8. I can't make sense out of my feelings. R
9. I am usually very clear about my feelings.
10. I usually know my feelings about a matter.
11. I almost always know exactly how I am feeling.

Appendix C.

Experiment 1 manipulation check

1. I clearly understand the way I am feeling while listening to music.
2. I am able to clearly identify the emotions I experience while listening to music.
3. I am able to easily distinguish between the different emotions I feel while listening to music.
4. I can clearly describe the way I feel while listening to music.

Each item was rated using a 9-point scale (1 = disagree; 9 = agree).

Appendix D.

Cognitive reappraisal scale

1. I controlled my emotions by changing the way I thought about the situation I was in.
2. When I wanted to feel less negative emotion, I changed the way I was thinking about the situation.

3. When I wanted to feel more positive emotion, I changed the way I was thinking about the situation.
4. When I wanted to feel more positive emotion (such as joy or amusement), I changed what I was thinking about.
5. When I wanted to feel less negative emotion (such as boredom or frustration), I changed what I was thinking about.
6. When the situation became stressful, I made myself think about it in a way that helped me stay calm.

Each item was rated with regard to the music listening task using a 9-point scale anchored by (1 — disagree; 9 — agree). Items were adapted from the reappraisal subscale from Gross and John's (2003) Emotion Regulation Questionnaire.

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