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The interactive effects of bitter flavor and mood on the decision to spend or save money☆

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HIGHLIGHTS

- Drinking a bitter beverage increases happy participants' inclination to save money.
- Drinking a bitter beverage decreases unhappy participants' inclination to save money.
- Priming bitterness-related concepts increases happy participants' inclination to save money.
- Priming bitterness-related concepts decreases unhappy participants' inclination to save money.
- Drinking a bitter beverage decreases happy participants' actual impulsive purchases.

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ABSTRACT

People are more inclined to spend money when they are happy than when they are sad. However, unobtrusive situational factors that activate the concepts of a bitter life can reverse these effects. In line with this reasoning, our research shows that drinking a bitter beverage increases happy participants' inclination to save money but decreases unhappy participants' disposition to do so. These effects were confirmed in three lab experiments. Moreover, two field studies provided evidence that the results generalize to actual savings decisions and to impulsive purchases in an actual shopping situation.

Three decades of research have been concerned with the way that people's mood can influence their processing of information. Although this stream of research has taken many directions, it has largely centered around two general effects. First, individuals use the positive or negative mood they are experiencing at the time they judge a stimulus as information about their reactions to the stimulus and evaluate it more favorably when they feel happy than when they do not (e.g., Schwarz & Clore, 1983, 1996). Second, people's mood can have a motivational influence (Cohen & Andrade, 2004; Isen, 1984). That is, individuals who feel unhappy are motivated to eliminate these negative feelings by engaging in a behavior that is likely to accomplish this objective (Cohen & Andrade, 2004). However, the informational and motivational influences of affect are not independent. As Schwarz, Bless, and Bohner (1991) noted, happy people typically infer that the situation they happen to be in is benign and consequently are not motivated to process information systematically. In contrast, unhappy persons interpret the situation as potentially threatening and are motivated to think more carefully about features of the situation and their implications (Bless, Bohner, Schwarz, & Strack, 1990).

Despite the large amount of research and theories surrounding these effects (for reviews, see Bower & Cohen, 2014; Clore et al., 2001;

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Schwarz & Clore, 1996; Wyer, Clore, & Isbell, 1998), one possible influence of affect has seldom been considered, namely, its influence on how and when people use their previously acquired knowledge as a basis for judgments and decisions. The research to be reported investigated the nature of this influence.

In doing so, we focused on decisions of a sort that occur frequently in daily life. People who receive an unexpected sum of money (i.e., a gift, an income tax refund, etc.) often decide whether to spend the money or to save it. In many cases, they may not think very carefully about these decisions. Rather, they may simply base their decision on what mood they happen to be in at that time. For example, people may spend more money when they are in a good mood than when they are not, independent of other considerations.

When people think more deliberatively about a savings decision, however, this decision is likely to depend on both (a) their expectation that a negative event might occur and whether the money would help them alleviate such an aversive situation, and (b) whether they perceive such an event to be imminent. These perceptions, however, may depend on their mood. Happy individuals may consider their present situation to be benign (Schwarz et al., 1991) and that a negative experience is unlikely. Consequently, they may believe that the misfortune they are contemplating is more likely to occur in the future, and decide to save the money as a safeguard against its occurrence. In contrast, unhappy individuals who contemplate an adversity are more likely to imagine that it could be imminent and may decide to spend money in an attempt to minimize its unpleasant consequences.

To increase the likelihood that individuals engage in this deliberation in the studies we report, we used an unobtrusive procedure to induce participants to contemplate a negative life event. Specifically, we asked participants to drink a bitter-taste beverage before they considered whether to spend or save a given amount of money. So, a key question to be addressed by this research is: Does bitter taste increase or decrease consumers' propensity to save or spend? Based on evidence that sensory experiences activate the concepts that can have metaphorical implications for the information people receive (Barsalou, 2008; Lakoff & Johnson, 2008), we assumed that tasting a bitter drink would activate concepts of bitterness and that these concepts, once accessible in memory, would influence people's interpretation of the life situation that came to mind when they were later confronted with a savings decision. (For evidence that a bitter taste can activate concepts that influence behaviors in quite unrelated situations, see Ding, Ji, & Chen, 2016; Erskine, Kacinik, & Prinz, 2011). We further assumed that whether persons considered this situation to be relevant to their present life or to their future life would depend on the mood they were in at the time. As a result, bitter taste (or salience of the concepts associated with a "bitter" life) may increase or decrease individuals' tendency to save, depending upon their mood at the time of making the savings decision. The basis for our predictions is elaborated in the next section.

1. Theoretical background

1.1. Affect and information processing

Two somewhat contradictory conceptualizations of the role of affect in information processing were proposed by Zajonc (1980) and Bower (1981). Zajonc postulated that affect and cognition are governed by separate systems that influence judgments and decisions. In contrast, Bower (1981) conceptualized affect and emotions as semantic concepts that influence information processing (comprehension, memory, and judgment) in much the same way as do other concepts. Although many specific assumptions of these theories have been disconfirmed (Wyer et al., 1998), they have continued to stimulate a large amount of research and theorizing.

Current formulations of affect and cognition consider motivational factors, cognitive factors, or both. Motivational theories (e.g., Cohen & Andrade, 2004; Isen, 1984; see also Andrade, 2005) assume that negative affect is aversive and that individuals who experience this affect are motivated to decrease or eliminate these feelings. Another conceptualization of affect and cognition implies that affect can have both informational and motivational influences (Schwarz & Clore, 1983, 1996). According to this theory, people attribute the positive or negative affect they experience in a situation to the stimuli they happen to be thinking about at that time and use their mood as a basis for evaluating the stimuli. These stimuli could include physical objects, personal experiences, or the situation as a whole. Thus, happy people are more likely than unhappy people to judge the stimuli more favorably (Strack, Martin, & Stepper, 1988; Yeung & Wyer, 2004), to report higher life satisfaction (Schwarz & Clore, 1983) and higher self-esteem (Levine, Wyer, & Schwarz, 1994), and to evaluate their cognitive responses to a persuasive communication as more valid (Wegener, Petty, & Smith, 1995). According to Schwarz et al. (1991), individuals who experience positive affect at the time they encounter a situation are inclined to infer that the situation is benign and unproblematic. Therefore, they process the information in the situation more superficially and base judgments on more global criteria (Bless et al., 1990). In contrast, individuals who experience negative affect perceive the situation to be problematic and consequently give more attention to details of the information they encounter.

An important implication of the theory has not often been examined, however. That is, people's use of affect as information is likely to depend on its relevance to the stimuli being judged. The evidence bearing on this possibility is limited. However, a series of studies by Förster and Strack (1996); see also Neumann, Förster, & Strack, 2003) found evidence that concepts activated by bodily sensations only influence judgments of stimuli if they are applicable. For example, flexing one's arms (approach behavior that elicits positive affect) influences evaluations of positive stimuli but not negative ones (for a similar contingency, see Centerbar & Centerbar & Clore, 2006).

The present research considered implications of this contingency. Suppose individuals who experience positive or negative affect perceive their current situation to be benign or problematic, respectively. These different perceptions are likely to affect their thoughts about the quality of life events that are evaluatively consistent or inconsistent with their current life situation. For example, if happy people think about the possibility of having a negative life experience and speculate about when the negative event is likely to occur, they may perceive the event as inconsistent with their immediate life situation and consider the negative event to be more relevant to their future life. In contrast, unhappy people may perceive the event to be consistent with their current life circumstances, and thus may view the negative event as imminent.

These possibilities have implications for the effect of people's mood on their savings decisions. Suppose individuals who are contemplating whether to spend or save money consider the possibility that they might encounter a misfortune. In this case, happy individuals may perceive the adversity to be inconsistent with their current life situation and thus to be more likely to occur in the future. Therefore, they may be inclined to save money as a hedge against its future occurrence. In contrast, unhappy persons are more likely to see the adversity as consistent with their immediate life situation and thus as potentially imminent. These persons, therefore, may be inclined to spend the money on immediate gratification to offset the effects of such an adverse event. These contingencies should only occur, however, if individuals happen to think about an aversive life event at the time they contemplate a savings decision. We now consider conditions in which this might occur.

1.2. Bitter taste and bitter life

Taste can influence human behavior at a very early age. Infants show hedonically positive responses to sweet tastes, such as relaxation, increased sucking (Steiner, 1973), and elevated heart rate (Lipsitt, 1979). When they taste something bitter, however, they spontaneously