Contrast Against the Future: the Unexpected Effect of Expectation

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We demonstrate that, although people do not contrast their enjoyment of a current experience against their enjoyment of a preceding experience, they do contrast it against their enjoyment of an anticipated experience. Classical music becomes more enjoyable when anticipating an irritating noise, but not following an irritating noise. Similarly, an irritating noise becomes more irritating when anticipating pleasant music, but not following pleasant music. This forward-looking hedonic contrast effect occurs across domains, can lead to greater enjoyment of declining rather than improving sequences, but does not obtain when the current experience is ambiguously valenced (in which case assimilation occurs).

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SESSION OVERVIEW

How happy are you with a $5 prize? How much do you like the dinner you are having now? How big is the cake on the plate? Answers to such kind of questions are usually affected by comparison standards people have in mind. This session investigates factors that affect the selection of comparison standards and their effects on judgments and evaluations.

Research in marketing and social psychology has shown that human judgments are comparative in nature (Kahneman and Tversky 1979; Mussweiler 2003; Gilbert, Giesler, and Morris 1995), that the comparison processes systematically affect consumer preference and decision making (Dhar and Simonson 1992; Dhar, Nowlis, and Sherman 1999; Hsee 1996), and that characteristics of evaluation targets and comparison standards determine whether assimilation or contrast will result (Herr 1986; Herr, Sherman, and Fazio 1983; Brewer and Weber 1994; Mussweiler and Bodenhausen 2002).

Despite the extensive research done in this field over the years, this session demonstrates that it remains a fertile area for continued research. The session presents three papers, each focusing on different aspects of comparison processes. In particular, they demonstrate that 1) need states and ownership status systematically affect the construction and the use of comparison standards. 2) Selection of comparison standards is determined by consumers’ motivation as well as their cognitive capacity to compare. 3) Forward looking comparison standards are more impactful than backward looking ones, and their impact on evaluations of current experiences depends on characteristics of the current experience.

The first paper by Dai and Hsee demonstrates in three studies that motivational states induce expectation, which in turn serves as a reference point for evaluations. Furthermore, these evaluations can be contrasted against or assimilated toward the expectation, depending on ownership status. Specifically, when a person owns an object (e.g., a piece of cake), evaluation of a target contrasted against expectation; whereas when he or she does not own the object, evaluation of a target is assimilates toward expectation.

Kassam, Morewedge, and Gilbert show that the selection of comparison standards is determined by both motivation and cognitive capacity to compare. They distinguish between present standard, those that are physically present at the time the comparison, and absent standard, those that are physically absent at the time the comparison is made and must therefore be retrieved from memory or generated by imagination. In two studies they demonstrate that people automatically compare their own gains with present standard, whereas they compare with absent standard only when they are motivated and have cognitive capacity to compare.

Finally, Meyvis and Nelson examine the effect of anticipated experience on the enjoyment of current experience. Across 7 studies they find that, while people do not compare current experience with proceeding experience (Novemsky and Ratner 2003), they do compare it with anticipated experience. However, this contrast effect is not always present. When the valence of the current experience is ambiguous, evaluation of current experience actually assimilates toward the anticipated experience.

Overall, the three papers were chosen for this session because (1) they center on the same topic of comparison processes and examine intriguing new directions in reference point construction and selection, (2) they all demonstrate contrast and/or assimilation effect in evaluations of products, experiences, or feelings, and (3) in terms of methodology, the session represents experimental work from both behavioral decision making and social psychology perspectives. Different approaches complement each other and can potentially inspire new insights for future research. Together, the three papers form a cohesive set of explorations into some fundamental issues of judgment and evaluation processes that is central for understanding consumer decision making.

EXTENDED ABSTRACTS

“How Does Motivation Affect Evaluations?”
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Does a hungry person perceive a piece of cake bigger or smaller in size than a person who is not so hungry? Does a consumer who cares about quality very much perceive the quality of a product higher or lower than a consumer who cares less about quality? These kinds of questions are ubiquitous in our daily life and are very important antecedents of consumer decision making. They concern the effect of motivation (e.g., need states) on evaluations (i.e., quantity, quality, probability, or other judgments).

Two lines of literature provide opposite predictions for these questions. On the one hand, new look psychology (e.g., Bruner and Goodman 1947) and its recent development (Balcetis & Dunning, 2006; Brendl, Markman and Messner 2003; Kunda, 1990) found that consumers usually see what they want to see. That is, a hungry person would perceive the same cake to be bigger than a less hungry person would, and a consumer who cares about quality a lot would perceive the quality of a specific product to be higher than a consumer who cares little about the quality. On the other hand, Dai and colleagues (Dai, Wertebroch and Brendl 2008; Dai, Brendl and Wertebroch 2009) demonstrated that the more people value a product, the more scarce they perceive it to be. In other words, consumers high in need would perceive a piece of cake smaller, the quality of a specific product lower, than their counterparts who are low in need.

In the current paper, we propose a model that reconciles these opposite predictions and systematically explains the effect of motivation on evaluations. Specifically, we propose that when a person owns an object (e.g., a piece of cake), the more the person wants it, the smaller (or worse) she perceives it to be; whereas when she does not own the object, the more she wants it, the bigger (or better) she perceives it to be. We argue that this is because motivation (e.g., need states) automatically activates expectation, which serves as a reference for judgments. This reference can lead to either contrast or assimilation effect, depending on ownership status. For what people own and value (e.g., they have high level of need for it), they want the object to be as big (or good) as possible. They automatically compare what they have with what they ideally want to have (expectation), and thus feel that the reality is not as big (or good)--perceived reality is contrasted away from the expectation. Whereas for what people do not own, the more they want it, the bigger they perceive it to be because of wishful thinking--perceived reality is assimilated to the expectation.

We tested the predictions and the underlying processes of our model in three studies. Study 1 tested our model in quantity estimations. Participants were first induced high or low levels of thirst and were then asked to estimate the volume of a cup of water.
Consistent with our prediction, when participants were told that the cup of water was for them to consume, those who were thirsty estimated the volume to be smaller than those who were not thirsty. Conversely, when they were told that the cup of water was not for them to consume, the reverse was true. In study 2, participants were first asked to imagine and elaborate on either an experience of cliff climbing (with a rope) or an experience of jump roping. Then they were asked to evaluate the thickness of a rope. When the rope was described to be the one that they were using in the imagined experience, those who imagined a cliff climbing experience (and thus wanted to have a thick rope) estimated the rope to be thinner than those who imagined a rope-jumping experience. However, when the rope was described to be one that is irrelevant to the imagined experience, those who imagined a cliff climbing experience estimated the rope to be thicker than those who imagined a rope-jumping experience. Furthermore, the correlation between measured expectation (expected thickness of the rope they were using in the imagined experience) and rope thickness judgment was negative when the rope was described to be the one that they used, and was positive when the rope was described to be irrelevant. These results suggest that expectation leads to contrast when the object is “mine” and assimilation when the object is not “mine”. Finally, study 3 replicated the same pattern of results in product quality judgment. Specifically, consumers who cared about product quality a lot perceived a specific product to be lower in quality when the product was the one they used for a specific experience, and higher in quality when the product was one that was irrelevant to their experience, than consumers who cared less about product quality.

Overall, these studies provide strong support for our model, confirming that motivational state induces expectation, which in turn serves as a reference point for evaluations. Furthermore, these evaluations can be contrasted to or assimilated toward the expectation, depending on ownership status.

“Motivation and Capacity in the Selection of Comparison Standards”

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Gains may be valued by comparing them with alternatives that are present at the time the comparison is made or with alternatives that are absent at the time the comparison is made. We offer a two-stage model in which people (a) initially make “present comparisons,” and (b) subsequently make “absent comparisons” when they have the cognitive resources and motivation to do so. This model predicts that when a present comparison is favorable (“What I got is better than what I didn’t get”) people will be unmotivated to make a subsequent absent comparison; but when a present comparison is unfavorable (“What I got is worse than what I didn’t get”) people will be motivated to make a subsequent absent comparison (“But at least what I got is better than what I had”).

People’s affective responses to outcomes are influenced by the standards with which they compare them, and one factor that determines the selection of a standard is the person’s motivation. People may compare their outcomes with a wide variety of standards including previous outcomes, alternative outcomes, and other people’s outcomes, and research suggests that people tend to select those standards that produce the most favorable comparison. For example, people tend to compare with those who are less fortunate than themselves, to avoid comparing with those who are more fortunate than themselves, to compare on those dimensions on which they are more fortunate than others, to perpetuate misfortune for those with whom they compare, to exaggerate how unfortunate they once were, and so on.

But in addition to motivation there is a second factor that determines the selection of standards and that is a person’s cognitive capacity. Some comparisons require conscious deliberation and others arise spontaneously and are made with little effort. Morewedge, Gilbert, Myrseth, Kassam and Wilson (2009) distinguished between (a) present standards (those that are physically present at the time the comparison is made and can thus be perceived through the senses) and (b) absent standards (those that are physically absent at the time the comparison is made and must therefore be retrieved from memory or generated by imagination). They argued that it is typically more effortful to imagine or remember “that which isn’t” than to perceive “that which is,” and thus, all else being equal, people are more likely to compare with present standards than with absent standards.

Our two-stage model therefore suggests that people spontaneously and effortlessly compared their prizes to present standards because it’s easy to do so. Those for whom that comparison is favorable are not motivated to generate or remember an absent standard. Those for whom present comparison is unfavorable, on the other hand, will be motivated to generate or remember absent standards that would produce more favorable comparisons, if they have sufficient cognitive capacity.

We tested several basic predictions of this model in two studies in which participants learned that they had won one of two cash prizes. We defined “winners” as participants who had won the superior prize and “losers” as participants who had won the inferior prize. We also varied the face value of the prize won ($7, $5, $3, or $1). In Experiment 1, we expected that winners would naturally compare their superior prize to the inferior prize, feel good, and stop comparing. Because the difference between the superior and inferior prizes was the same in the large and small conditions, winners’ feelings were uninfluenced by the face value ($7, $5 or $3) of their superior prizes. On the other hand, we expected losers to naturally compare their inferior prize to the superior prize and feel bad, motivating them to make absent comparisons and resulting in sensitivity to face value. This is in fact what we found, losers’ reported happiness depended on the value of the prize won ($5, $3 or $1). In Experiment 2, we put some participants under cognitive load, which we expected would impair their ability to compare their current and previous states of wealth. We found winners’ feelings to be uninfluenced by the face value ($5 or $3) of their prizes whether they were or were not under load. Losers’ feelings were influenced by the face value ($5 or $3) of their prizes when they were not under load, but were not influenced by face value when they were under load.

In summary, we present data supporting a two-stage model which suggests that people initially compare with present standards and subsequently compare with absent standards if they have both the motivation and capacity to do so.

“Contrast Against the Future: The Unexpected Effect of Expectation”

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We do not just derive utility from our current experience, but also from the anticipation of future experiences (Loewenstein 1987): we dread a visit to the dentist and we savor an upcoming trip to a tropical island. Yet, aside from this direct effect on our current happiness, the anticipation of future events can also change our enjoyment of a specific current experience. For instance, knowing that we are about to embark on a vacation may change how we
experience our time at the dentist. Or, similarly, knowing that we are about to visit the dentist may change how much we enjoy our time at the beach.

One possibility is that the anticipatory dread or savoring contaminates our current experience. Or, stated differently, the current experience may be assimilated towards the upcoming experience: the visit to the dentist becomes less painful when anticipating the vacation, while the time at the beach becomes less enjoyable when anticipating the visit to the dentist. This contamination effect has some intuitive appeal: anticipating the vacation makes the visit to the dentist more tolerable, while thought of the dentist office makes it harder to enjoy the beach.

However, a second possibility is that we contrast the enjoyment of our current experience against the enjoyment of the anticipated experience: the visit to the dentist becomes even more painful when anticipating the vacation, while the time at the beach becomes even more enjoyable when anticipating the visit to the dentist. Yet, although perceptual contrast is a very robust phenomenon, and although people routinely believe in hedonic contrast, there is little evidence that it actually occurs (Novemsky and Ratner 2003). Then again, past research has exclusively focused on comparisons with preceding experiences rather than anticipated experiences. Although the current dinner may not taste worse when the previous dinner was fabulous, it may actually taste worse when the next dinner is expected to be fabulous. Indeed, consistent with the forward-looking view of emotion (Frijda 1988), previous research has shown that the anticipation of future experiences is more intense than the reflection on past experiences (Van Boven and Ashworth 2007). If this generalizes to hedonic comparisons, then a visit to the dentist may be more painful when anticipating a vacation, even though it is not more painful following a vacation.

Before testing between these two possible effects (hedonic assimilation versus hedonic contrast), we assessed people’s intuitions about the effect of hedonic comparisons. We simply asked participants how their experience of a pleasant (unpleasant) experience would change if it preceded (followed) an unpleasant (pleasant) experience. Consistent with prior research, a clear majority believed that being preceded by an unpleasant experience would make a pleasant experience even more pleasant, while 74% believed that being preceded by a pleasant experience would make an unpleasant experience even worse. Interestingly, they had the opposite intuition for comparisons with upcoming events: 92% believed that the anticipation of an unpleasant event would make a pleasant event less pleasant, while 84% believed that the anticipation of a pleasant event would make an unpleasant event less aversive. In other words, participants’ intuition suggested forward-looking hedonic assimilation, rather than forward-looking hedonic contrast. We next tested whether these intuitions corresponded to people’s actual experiences.

In a first study, all participants listened to pleasant piano music and were asked to indicate how much they enjoyed this music. People in the control condition only listened to the music, while people in the retrospective comparison condition first listened to an annoying sound (noise + music). Finally, people in the prospective comparison condition also first listened to the annoying sound, but in addition anticipated that the sound would return after the pleasant music (noise + music + noise). The results were the exact opposite of the intuitions from the pilot study: Whereas the music did not become more enjoyable when people first listened to the annoying sound, it did become more enjoyable when participants anticipated that the annoying sound would return after the music—consistent with forward-looking hedonic contrast.

We replicated this forward-looking hedonic contrast in a series of subsequent studies. In study 2, we asked participants to listen to a vacuum noise and found that their irritation with this noise did not change as a function of the sound they heard earlier (pleasant piano music or even more irritating drilling sound), but did depend on the sound they were anticipating to hear afterwards. The vacuum noise became more irritating when people anticipated pleasant music than when they anticipated the drilling noise. In study 3, we demonstrated that this effect was not purely driven by the comparison with the even more irritating drilling noise: 50 secs of vacuum noise was experienced as more irritating when participants anticipated 10 secs of pleasant music than when they anticipated 10 more secs of vacuum noise. In study 4, we found that the comparison was not just sensitive to changes in valence, but also to changes in the magnitude of (dis)pleasure: An annoying sound became more annoying when people anticipated listening to a moderately enjoyable pop song, but even more so when they anticipated listening their favorite pop song.

If people engage in forward-looking hedonic contrast (rather than the hedonic assimilation they intuit), then their preference for improving sequences may sometimes be misguided. Indeed, in study 5, we find that people who taste improving sequences of jellybeans enjoy these jellybeans less than those who taste declining sequences of jellybeans—even though people in both groups strongly prefer the improving sequence. Finally, we conducted two studies to examine the boundary conditions of this hedonic contrast effect. In study 6, we replicate the contrast effect with an unambiguously valenced target experience (a looped vacuum noise), but we observe an assimilation effect with an ambiguously valenced target experience (looped new age music); and in study 7, we replicate the comparison effect when the anticipated experience is expected to immediately follow the target experience, but not when participants first expect more of the target experience.

REFERENCES


Assimilation and Contrast: Comparison Processes in Judgments and Evaluations


