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Self-prediction of hedonic trajectories for repeated use of body products and foods: Poor performance, not improved by a full generation of experience

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Abstract

This study extends earlier work by [Kahneman, D., and Snell, J. (1992). Predicting a changing taste: Do people know what they will like? *Journal of Behavioral Decision Making*, 5, 187–200.]. suggesting that people are poor at predicting changes in liking. This is an important issue because an absence of this ability would make it difficult for people to optimize their own choices. Twenty undergraduates and 20 of their parents sampled four relatively unfamiliar consumer products, two foods and two body products, for 8 days. On Day 1, participants rated their initial liking and predicted their liking after seven daily uses of the products. Predictions were compared to actual liking on Day 8. Consistent with prior work, participants were poor at predicting their actual hedonic trajectories because they underestimated the degree to which their preferences would change. Contrary to predictions, parents were no better than students at this task, even though they had some 20–39 years more experience in observing their own hedonic trajectories. There is no evidence for any parent–child resemblance in either liking for the products or ability to accurately predict hedonic trajectory, and no evidence for consistency in ability to predict trajectories across the four different products. In general, participants underestimate the degree to which their preferences will change.

Keywords: Preference; Prediction; Liking; Age differences; Anticipation; Decision; Food; Body products

In a typical product choice at a retail store or on the internet, a person does not actually sample the product. Rather, if relevant, memories of past uses of the product or product family are recalled, and form a substantial part of the basis for choice. If the product is durable, or if it is non-durable but a substantial supply is purchased, the purchaser is making a prediction of his or her 'hedonic trajectory.' That is, the assumption is often made that the present desire for or enjoyment of the product will be maintained over time and will not change much as a consequence of consumption of the product.

In the last decade, Daniel Kahneman et al. (e.g. Fredrickson & Kahneman, 1993; Kahneman & Snell, 1992; Kahneman, Wakker, & Sarin, 1997) have begun to examine the three domains of utility or pleasure that may be involved in an evaluation of an experience and/or purchase of a product. These are: experienced, remembered, and anticipated pleasure. The results indicate, in general, that the relation between experienced and remembered pleasure is complex, and that individuals are poor at predicting their own hedonic trajectories. Both the findings on inaccuracy of anticipated pleasures and complex relations between experienced and remembered pleasures constitute serious challenges to some of the rational actor models in modern economics.

In this study, we expand upon the original findings of Kahneman and Snell (1992), that individuals are poor predictors of their own hedonic trajectories. In their classic study, these authors offered college students either a type of yogurt or ice cream, and accompanying music, and asked for hedonic ratings based on an initial experience. Participants also predicted their liking for the same item after it would be sampled daily for a week. Participants then actually sampled each product daily for a week, and then rated it again. The authors found that the correlation between the actual and predicted liking changes was virtually zero, the accuracy of prediction was poor, and even the congruence between the direction of change for predicted and actual liking was poor.

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The focus on anticipated pleasure and its vagaries by Kahneman and his group is paralleled by studies of anticipation by George Loewenstein et al. (e.g. Elster & Loewenstein, 1992; Frederick & Loewenstein, 1999; Loewenstein & Lerner, 2003). This work has evaluated the role of savoring and dread in decision making and the timing of decisions. It has also examined the way anticipations are affected by factors such as timing, varying probabilities of occurrence and vividness of outcomes. Work by Loewenstein et al., and also, more recently by Daniel Gilbert, Timothy Wilson et al. (e.g. Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998) has focused on the errors, which people make by underestimating the degree to which they will adapt to change. Hedonic adaptation to repeated exposures to objects or experiences varies markedly by domain (e.g. high for permanent disabilities and prison, but low for airport noise and cosmetic surgery), and people are generally unaware of these differences (Frederick & Loewenstein, 1999).

In this study, we bring the problem back to the domains in which Kahneman and Snell's original work was carried out: predicting the hedonic trajectories for repeated interactions with common objects. We use a design very much like their design, in which participants rate their liking for a product, make a prediction about future liking for the product, try the product daily for a week, and then rate their liking again. We expand on the original design by using samples of both college students and their parents, and by using four different products. The four products included two body care products—a shower gel and toothpaste, at the time available in Europe but not in the US—and two snack foods—roasted green peas and lychee gel cups, purchased at an East Asian grocery. Participants sampled all four products daily for a week, consuming them at appropriate times during their day.

This design allows us to meet several objectives. First, we can ascertain the generality of the past results on poor prediction of hedonic trajectory results, by examining four products across two domains. Second, we can examine individual differences in the ability to predict one's hedonic trajectory. That is, are some people consistently better than others at anticipating changes in liking?

Third, we can explore our prediction that the older people (parent participants) will be better than their children (undergraduate participants) simply because they have had much more time to become familiar with their own hedonic trajectories. For example, one of the authors of this paper has learned that he does not adapt at all, over the years, to good views from apartment or house windows, and also that his initial liking for a food is a very good predictor of his ultimate liking for that food (fortunately, he likes most foods). However, his wife's initial liking for a food is a poor predictor of her later liking; initially disliked foods often become highly liked in her experience. It is possible that one reason Kahneman and Snell's original college student participants did so poorly is that they had little experience with their own trajectories. Hence, in this study, we used two substantially different age groups that were balanced for social class, gender, and other variables.

Finally, this design also allows us to explore parent–child resemblance in the preference domain. The pairing of parents and children allows us to ask whether there is a correlation between parents and their children in food preferences, mere exposure effects, and ability to predict hedonic trajectories. The past minimal literature in this area has only dealt with preferences, and it shows, surprisingly, very low correlations (averaging 0.16) between parent and child food preferences (Rozin, 1991; see also Birch, 1980; Pliner, 1983; Rozin, Fallon, & Mandell, 1984).

Method

Participants

Participants were 21 student–parent pairs recruited through sign-ups in summer session psychology courses and undergraduate dormitories at the University of Pennsylvania. Each pair consisted of an undergraduate student and his or her same-sex parent, with the exception of one pair consisting of a male student and his mother. Each student participant was paid $25 upon receipt of completed questionnaires from both members of the student–parent pair. Of the 21 pairs initially recruited for the experiment, 19 completed all measures. For each of the remaining two pairs, completed measures were received from only one of the participants—in one case a student and in the other a parent. Thus, data is presented for 20 student (13 female, mean age 19.8 years, SD = 3.9, range = 18–36) and 20 parent (13 female, mean age 52.3 years, SD = 6.8, range = 42–71) participants.

Materials

Materials consisted of four relatively unfamiliar consumer products: two body care products and two food products. Body care products were provided by a cosmetic company and were not yet marketed in the United States. One product was a new type of toothpaste and the other was a new shower gel. The novel food products were selected from a local East Asian grocery. One was roasted and salted green peas. The other was an agar-based lychee candy, packaged in an individual 'cup' and consumed in one bite. It has a very firm but still gelatinous texture. Participants were informed in advance of the nature of each product. They were assured that if they found any product aversive, they could cease to sample that product while continuing to participate in the study. Only one of the 40 participants dropped a product during the course of the study.

Procedure

Participants were informed that they would be part of a study to test reactions to some new products. All participants completed the study at home, over an 8-day period. Each participant was provided with a set of experimental materials, including an 8-day supply of each product, a set of instructions, and two sealed questionnaire packets. Materials were hand-

delivered to student participants in the lab and mailed to parent participants.

Participants were instructed to open the first questionnaire packet on the first day of the study. This packet included rating sheets for all four products and a stamped envelope addressed to the experimenters. Participants were instructed to sample each of the four products. Sample sizes for the products were: one use of the shower gel, one use of the toothpaste, five roasted peas (approximately 3 g), and one 17-g 'cup' of the lychee candy. Immediately after sampling each product, participants rated how much they liked that product by placing a slash on a 92-mm line anchored by the endpoints 'dislike extremely' and 'like extremely.' Participants then indicated how much they thought they would like the product after using it every day for a week, recording this prediction again on a 92-mm scale. Finally, participants indicated how familiar they were with each product using a 5-point scale, which ranged from 0 ('this is not like anything I have ever had') to 4 ('this is quite familiar to me'). After making these ratings, participants were instructed to place the rating sheets in the envelope and mail it to the experimenters.

Participants were then instructed to try each product once a day for the next 6 days without making any ratings (participants were told that they could employ the two body products more than once each day, if it suited them). They were told they could try each product at whatever time of day was most convenient for them, as long as they remained roughly consistent in this routine throughout the study. Participants recorded the time of day in which each product was sampled throughout the study on a product use record. On the eighth and final day of the study participants opened the second sealed envelope. This envelope contained a stamped envelope addressed to the experimenters, four additional rating sheets, and a questionnaire containing demographic items. Immediately after trying each product for the final time, participants indicated how much they liked that product and whether they would 'be inclined to continue to use this product, if the price was reasonable,' both on a 92-mm scale. Participants then completed the questionnaire and mailed the rating sheets, completed product use record and demographics to the experimenters.

Results

Three of our 40 participants failed to return a product use record. According to the 37 sheets we received, most participants did in fact sample each product every day during the course of the study. No one missed a sample of the toothpaste, two participants missed one sample of the shower gel and one participant missed two samples, one participant missed three samples of the lychee candy and one participant stopped sampling the lychee entirely after Day 2 because she found it aversive, and two participants missed three samples of the roasted peas. All of these participants were included in our analyses, although the participant who stopped sampling the lychee is not included in analyses that involve Day 8 ratings of that product.

Selection of dependent measures

The participants in this study were comprised of 19 student–parent pairs, plus one unpaired student and parent. Each participant provided data on four products. In some cases, we can use the mean results from the four products as a single datum, but in others, it is of interest to analyze separately the scores on the four different products.

Is there any family resemblance in affective prediction or liking between parents and their children?

It is a reasonable presumption that for almost any measure, there will be some family resemblance effect. For each type of measure of interest in this study, there are 19 parent–child pairs, and each with data from four different products. A basic measure for parent–child resemblance is the correlation between parent and child scores for any measure. The predicted value is zero for non-family pairs in any sample. For each of the four products, participants recorded both their initial and final liking. The mean correlation between parent and children initial liking scores is $r = -0.08$ across the four products. The mean correlation between final liking scores is $r = -0.04$. Thus, there is absolutely no evidence in this sample for family resemblance in preferences (in keeping with prior data (Rozin, 1991), showing very low family resemblance in preferences). Also, our best measure of accuracy of prediction, the absolute difference between predicted liking and final actual liking, shows a mean correlation of only $r = 0.03$ across the four products. These results justify treating the sample as consisting of 40 participants.

Actual liking for the four products

On the first day of the study, participants sampled each of four consumer products and then rated their liking for each product by placing a slash on a 92-mm line. After sampling each product once a day for 7 days, they again rated their liking of each product. We expected (and for the sake of our participants hoped) that they would generally like the products, which were chosen to be unique but not aversive. Analyses of participants' ratings of liking across the study confirmed this expectation. On Day 1, mean ratings of liking across the four products significantly exceeded 46, the midpoint of the scale ($M = 55.2$, SD $= 11.0$, $t(39) = 31.88$, $p < 0.001$), and similarly for the day 8 ratings ($M = 56.9$, SD $= 11.5$, $t(39) = 31.23$, $p < 0.001$). We next examined whether liking for the products changed over the course of the study by computing the absolute difference in participants' rated liking for each product between Day 1 and Day 8. This analysis revealed that participants' average liking for the products changed substantially over the course of the study, as participants' mean absolute change was 14.2 mm (SD $= 6.1$).

Mere exposure theory (Zajonc, 1968) predicts that there should be an increase in liking after eight exposures. To explore mere exposure effects in our samples, we computed relative change scores for each product that reflected the

direction of change in liking. This was accomplished by subtracting each participant's Day 1 liking from his or her liking on Day 8. We then tested these scores against zero. If participants grew to like the products more as a result of repeatedly sampling them, we should find that these change scores are significantly greater than zero. We did not find this result, however. Participants' mean liking, averaged across all four products, did not change significantly in the positive or negative direction between Day 1 and Day 8 ($M_{\text{difference}} = +1.6$, $\text{SD}_{\text{difference}} = 11.5$, paired $t(39) < 1$). The mean change for the individual products varied narrowly between +1.0 and +1.9 mm.

How accurate are predictions of future liking?

After sampling and recording their liking for each product on Day 1, participants predicted how much they thought they would like each product on Day 8. We predicted that participants would be inaccurate in the prediction of their future tastes. We examined prediction accuracy in several different ways. First, we compared participants' predicted level of liking to their actual liking on Day 8. More specifically, we computed difference scores that reflected how far participants' predicted ratings fell from their actual ratings at the end of the study, employing the absolute value of the difference. We found that the overall difference scores averaged across all four products were substantial ($M = 13.9$, $\text{SD} = 7.2$).

It is unclear from this analysis, however, whether participants erred in predicting the amount of the change, the direction of the change, or both. For this reason, we next conducted separate accuracy analyses on the size of and the direction of predictions of change. First, we examined whether there was an overall pattern of overestimation or underestimation in how much participants' believed their liking would change. That is, we subtracted participants' Day 8 liking from their predicted liking on Day 1, and examined whether that value tended to be on the positive or negative side of accuracy. The mean change across the four products was −1.6 ($\text{SD} = 10.4$). This non-significant effect was not significant as well for each of the four individual products ($M_{\text{gel}} = -2.6$; $M_{\text{toothpaste}} = -0.9$; $M_{\text{peas}} = -0.4$; $M_{\text{lychee}} = -2.6$). Hence, there is no evidence that participants reliably predict changes in liking that are more positive or negative than the actual change. Table 1 summarizes participants' predicted and actual changes in liking for each of the four products.

However, it is possible that predictions are generally more or less extreme than the actual changes. Note that more extreme predictions on the positive side would increase the value of the difference computed in the last paragraph, but more extreme predictions on the negative side would decrease this same statistic. We found that, across the four products, participants' predicted amount of change in liking (the absolute value of the difference between liking on Day 1 and predicted liking for Day 8) was significantly smaller than the amount of actual change (the absolute value of the difference between liking on Day 1 and actual liking on Day 8). Although participants predicted an average change of 7.4 in their liking across the four products, they actually experienced a change of 14.2 in liking ($M_{\text{difference}} = 6.8$, $\text{SD}_{\text{difference}} = 7.6$, paired $t(39) = 5.65$, $p < 0.001$). This overall underestimation of change was apparent in the difference scores for each of the four products ($M_{\text{gel}} = -6.0$; $M_{\text{toothpaste}} = -5.9$; $M_{\text{peas}} = -8.6$; $M_{\text{lychee}} = -6.6$). Another analysis confirms the finding that people underestimate the amount that they will change. Across the 160 cases (40 subjects by 4 products), in 59% of cases, participants predicted 'no change' (predicted liking 5 mm or less from current liking). In actual fact, only 28% of the actual liking scores at day 8 were 5 mm or less from the actual liking on Day 1.

We also examined the correlation between predicted and actual amount of change in liking for the four products as a less stringent measure of prediction accuracy. It may be the case that although participants are not very good at predicting their exact amount of change, individual participants have some knowledge about whether their liking for the products will change a lot or only a little over time. Our analysis did not confirm this hypothesis, however. We found a positive but non-significant Pearson correlation between predicted and actual amount of change in preferences over time ($r = 0.18$, $p =$ n.s.).

We also looked simply at accuracy in predicting the direction of change in liking. That is, even if our participants were not very good at estimating the amount of change, could they at least predict the direction in which their tastes would change? To examine this issue, we examined the percentage of participants who correctly predicted positive change, negative change, or no change in their preferences from Day 1 to Day 8 for each product. Since, in this analysis we were interested in categorizing predictions and actual liking as either changes or non-changes, we decided to classify predicted and actual changes of less than 5-mm as non-changes. This is because the

Table 1
Mean prediction accuracy

	Relative accuracy scores			Absolute accuracy scores		
	Students	Parents	All	Students	Parents	All
Shower gel	−0.4 (21.6)	−4.7 (23.5)	−2.6 (22.4)	14.0 (16.2)	19.6 (13.1)	16.8 (14.8)
Toothpaste	−5.2 (15.3)	3.4 (18.6)	−0.9 (17.3)	12.6 (9.7)	13.6 (12.7)	13.1 (11.2)
Roasted peas	2.2 (20.3)	−3.0 (21.0)	−0.4 (20.6)	15.0 (13.3)	15.8 (13.7)	15.4 (13.4)
Lychee candy	−3.7 (14.1)	−1.4 (14.8)	−2.6 (14.3)	10.0 (10.4)	10.8 (9.9)	10.4 (10.0)

Note. Number in parenthesis is standard deviation. Relative accuracy scores are computed by subtracting Day 8 liking from predicted liking on Day 1. Positive scores indicate more overestimation than underestimation of future liking, negative scores indicate the opposite. Absolute accuracy scores are the absolute difference between Day 8 liking and predicted liking on Day 1, and thus reveal the overall amount of error but not the direction of error.

sensitive nature of the scale we used makes it unclear whether, when a prediction is only a few millimeters from current liking, the participant intended a very slight change or meant to indicate a prediction of no change but could not place the prediction slash in the exact same spot as the current liking slash. Thus, all changes of 5 mm or less were considered non-changes.

We examined accuracy of prediction of the direction of change separately for each product, by computing the percentage of participants who correctly predicted their direction of change in liking. We assign a value of 1 for correct direction, and 0 for incorrect direction of prediction (if a participant either predicts or achieves a 0 change, we count this as neither a failure nor a success in predicting direction [a score of 0.5]). None of the 'correct' percentage scores (46, 58, 64, and 62%, for the gel, toothpaste, peas, and lychee, respectively) were significantly different from chance (50%) by the binomial ($p<0.05$), though overall, there may be a tendency to predict in the correct direction.

Age differences in prediction accuracy

We predicted that, by virtue of their experience, parent participants would be better than student participants in predicting how their tastes would change over time. To test this hypothesis, we ignored the actual parent–child linkages in this sample, since we have already shown a lack of a significant family resemblance effect. Hence, we simply compared a group of 20 students with a group of 20 parents.

We first compared students' and parents' accuracy by examining how far their predicted levels of liking fell from their actual liking at the end of the study (the absolute value of the difference between Day 1 predictions and Day 8 liking). Contrary to expectations, we found no difference between students and parents on this measure ($M_{\text{students}}=12.9$, $\text{SD}_{\text{students}}=7.0$; $M_{\text{parents}}=14.9$, $\text{SD}_{\text{parents}}=7.4$, $t(38)<1$)

We also examined whether any differences between students and parents emerged in predicting the direction of changes in liking. We compared students and parents on the number of times out of four that they accurately predicted the direction of their changes in preferences. On this measure, students were actually more accurate than parents, although this difference in accuracy was only marginally significant ($M_{\text{students}}=1.8$, $\text{SD}_{\text{students}}=1.2$, $M_{\text{parents}}=1.2$, $\text{SD}_{\text{parents}}=1.1$, $t(37)=1.77$, $p=0.086$). These results do not support our prediction of more accuracy on the part of parent participants and instead suggest the possibility for greater accuracy on the part of the students.

Familiarity with the products

In addition to recording their liking for the four products, participants also rated their familiarity with each product on Day 1, using a 5-point scale. We made two predictions with regard to the relationship between familiarity and participants' hedonic trajectories. First, familiarity would be associated with smaller changes in actual liking, since participants' preferences for products they had consumed repeatedly in the past should be more stable than those for less familiar products. Second, the more familiar participants were with a product, the more likely they would be to accurately predict their hedonic trajectory for that product. To test our predictions, we computed a series of Pearson correlations between familiarity, actual changes in liking, and prediction accuracy. We found no support for either of these hypotheses. No clear relationship emerged between familiarity and actual changes in liking, $r=0.03$, $p=$n.s., or between familiarity and prediction accuracy on any of our three measures of accuracy, all $0.18<r\text{s}<0.25$, all $p\text{s}=$n.s. Thus, it appears that prior familiarity with products does not affect individuals' actual or anticipated hedonic trajectories.

Are predicted and real changes in liking consistent across domains?

Participants made predictions and rated their liking for four different products. Two of these products were body care products and the other two were food products. We included products from two different domains so that we could examine whether predicted and actual hedonic trajectories differ across domains. To address this question, we conducted a series of One-way, Repeated Measures ANOVAs on Day 1 liking, Day 8 liking, the absolute change in liking between Day 1 and Day 8, and absolute prediction accuracy (the absolute difference between predicted Day 8 liking and actual Day 8 liking), with the four products as the independent/categorizing variable. These analyses revealed no significant differences among the four products on any measure, all $F\text{s}<2.5$, all $p\text{s}=$n.s. Thus, it appears that participants generally liked the four products about the same, experienced comparable changes in preferences during the study, and were not better at predicting their future tastes for any one product or domain over another.

We also address the question of whether some individuals (although apparently not the older ones) are better or more consistent at predicting their hedonic trajectories than others, by examining the consistency of accuracy across the four products. First, we computed correlations between the absolute prediction accuracies of each of the pairs of the four products, across the 40 participants. This resulted in six different correlations, none of which were significant, $-0.08<$ all $r\text{s}<0.23$, all $p\text{s}=$n.s. Thus, our results suggest a lack of consistency in prediction accuracy across the four products.

We carried out the correlational analysis a second time, using the same scores but preserving sign (the difference between predicted Day 8 liking and actual Day 8 liking, without taking the absolute value). This would allow for detection of consistent patterns in participants who typically over- or under-estimated their actual hedonic trajectory. The six correlations generated were positive in three cases, and negative in three cases, $-0.14<$ all $r\text{s}<0.33$, and none were significant. Overall, these results suggest little if any consistent individual difference in ability to predict.

The wide variation in participants in terms of consistency is illustrated by the results from three individuals, shown in

Table 2
Individual results for three participants

	Day 1 actual liking	Day 8 predicted liking	Day 8 actual liking
Participant A			
Shower gel	69	62	86
Toothpaste	59	58	32
Roasted peas	70	65	9
Lychee candy	76	73	88
Participant B			
Shower gel	19	15	12
Toothpaste	78	76	68
Roasted peas	62	59	52
Lychee candy	38	40	51
Participant C			
Shower gel	43	38	28
Toothpaste	18	46	43
Roasted peas	92	92	92
Lychee candy	8	31	58

Note. Numbers are exact one-time hedonic ratings on the 92-mm scale. Participant A is highly inaccurate, participant B is highly accurate, and participant C is of intermediate accuracy in predicting hedonic trajectory.

Table 2. One of the individuals was consistently accurate, one consistently inaccurate, and the third accurate in some cases but inaccurate in others.

Discussion

The four central findings in this paper are as follows. First, in confirmation of the findings of Kahneman and others, people are poor, although perhaps better than random, at predicting hedonic change. Second, people with more experience with their own hedonic changes (that is, older folks) are not better at these predictions. We believe this is the first expression and test of this relationship, and are surprised at the lack of relation between experience and ability to predict hedonic trajectories. Almost any model we can think of would make this prediction. It may be that the effect of experience on these prediction abilities is confined very narrowly to the type of product experienced.

Third, people, at least for the types of products we studied, generally underestimate the degree to which their preferences will change. This is consistent with the findings of Gilbert et al. (1998) that people underestimate how much their feelings will change in other, generally more personally significant, domains. Finally, there is no evidence for anything other than a minimal general ability difference in ability to predict hedonic trajectories.

The lack of family resemblance in ability to project hedonic trajectories is not at all surprising, in light of the fact that if there is any ability at all, as an individual difference variable, it is minimal. Not only are individual differences unpredictable, but the null hypothesis, that these projections are virtually pure guesswork, is viable.

This was not designed as a study of the mere exposure effect. However, the results are relevant to this effect, although there is no control (exposure on only Days 1 and 8). A reasonable prediction from the mere exposure data—including results with food exposure (e.g. Pliner, 1982)—is that there would generally be an increase in preference over time. This was not true in the present study, nor in the Kahneman and Snell (1992) investigation.

The biases that might operate in this study should cause people to look more accurate than they actually are in predicting their hedonic trajectory. That is, people generally like to be correct, and insofar as they remember their predictions (discouraged by using the analog scale and having them mail off their predictions after the first day), these could influence their final ratings. Our results, which indicate a prediction ability minimally better than chance, might—if anything—be biased to favor report of an ability because of demand characteristics.

Our results are basically negative data; the absence of an ability that is widely assumed to be present. There are two problems with interpretation of these results, in terms of rejection of the hypothesis that individuals have some sense of their own hedonic trajectories. One is that the rather small n might be insufficient to detect a weak relationship. This is true, but we note that in some cases the results do not even trend in the expected direction, most notably for better prediction skills in older people. Also, the pattern we report is similar to the results of Kahneman and Snell (1992). Second, there is an indeterminate error in use of the visual analog scales, so that we cannot estimate the amount of 'noise' that might operate to obscure a true ability. There is no reason to assume that the noise is a bias in one or another direction, but just that it might reduce the power to detect a small effect.

We conclude, along with Kahneman and Snell, that people are poor at predicting their future hedonic trajectories, even though their purchase behaviors imply that they have some confidence in their predictions.

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