How do you feel while driving your car?

Depends on how you think about it.

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Abstract

Hedonic expectations and global memories converge, but both are poorly related to actual hedonic experience. We find that the economic value of a car predicts the reported hedonic experience of driving under prospective (How would it feel?) and global retrospective (How does it usually feel?) conditions, but not under episodic conditions (How did it feel last time?), unless the car was the focal object in the specific episode (e.g., driving just for fun). The car only makes a difference when its features are on the driver’s mind, which is rarely the case while driving. Methodological and theoretical implications are discussed.

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INTRODUCTION

How much fun would I have if I bought that BMW? Would I be happier on a ski slope in Nevada or on a Caribbean beach this winter? Such hedonic forecasts figure prominently in consumers’ decision making, consistent with March’s (1978) seminal observation that choice involves a prediction of future tastes and preferences. However, a growing body of findings in consumer research and psychology, reviewed below, indicates that hedonic forecasts are not only riddled with uncertainty but often plainly wrong. This comes as no surprise when the predictions pertain to novel products or unfamiliar behaviors, for which consumers cannot draw on previous personal experience. But why would consumers arrive at erroneous forecasts when they have extensive personal experience with the product or behavior under study? We suggest that part of the answer is that their memories seem to confirm their forecasts. But, unfortunately, neither their memories nor their expectations may have much to do with their actual experience. The present research addresses this convergence of hedonic forecasts and memories and their dissociation from actual hedonic experience.

To preview, we asked undergraduates to predict how they would feel if they were driving a Ford Escort, a Honda Accord, or a BMW (study 1). Not surprisingly, they assumed that driving a luxury car would feel better than driving an economy car, resulting in the prediction of a more positive emotion profile. The emotion reports of actual drivers of economy and luxury cars apparently confirmed the students’ predictions. When asked how they generally feel while driving their cars, the positivity of the reported emotion profiles increased with the Bluebook value of the cars (studies 2 and 3).
However, other drivers were asked to recall a recent specific episode of driving and reported how they felt during this particular episode (studies 2 and 3). Under this condition, the car’s Bluebook value was unrelated to drivers’ hedonic experience. In short, undergraduates’ hedonic predictions matched drivers’ global reports of hedonic experience, presumably because both reports were derived from semantic knowledge about cars. When episodic reporting encouraged the reconstruction of a recent hedonic experience, the type of car exerted no influence. This presumably reflects that the car is unlikely to be on the driver’s mind during most episodes of driving. Supporting this assumption, better cars were associated with more positive feelings under episodic reporting conditions when the episode itself was car-focused (e.g., taking the car for fun ride), but not otherwise (study 4).

These findings are consistent with predictions derived from Robinson and Clore’s (2002) accessibility model of emotional self-report and have important implications for consumer decision making and the methodology of marketing research. We first review the Robinson and Clore (2002) model and related findings in the consumer literature to develop the theoretical rationale. Subsequently, we present the four studies summarized above. Our discussion focuses on implications for consumer decision making and offers conjectures about the conditions under which consumers do or do not learn from their actual hedonic experiences, outlining issues for future research. Finally, we address the methodological implications of the dissociation of global and episodic reports for marketing research.
THEORETICAL BACKGROUND

The Rationale

A large body of literature has documented discrepancies between people’s concurrent and retrospective reports of emotional experience (e.g., Gilbert and Ebert 2002; Kahneman 1994; Loewenstein and Alder 1995; Loewenstein and Schkade 1999; Ross 1989; Schwarz and Strack 1999; Schmidt, Jacquin, and Telch 1994; for a review see Robinson and Clore 2002). Robinson and Clore (2002) proposed an accessibility model to account for these discrepancies. When people report on their current feelings, the feelings themselves are accessible, allowing for accurate reports on the basis of experiential information. But affective experiences are fleeting and not available to introspection once the feeling dissipated. Hence, past affective experiences need to be reconstructed on the basis of episodic or semantic information. When the affect report pertains to a specific recent episode, people can draw on episodic memory, retrieving specific moments and details of the recent past. Such reports can often recover the actual experience with some accuracy, as indicated by convergence with concurrent reports (e.g., Robinson and Clore 2002; Kahneman, Krueger, Schkade, Schwarz, and Stone 2004; Stone, Schwartz, Schwarz, Schkade, Krueger, and Kahneman 2006).

In contrast, global reports of past feelings are based on semantic knowledge. When asked how they “usually” feel during a particular activity, people draw on their general beliefs about the activity and its attributes to arrive at a report. The actual experience does not figure prominently in these global reports because the experience itself is no longer accessible to introspection and episodic reconstruction is not used to
answer a global question. Finally, the same semantic knowledge serves as a basis for predicting future feelings, for which episodic information is not available to begin with.

This rationale predicts a systematic pattern of convergences and divergences in affect reports. First, concurrent reports and retrospective reports pertaining to specific recent episodes are likely to show good convergence, provided that the episode is sufficiently recent to allow reinstatement in episodic memory (see Kahneman et al. 2004; Stone et al. 2006 for examples; Robinson and Clore 2002 for a review). Second, predictions of future feelings and retrospective global reports of past feelings are also likely to converge, given that both are based on the same semantic inputs. Hence, global memories are likely to “confirm” predictions. However, third, neither predictions nor global retrospective reports may be closely related to either concurrent or episodic retrospective reports, reflecting that the different reports are based on different inputs.

In addition, a large body of research into affective forecasts shows that people’s predictions are usually more extreme than their experiences. Known as the “focusing illusion” (Schkade and Kahneman 1998), this bias derives from a focus on core attributes of the activity at the expense of other information. Thus, Midwesterners who predict how happy they would be if they moved to California may focus on the pleasant Californian climate, missing, for example, that they would still have to spend most of the day in an office cubicle. Predictions as well as global retrospective reports are likely to be subject to such focusing effects. Hence, we may, fourth, expect that these reports overestimate the intensity of the experience, relative to concurrent and episodic reports.

This rationale also suggests that actual past hedonic experiences in a domain may play a relatively minor role when consumers decide on future expenditures in the same
domain. Presumably, their decisions are based on predicted future enjoyment (March 1978). These hedonic predictions, in turn, are derived from semantic knowledge and subject to focusing effects; they may hence not be accurate reflections of past experience. However, consumers are likely to miss this fact because their global memories converge with their predictions, apparently confirming the predictions’ validity.

**Relevant Findings**

Numerous findings are compatible with these predictions (see Robinson and Clore 2002). For example, people generally believe that they will be in a great mood during vacations and this belief is reflected in their predictions as well as their memories, even when the actual experience was less rosy. Mitchell and colleagues (1997) assessed prospective, concurrent, and retrospective reports of vacation enjoyment and found that prospective reports converged with retrospective reports. However, both the predicted and remembered affect was more positive than the affect reported concurrently during the vacation. Similarly, Thompson (1997) observed that people underestimate the mundane and negative moments that are part of every vacation, bringing their memories in line with their expectations. Finally, Wirtz and colleagues (2003) tracked college students before, during, and after their spring-break vacations and compared their predicted, on-line, and remembered spring-break experiences. Their results showed that predicted and remembered experiences were more intense (i.e., more positive and more negative) than the actual, on-line experiences. Moreover, the remembered experiences best predicted the desire to repeat the experience in future, illustrating that we learn from our memories rather than from our experiences.
Research in other consumption contexts reiterates this theme. For example, Ratner, Kahn, and Kahneman (1999) found that global retrospective evaluations diverged from actual consumption experiences. In retrospective evaluations, consumers favored a consumption set with high variety over a set with low variety, even though the high variety set included items that they had not enjoyed in real time, whereas the low variety set included only their preferred items. Similarly, Novemsky and Ratner (2003) showed that consumers expect to enjoy a given experience more when it follows a worse experience (i.e., hedonic contrast effect), even though no contrast effects were experienced in real time.

The Present Research

The present research applies this framework to consumers’ enjoyment of their cars. We predict (i) that consumers predict that driving a luxury car is a more pleasant hedonic experience than driving an economy car and (ii) that drivers’ global retrospective reports of hedonic experience “confirm” this prediction. Presumably, both reports are based on consumers’ general knowledge about relevant attributes of luxury and economy cars and their relative enjoyability. While driving the car, however, the car is rarely on the driver’s mind and its attributes may therefore rarely affect the driver’s hedonic experience. Hence, we further predict (iii) that drivers’ reports pertaining to their hedonic experience during a recent specific episode of driving will not show a difference between luxury and economy cars, unless (iv) the car was the focus of attention during the particular episode (e.g., episodes of taking the car for a joy ride).
We report a set of four studies. Study 1 examined whether consumers expect to experience more positive and less negative feelings when driving a luxury rather than an economy car. Study 2 asked drivers to report how they actually feel while driving their cars. Depending on conditions, drivers reported how they “usually” feel (global report) or report how they felt during a recent specific episode of driving (episodic report). As expected, consumers predicted that driving a luxury car is more fun and drivers’ retrospective global reports converged with this prediction; however, drivers’ episodic reports provided no evidence for differential enjoyment. Extending these findings, studies 3 and 4 assessed a wider range of specific driving episodes to identify episodes in which the car makes a difference in actual experience, as captured in episodic reports.

STUDY 1

To capture consumers’ expectations, we asked undergraduate students to predict how they would feel driving a BMW, a Honda Accord, or a Ford Escort. Not surprisingly, we expected that undergraduates’ predictions of hedonic enjoyment (as reflected in positive and negative feelings) would increase with the economic value of the car.

Method

Participants were recruited from the subject pool of the Ross School of Business at the University of Michigan. 177 students participated for course credit and completed a self-administered questionnaire. They were asked to imagine that they were about to purchase a new car and wanted to predict how they would generally feel while driving that car. Depending on the conditions of a between-participants design, they imagined
either a BMW, a Honda Accord, or a Ford Escort, that is, cars ranging from the luxury to the economy end of value range. Each participant evaluated only one car. Feelings were assessed with 10 positive affect terms (e.g., happy, enjoyable, etc.) and 10 negative affect terms (e.g., depressed, annoyed, etc.); each feeling was rated on a seven point scale (“0” – not at all; “6” – very much). In addition, some demographic information (e.g., age, gender and income) was collected.

**Results and Discussion**

Due to some missing and incomplete responses, 171 participants (96 females, 75 males) remained for analysis, ages 19 to 23 (M<sub>age</sub> = 21). A factor analysis confirmed that all items loaded on the expected positive or negative factor and positive (\(\alpha_s = 0.97\)) and negative (\(\alpha_s = 0.93\)) affect indexes were computed by averaging over the 10 positive and negative items, respectively.

Table 1 shows the mean ratings. As expected, participants predicted that they would experience the most positive and least negative feelings while driving a BMW, and the least positive and most negative feelings while driving a Ford Escort, with a Honda Accord falling in between (F’s(2, 170) = 70.49 and 49.31, p’s < .001, for positive and negative feelings, respectively). Post-hoc contrasts indicated that overall positive feelings significantly differed for each of the three car types; overall negative feelings differed significantly between the Ford Escort and all other cars, but not between the BMW and Honda Accord.
These results confirm that prospective car buyers expect different hedonic experiences based on the nature of the car they consider. These expectations are presumably based on their mental representations of different car categories and their implicit theories of how different cars would make them feel while driving them.

**STUDY 2**

Study 2 examined whether the observed positive relationship between car value and predicted affective experience emerges in the global retrospective reports of car owners, but not in their episodic reports. In the global report condition, we asked car owners about the make, model and age of their car and how they generally feel while driving it. In the episodic report condition, we asked car owners to recall their last commute to work and to report how they felt during this particular episode of driving, before we asked them about the make, model, and age of their car. We expected that the Bluebook value of the car would predict the driver’s feelings under global report conditions, but not under episodic report conditions.

**Method**

Participants were recruited from the students (Phd students, day-time and evening MBAs) and employees (faculty and staffs) at the Ross School of Business, resulting in a demographically diverse sample of respondents with the desired variability car values. Participants completed a self-administered questionnaire, which was delivered to their campus mailboxes or distributed in class; no financial incentives were provided.
Participants were randomly assigned to the global or episodic report conditions. In the *global report condition*, they were first asked which car they had (brand, model and year) and how long they had possessed the car. Next, they were asked to think about their car for a moment and to indicate how they generally felt while driving their car. This question sequence encourages a focus on features of the car; it is also the sequence most commonly used in market research, where a consideration of product features is encouraged before evaluative judgments are assessed. In the *episodic report condition*, participants first were asked to recall the last time they drove their car to work or school (when and whom they were with and how long the commute was), before they reported how they felt during this specific episode of driving. Questions about the car (brand, model, year, and years of possession) completed the question sequence. This question sequence encourages the recall of episodic information and discourages a focus on the car, prior to the affect report.

All participants rated their feelings along the same 10 positive and 10 negative affect dimensions used in study 1 (0 = not at all; 6 = very much) and provided some demographic information.

Based on the car information that participants provided, we determined the Kelly Bluebook value of their car, which served as an indicator of the car’s economic value. Although the Kelly Bluebook value is not an ideal indicator of the quality, class, or hedonic features of a car, it reflects the car’s market value as a reasonable proxy for car quality. For the analyses, the natural log of cars’ Kelly Bluebook value was used as a predictor of reported affect.
Results

We distributed a total of 400 questionnaires (200 per condition) and received 178 back (91 in global and 87 in episodic condition), resulting in a relatively high total response rate of 44.5%, which was roughly equal across conditions (45.5% in the global and 43.5% in the episodic condition). We discarded five responses because participants failed to provide information on their cars, resulting in a final usable sample of 173. We had more male respondents ($N = 114$) than females ($N = 59$) and more students ($N = 122$) than faculty and staff ($N = 51$). The number of remaining respondents between two conditions was $N = 93$ in the global and $N = 80$ in the episodic condition. The Kelly Bluebook values ranged from a minimum of $1,205 to a maximum of $52,110, with a mean of $13,103 ($SD = $8,593), indicating the desired variation in car values.

Factor Analysis. A principal component analysis of the 20 emotion items with varimax rotation revealed an interesting difference between reporting conditions. In the global reports condition, all items loaded on the expected positive and negative factors, which captured 72% of the variance. This finding parallels the prediction condition of study 1. However, three factors (capturing 69% of the variance) emerged in the episodic reports condition. This differential factor structure indicates that participants’ mental representations of their cars mapped onto the positive/negative dimension of affective experience in the global reports condition, whereas the episodic recall of a specific instance of driving resulted in the reconstruction of a more complex emotional experience.

Factor analysis of the combined samples revealed two latent factors, capturing 68% of the variance. Eight items (four positive and four negative) were discarded from
further analysis due to relatively low factor loadings; the loadings of remaining affect items are at least 0.75 or higher. The remaining six positive (happy, excited, fun, thrilled, enjoyable, and joyous) and six negative items (depressed, frustrated, angry, hassled, worried, and annoyed) were combined into indexes of positive ($\alpha_s = 0.94$) and negative ($\alpha_s = 0.96$) feelings, respectively.

*Feelings as a Function of Car Value and Reporting Conditions.* A linear regression with overall positive feelings as the dependent variable and reporting condition (global coded as “1” and episodic “0”), ln(car value) (i.e., natural log of car’s Kelly Blue Book value), interaction between reports condition and ln(car value), and gender (male coded as “1” and female “0”) as the independent variables showed that the positive interaction term was significant ($\beta = 2.43, t = 2.54, p < .05$). The main effect of reporting condition is also significant ($M_G = 21.07, M_E = 13.75, F(1, 169) = 36.30, p < .001$), indicating that drivers in global reports condition reported more intense positive affect than those in episodic reports condition, consistent with previous findings (e.g., Schkade and Kahneman 1997; Wirtz et al. 2003). Simple effect tests within reports conditions were consistent with our predictions. As expected, the economic value of the car was a significant positive predictor of drivers’ self-reported positive feelings in the global reports condition ($\beta = .45, t = 4.77, p < .01$), but not in the episodic reports condition ($\beta = .13, t = 1.10, p > .10$). Thus, respondents only associated more positive feelings with better cars when they provided a global report, but not when they reported on a specific episode of driving.
However, none of the predictors were significantly related to drivers’ overall reports of negative feelings, with the exception of that women reported more negative feelings than men ($\beta = -.17, t = -2.01, p < .05$, for the gender main effect). The main effect of reporting condition failed to approach significance level ($M_G = 19.95, M_E = 21.08, F(1, 169) = .35, NS$). We return to the prediction of negative feelings and the observed gender difference in study 3.

**Correlation Analysis.** Correlational results further illustrate the pattern observed in the regression analyses. The natural log of Bluebook value correlated significantly with overall positive feelings under global reporting conditions ($r = .46, p < .01$), but not under episodic reporting conditions ($r = .14, p > .10, z = 2.30, p < .05$, two-tailed, for the difference in correlations). On the other hand, the Bluebook value was uncorrelated with overall negative feelings under either reporting condition ($r’s = -.04$ and -.16, $p’s > .10$, under global and episodic conditions, respectively).

**Comparison with Study 1.** According to our rationale, drivers who are asked to provide a global report are likely to follow the same car-focused procedures as consumers who are asked to predict how much they would enjoy driving such a car. To test this hypothesis, we used the drivers’ global reports from study 2 to calculate the predicted means at a Bluebook value corresponding to the BMW, Honda Accord, and Ford Escort for which students in study 1 made predictions. We also recalculated the predicted affect scores from study 1 by dropping the eight items that did not enter the affect indexes of study 2. As shown in Figure 1, students’ predictions (study 1) and drivers’ global reports
(study 2) show good convergence, consistent with the assumption that both are based on similar semantic inputs.

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Discussion

In sum, study 2 showed the predicted divergence of global and episodic reports. Drivers who were asked what car they have and how they usually feel while driving their car reported more positive feelings the higher their car’s Kelly Bluebook value. Presumably, they focused on their car to arrive at a report of hedonic experience, resulting in a pattern that paralleled the predictions made by undergraduates in study 1. In contrast, other drivers were asked to recall their last commute to school or work and to report on their feelings during this particular recent episode of driving. These drivers could presumably access episodic information to reconstruct their feelings, resulting in reports of positive feelings that were unrelated to their car’s value. Moreover, their reliance on episodic information resulted in the reconstruction of a more complex emotional experience, as reflected in a more complex factor structure of their emotion reports. These observations are consistent with the predictions derived from Robinson and Clore’s (2002) model of affect report.

However, we failed to obtain the same pattern for reported negative feelings. Instead, reported negative feelings were unrelated to the car’s Bluebook value under either reporting condition. This is particularly surprising under global report conditions, which are expected to parallel affective predictions. Yet predictors in study 1 expected
that driving an economy car feels worth than driving a luxury car, whereas this pattern was not observed in the retrospective global reports of owners in study 2. We return to this issue in study 3, which is based on a broader set of driving episodes.

Finally, we hasten to acknowledge the limitations of using commutes to school or work as the only driving episode. Previous research showed that commuting is among the worst moments of the day for most people (Kahneman et al. 2004) and it is conceivable that the general negativity of this experience swamps whatever pleasure a good car may provide. On the other hand, observing an impact of car quality under this condition would have indicated that our conjectures are not applicable, allowing us to quickly move on. Study 3 makes up for this shortcoming.

**STUDY 3**

On theoretical grounds, we expect that the car makes a difference in the driver’s hedonic experience when the driver attends to the car. During most episodes of driving, however, something else is likely to be on the driver’s mind and the car remains in the background, unless something goes wrong. Hence, the car one drives should make a difference in episodes that are car-focused, like “cruising,” “joy rides” or “driving for fun,” yet these episodes are likely to comprise only a small part of a driver’s use of the car. Study 3 explores this possibility by sampling a wide range of driving episodes, thus also overcoming the major limitation of study 2, which was limited to episodes of commuting.
Method

Study 3 was conducted as a web survey and replicates study 2 with two modifications. First, we dropped eight (four positive and four negative) of the previously used 20 emotions indicators that received low factor loadings in study 2, thus shortening the survey to encourage complete participation. Second, we asked participants in the episodic reports condition to report on their most recent driving experience without specifying a particular type of episode a priori. Specifically, we asked participants to indicate the purpose of the most recent instance when they drove their car. They were given a list of activities to choose from (e.g., went to work, went to school, went to grocery shopping, took car on a joy ride, gave kids a ride, went to shopping mall, went out for party, restaurants, games, and other). Those who checked “other” were asked to write down the occasion. The questionnaire for the global reports condition remained the same.

We recruited participants from a more general population by posting a message with the web link of the survey on various online message boards (e.g., Delphi, Yahoo, and MSN). Relevant message boards were selected based on the following criteria: first, the message board or forum had to represent general interests (e.g., news, opinions, and general discussions) rather than specific interests (e.g., politics, car racing); second, the message board had to have a moderate amounts of new posts on a daily basis. We posted a message on various forums asking for help on a graduate student’s school project (i.e., a survey on consumer behavior). Forum members who read the message and were willing to participate were directed directly to the web survey.
The web survey was designed in a way that the two conditions are completely randomized. Specifically, every time a participant is directed to the site, he or she was randomly assigned to one of the two conditions (i.e., global vs. episodic). No incentives were given for participation. Participants first read about the informed consent and then indicated their willingness to participate this study. Only those who agreed to participate were asked to proceed to the actual survey questions. The web-versions of the questionnaires were identical to the ones used in study 2 except that there was an additional question (i.e., what was the purpose of your most recent driving instance) in the episodic reports condition. Upon completing the questionnaire, respondents were given the primary investigator’s contact information (for debriefing materials or any questions regarding the study) and were asked to provide comments, if any.

Results

A total of 166 participants completed the web survey. We discarded seven respondents with incomplete answers on important questions (e.g., car model and year), resulting in a final usable sample of 159 (N = 80 in the global and 79 in the episodic condition). Our respondents represent a diverse population with respect to income, education, and occupation status. Again, we obtained relatively large variations of car values (min = $475, max = $39,085, M = $8,593; SD = $6,551). Compared with the descriptive statistics of the cars reported in study 2, these cars have relatively lower values and thus provide a more realistic representation of the general consumer population.
Nature of Reported Episodes. Among all of the drivers’ self-reported last driving episodes, commuting to work or school was the most common one with 47% of the responses falling into this category. In addition, going out to restaurants, games, or parties was the second most frequently reported type of car use (13%), followed by grocery shopping (5%). Driving episodes that could be characterized as car-focused were virtually absent from the reports, with the exception of a single participant who reported taking the car on a joy ride. This observation suggests that car-focused episodes are extremely rare in people’s daily lives and that our use of commuting in study 2 captured the most prevalent car use.

Factor Analysis. Factor analysis (principal component analysis with varimax rotation) showed the expected positive and negative factors, with each of the 12 items receiving a factor loading of 0.70 or higher. The six positive ($\alpha_s = .92$) and six negative ($\alpha_s = .90$) emotion terms were combined to form overall indexes of positive and negative emotions, respectively.

Regression Analysis. Replicating study 2, a linear regression with overall positive feelings as the dependent variable and reports condition (global coded as “1” and episodic “0”), Incarvalue (i.e., natural log of car’s Kelly Blue Book value), interaction between reports condition and Incarvalue, and gender (male coded as “1” and female “0”) as the independent variables showed that the positive interaction term were significant ($\beta = 2.52, t = 3.53, p < .01$). Consistent with study 2’s result, the main effect of reports condition was again significant ($M_G = 22.00, M_E = 14.73, F(1, 156) = 35.92, p < .001$),
suggesting that global reports of positive affect are more extreme than episodic reports. Simple effect tests within the reporting conditions were again consistent with predictions. As in study 2, the Bluebook value of a car was a significant positive predictor of overall positive feelings in the global reports condition ($\beta = .38, t = 3.52, p < .01$), but not in the episodic reports condition ($\beta = -.16, t = -1.41, p > .10$). This supports our hypothesis that attributes of the car guide hedonic reports under global report conditions, but not under episodic report conditions (see Figure 2). In addition, the results of global retrospective report condition in this study show similar pattern as the results of study 1 and 2 (see Figure 1).

In contrast to study 2, the interaction term was also significant when predicting overall negative feelings ($\beta = -2.08, t = -2.63, p < .01$). However, the main effect of reports condition did not approach significance level ($M_G = 8.62, M_E = 8.58, F(1, 154) = .05, NS$), replicating study 2’s result. Simple effect tests within reports conditions were consistent with predictions. The Bluebook value of the car was a significant predictor of overall negative affect in the global retrospective reports condition ($\beta = -.46, t = -4.52, p < .01$), but not in the episodic reports condition ($\beta = -.03, t = -.22, p > .10$). Hence, study 3 supports our predictions for reports of negative as well as positive feelings.

Finally, a main effect of gender ($\beta = -.15, t = -1.97, p = .05$) indicated that women reported more negative affect ($M_{women} = 9.88$) than men ($M_{men} = 7.45; F(1, 155) = 4.74, p < .05$), regardless of the reports conditions. This replicates the gender effect observed in study 2.
Correlation Analyses. Correlational results further illustrate the pattern observed in the regression analyses. The natural log of Bluebook value correlated significantly with overall positive feelings under global reporting conditions ($r = .37, p < .01$), but not under episodic reporting conditions ($r = -.16, p > .10$), resulting in a significant difference in correlations ($z = 3.58, p < .01$). Similarly, the Bluebook value was correlated with overall negative feelings under global reporting condition ($r = -.47, p < .001$) but not under episodic condition ($r = -.05$ and $p > .10$), again reflecting a significant difference ($z = -2.85, p < .01$).

Car-focused Episodes. Within the episodic reports condition, we predicted that the value of the car will have an effect on hedonic experiences in several particular instances when the car is the focus. As noted, only one respondent reported driving the car “on a joy ride”, the episodic event for which we expected the strongest relationship with car value. Twenty-two other respondents reported on an episode of “going out”, which includes a number of possibilities (went to restaurants, parties, etc) and may or may not involve increased attention to the car. We ran a correlation analysis on the Bluebook value of the car and overall positive/negative feelings under these episodic reports conditions ($N = 23$) and found that the value of the car had a significant negative correlation with overall negative feelings ($r = -.70, p < .01$), but not with positive feelings ($r = .10, p > .10$). It is conceivable that when “going out”, people are more likely to be concerned with the public image of their cars (i.e., how the car will be seen through others’ eyes). Therefore, driving a poor car may be particularly likely to elicit negative feelings in such situations.
Discussion

In sum, study 3 replicated the core finding of study 2 with a broader range of driving episodes. The Bluebook value of the car predicted drivers’ positive as well as negative feelings under global reporting conditions, but not under episodic reporting conditions. In addition, study 3 provides first suggestive evidence that the car may make a difference in the drivers’ hedonic experience, as reflected in episodic reports, when the car is on the driver’s mind while driving. However, our ability to test this prediction was severely limited by the virtual absence of episodes that could be clearly categorized as car-focused. Accordingly, study 4 attempted to elicit such episodes more directly.

STUDY 4

To provide a more focused test of the hypothesis that the car driven affects drivers’ hedonic experience when the car is in the focus of attention (e.g., driving just for fun), we conducted another web survey in which we asked participants to report on their most recent “driving-just-for-fun” episode.

Method

As in Study 3, we recruited participants by posting a message with the web link of the survey on various online message boards. People who read the message and were willing to participate were directed the web survey and randomly assigned to the global or episodic reports condition. The global condition was identical to study 3. In the episodic condition, we asked the participants to report on their most recent “driving-just-for-fun” experience (“Please take a minute to think about the most recent time you drove...
your car just for fun”). The rest of questionnaire items are identical with the episodic condition described in studies 2 and 3.

**Results and Discussion**

A total of 152 responses were received (74 in global condition, 78 in episodic condition). To minimize memory bias, only those driving-for-fun episodes that occurred within a week before the report were selected for further analysis. This resulted in a total of 42 usable responses in the episodic condition. A linear regression with overall positive feelings as the dependent variable and reports condition (global coded as “1” and episodic “0”), ln(carvalue) (i.e., natural log of car’s Kelly Blue Book value), interaction between reports condition and ln(carvalue), and gender (male coded as “1” and female “0”) as the independent variables showed a significant main effect of ln(carvalue) ($\beta = .73$, $t = 3.52$, $p < .01$), supporting our prediction that the value of the car matters in both global recall and car-focused episodes. Accordingly, the main effect of reporting condition did not approach significance level ($M_G = 23.20, M_E = 24.07, F(1, 114) = .49, ns$), in contrast to the studies 2 and 3, where the episodes were not car-focused. Simple effect tests within the reporting conditions were consistent with predictions. The Bluebook value of a car was a significant positive predictor of overall positive feelings in the global reports condition ($\beta = .40$, $t = 3.28$, $p < .01$) as well as in the episodic reports condition ($\beta = .46$, $t = 3.28$, $p < .01$).

Similarly, a linear regression with overall negative feelings as the dependent variable and reports condition (global coded as “1” and episodic “0”), ln(carvalue) (i.e., natural log of car’s Kelly Blue Book value), interaction between reports condition and
Incarvalue, and gender (male coded as “1” and female “0”) as the independent variables showed that the significant main effect of Incarvalue ($\beta = -.49$, $t = -2.29$, $p < .05$), supporting our prediction that the value of the car matter in global recall and car-focused episodes. Consistent with studies 2 and 3, gender again had a significant main effect ($\beta = -.26$, $t = -2.58$, $p < .05$). Simple effect tests within the reporting conditions were again consistent with predictions. The Bluebook value of a car was a marginally significant negative predictor of overall negative feelings in the global reports condition ($\beta = -.25$, $t = -1.70$, $p < .10$) as well as in the episodic reports condition ($\beta = -.24$, $t = -1.77$, $p < .10$).

**DISCUSSION**

In combination, our findings indicate (i) that consumers expect to feel better when driving a luxury rather than an economy car (study 1). Moreover, (ii) when asked to report how they generally feel while driving their cars, drivers’ global hedonic reports converge with others’ predictions, as reflected in significant correlations between the cars’ Bluebook values and the drivers’ hedonic reports (studies 2 and 3). None of these relationships, however, can (iii) be observed when consumers report on how they felt during specific episodes of driving (“commuting to work” in study 2; a wide range of episodes in study 3), unless, (iv) the car plays a focal role in these episodes (study 4). These findings have important implications for consumer decision making and the assessment of consumers’ hedonic experiences.
Consumer Decision Making

With regard to consumer decision making, our findings suggest that the cars we drive make a difference when we focus on the car, e.g., while driving just for fun. But under most driving circumstances, something else is likely to be on the driver’s mind and the car driven may contribute little to consumers’ on-line hedonic experience. Yet consumers’ global memories are likely to (erroneously) confirm their expectations: Consumers’ predictions of hedonic experience as well as their global retrospective reports are based on features of the product, resulting in similar prospective and retrospective answers. Neither of these reports, however, matches consumers’ actual on-line experience during product use, as reflected in episodic reports, which suggests that people’s semantic beliefs and expectations are rarely updated. Findings from Ratner and colleagues’ (1999) study further illustrate this point. They found that consumers preferred to repeat the experience that left a more favorable memory, rather than the experience was more in moment-to-moment online measurement. Unfortunately, consumers are unlikely to spontaneously think about their product experience in an episodic (rather than product focused) way and will hence fail to realize that the product may not deliver what they expected.

In combination, these processes impede learning from experience and may result in the erroneous impression that one’s expectations were right on target. Advertisements featuring the excitement and pleasure of driving a luxury car not only foster a potential car buyer’s hedonic expectation, but also reinforce owners’ retrospective judgment of their decision to purchase a luxury car. Furthermore, a potential buyer’s hedonic expectation will be “validated” when taking the car for a test drive, because the car will
be in the focus of attention during this episode. Yet under daily driving conditions such
car-focused episodes are very rare, as indicated by their virtual absence among the
episodes reported in study 3. In combination, these factors contribute to purchase
decisions that are unlikely to deliver the daily fun that consumers expect – while
rendering it unlikely that consumers will notice this fact.

**Methodological Implications**

From a methodological perspective, our findings document a systematic, and
theoretically predicted, pattern of convergence and divergence in hedonic reports. On the
one hand, hedonic predictions and global retrospective reports of hedonic experience are
likely to show good convergence. Theoretically, this convergence emerges because both
reports are based on the same inputs, namely semantic knowledge about the activity or
product under consideration. In the case of predictions, this is the only information
consumers can draw on to form a judgment; in the case of global retrospective reports, it
is the information that is most accessible, given that experiences are fleeting and poorly
represented in memory (Robinson and Clore 2002). On the other hand, episodic reports
encourage the reconstruction of recent experience based on episodic memory (Robinson
and Clore 2002). These reports can show good convergence with concurrent reports,
provided that the episode is very recent and can be successfully reconstructed (Kahneman
et al. 2004; Robinson and Clore 2002; Stone et al 2006). However, concurrent and
episodic reports diverge from global retrospective reports because these report types are
based on different inputs, as seen in the present studies and earlier research (e.g., Gilbert
and Ebert 2002; Kahneman 1994; Kahneman et al. 2006; Loewenstein and Alder 1995;
As the accumulating findings indicate, concurrent and episodic reports are the method of choice if we want to assess consumers’ actual product experience. Global reports of hedonic experience are unsuitable for this task, as the present studies and related findings illustrate (e.g., Mitchell et al. 1997; Thompson 1997; Wirtz et al. 2003). Yet consumers’ actual experiences may not figure prominently in consumers’ subsequent choices, which are likely to be driven by their expectations and their apparently converging global memories (e.g., Ratner et al. 1999; Wirtz et al. 2003), rather than by their actual online experience or its episodic reconstruction. Accordingly, market researchers interested in consumers’ purchase intentions are well advised to rely on hedonic predictions, which capture the product-focused information that consumers rely on when they imagine the benefits of consumption. Consumer researchers who are interested in what the consumption actually “feels like,” on the other hand, are best advised to use concurrent measures (e.g., Stone et al. 1999) or measures that encourage the reconstruction of recent specific episodes (e.g., Kahneman et al. 2004).
REFERENCES


_Science_, in press.


Figure 1. Global Reports of Driving Experiences

Note: Overall positive affect scores are computed by aggregating six positive items in three global reports conditions (study 1, 2, and 3). Overall positive affect scores corresponding to the three cars in the two global retrospective reports were obtained by taking the expected values of the overall positive affect based on the estimated Kelly Bluebook values of a new BMW ($40,000), Accord ($19,500), and Escort ($8,500).
Figure 2. Episodic Reports of Driving Experiences
## Table 1. Overall Positive Feelings by Condition

<table>
<thead>
<tr>
<th>Car type</th>
<th>Overall positive feelings</th>
<th>Overall negative feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW</td>
<td>45.28&lt;sub&gt;a&lt;/sub&gt;</td>
<td>5.98&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>Honda Accord</td>
<td>30.95&lt;sub&gt;b&lt;/sub&gt;</td>
<td>8.68&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>Ford Escort</td>
<td>19.12&lt;sub&gt;c&lt;/sub&gt;</td>
<td>12.57&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Note. Means in the same column that do not share subscripts differ at p<.05 in the Tukey honestly significant difference comparison.