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Interference of the End: Why Recency Bias in Memory Determines When a Food Is Consumed Again

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Abstract
The results of three experiments reveal that memory for end enjoyment, rather than beginning enjoyment, of a pleasant gustatory experience determines how soon people desire to repeat that experience. We found that memory for end moments, when people are most satiated, interferes with memory for initial moments. Consequently, end moments are more influential than initial moments when people decide how long to wait until consuming a food again. The findings elucidate the role of memory in delay until repeated consumption, demonstrate how sensory-specific satiety and portion sizes influence future consumption, and suggest one process by which recency effects influence judgments and decisions based on past experiences.

Keywords
recency effects, memory interference, sensory-specific satiety, portion size, judgment and decision making

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Portion sizes in the United States have been steadily increasing since the 1980s (Young & Nestle, 2002). This has affected both the intake and the enjoyment of food (Wansink, 1996). Larger portions imply larger normative amounts of food to consume, which increases overall intake because most people finish the portions they are given (Geier, Rozin, & Doros, 2006). Increased intake also leads to greater sensory-specific satiety. As each bite of food is less pleasant than the one before it, eating more of a food reduces the average enjoyment of that food during a particular consumption experience (Rolls, Rolls, Rowe, & Sweeney, 1981). Sensory-specific satiety is a major factor regulating food-intake decisions in the present moment (e.g., Maier, Vickers, & Inman, 2007; Rolls et al., 1981), but whether and how memory of past satiety affects future consumption decisions is unclear.

Consumption of a food in the present is considerably influenced by the memory of having eaten it. Memories help one keep track of how much was eaten and remind one when to stop (Rozin, Dow, Moscovitch, & Rajaram, 1998). Recalling good memories of a meal increases preferences for that food (Robinson, 2014), and recalling a single bad memory of a food can lead people to avoid that food in the future (Logue, 1985). We suggest that a recency bias in memory leads sensory-specific satiety to exert a powerful influence on the future consumption of a food that was enjoyed in the past. Specifically, better memory for the end than for the beginning of the last consumption experience can lead the satiation level at the end of that experience to influence how long people wait until consuming the same food again in the future.

Primacy and recency effects both have strong influences on memory (Murdock, 1962), but recency effects appear to be stronger in the gustatory domain. Rode, Rozin, and Durlach (2007) found that people had better memories of meals whose highlight was at the end rather than the beginning. Additionally, research comparing the influences of liking and wanting found that liking (enjoyment) at the end of a gustatory experience had a greater

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influence on subsequent consumption decisions (Garbinsky, Morewedge, & Shiv, 2014). However, this research did not directly compare the impact of initial and end enjoyment or examine the mechanism underlying the relation between end enjoyment and repeated consumption.

We argue that recency effects are especially likely to prevail in the gustatory domain because of memory interference. Interference is greater for more similar experiences, such that maximum interference occurs when experiences are identical (Oberauer & Kliegl, 2006). Eating, in many contexts, is a highly repetitive experience. A glass of juice, bowl of ice cream, or bag of potato chips contains many units of very similar stimuli that are consumed one sip or bite at a time until the entire portion has been eaten. We suggest that the repetitive nature of food consumption should cause memory of the end of an experience to interfere with memory of the beginning, making the beginning less salient (Eysenck, 1977; Schank, 1982).[1]

We therefore hypothesized that end enjoyment of a food, compared with initial enjoyment, has a greater influence on the interconsumption interval (ICI), defined as the number of days that pass until the consumption of the food is repeated. In this way, sensory-specific satiety influences future consumption: The more satiated a person is to a food, the lower the person's end enjoyment and thus the longer the interval until the person consumes that food again. We first tested whether end enjoyment indeed exerts a greater influence than beginning enjoyment on the ICI. We manipulated end enjoyment in Experiment 1 by randomly assigning participants to consume smaller or larger portions, which should engender less or more satiety and better or worse end enjoyment, respectively. In Experiment 2, we examined if the recency effect holds when end enjoyment is manipulated independently of portion size. We tested the proposed mechanism of memory interference in Experiment 3.

Experiment 1: Does End Enjoyment Influence the ICI?

Experiment 1 examined whether recollection of initial or end enjoyment plays a greater role in determining the ICI. Participants in the *control condition* ate a large or small portion of crackers and decided the next day when to eat those crackers again. We used portion size to manipulate end enjoyment, as a larger portion should result in greater sensory-specific satiety at the end, compared with a smaller portion (Rolls et al., 1981). We also included two conditions in which participants were guided to recall a moment during their previous consumption experience before deciding when to eat the crackers again. In the *end-recall condition*, participants recalled the end of their previous consumption experience. In the *beginning-recall condition*, participants recalled the beginning of their previous consumption experience.

If, as we predicted, recency effects have a greater influence on the ICI than primacy effects do, we would expect the difference in ICI between participants who ate a small portion and those who ate a large portion to be similar in the control and end-recall conditions because end enjoyment would be salient in those conditions. If primacy effects have a greater influence on the ICI, we would expect the difference in ICI between participants who ate a small portion and those who ate a large portion to be similar in the control and beginning-recall conditions because initial enjoyment would be salient in those conditions.

Method

One hundred thirty-four Stanford University students (42% male; mean age = 22.63) received a $5 Amazon gift card for participating. Participants sampled three flavors of Nut Thin crackers and then chose one flavor to consume. Participants in the small-portion condition ate 5 crackers, and those in the large-portion condition ate 15 crackers. After eating each cracker, participants rated how much they enjoyed it on a 7-point scale with endpoints *not at all* (1) and *extremely* (7). At the end, participants provided their e-mail addresses.

The next day, all participants received a follow-up survey via e-mail. After rating their current hunger, they learned that they were entered in a drawing to receive a free box of Nut Thins. Participants in the control condition indicated their preferred delivery date if they won. Participants in the beginning- and end-recall conditions were prompted to recall the first or the last Nut Thin they ate the previous day, respectively, before they indicated their preferred delivery date. We used this procedure to determine the ICI as responses mirror the actual amount of time that passes until a food is consumed again (i.e., *repeat-consumption delay*; Garbinsky et al., 2014). All participants completed the follow-up survey.

Results and discussion

Initial and end enjoyment. We first compared initial and end enjoyment in the large- and small-portion conditions. Initial enjoyment did not differ between these conditions, $F < 1$, which suggests that random assignment was successful (small portion: $M = 5.26$, $SD = 1.14$; large portion: $M = 5.30$, $SD = 1.18$). More important, analysis of end enjoyment revealed that portion size effectively manipulated sensory-specific satiety at the end of the consumption experience. Participants in the large-portion

Table 1. Mean Interconsumption Interval (in Days) by Portion Size and Recall Condition in Experiment 1

Condition	Small portion (5 Nut Thins)	Large portion (15 Nut Thins)
Control	5.46 (5.19)$_a$	10.20 (7.36)$_b$
End recall	4.16 (3.75)$_a$	10.06 (8.63)$_b$
Beginning recall	5.75 (4.34)$_a$	5.73 (3.72)$_a$

Note: Standard deviations are in parentheses. Within a row, means that do not share a common subscript differ significantly, $p < .05$.

condition reported significantly lower end enjoyment ($M = 2.75$, $SD = 1.58$) than did participants in the small-portion condition ($M = 4.57$, $SD = 1.40$), $F(1, 132) = 49.75$, $p < .001$.

ICI. A 2 (portion size: small, large) × 3 (recall: control, beginning, end) between-subjects analysis of variance (ANOVA) conducted on ICI yielded the predicted interaction, $F(2, 128) = 3.25$, $p = .04$, $\eta_p^2 = .05$. Planned contrasts revealed that in both the control and the end-recall conditions, participants who ate a small portion desired a shorter ICI than did participants who ate a large portion, $ts(128) \geq 2.96$, $ps < .01$. For the beginning-recall condition, however, planned contrasts showed no difference in ICI between participants who ate small and large portions, $t(128) = 0.01$, $p = .99$ (Table 1). This was expected because initial enjoyment did not differ by portion condition, so participants in the beginning-recall condition should have been less affected by the size of the portion that they ate, compared with participants in the other two recall conditions. No significant differences were found in reported hunger at the time of the follow-up, $F < 1$; this rules out differences in hunger at the time of decision making as an alternative explanation of the observed differences in ICI.

To determine if ICI results for the control and end-recall conditions were indeed similar, we conducted an ANOVA separately for each portion condition. In the small-portion condition, there was no significant effect of recall on ICI, $F < 1$. In the large-portion condition, however, there was a significant effect of recall on ICI, $F(2, 66) = 3.57$, $p = .03$. Planned contrasts showed significant differences in ICI between participants in the beginning-recall condition and those in the control and end-recall conditions, $ts(128) \geq 2.46$, $ps \leq .02$, but no significant difference in ICI between participants in the control and end-recall conditions, $t < 1$. Taken together, the results suggest that recency effects drive the decision of when to consume a food again.

Moderated mediation analysis. To assess whether end enjoyment rather than beginning enjoyment drives the ICI, we conducted a moderated mediation analysis using the PROCESS SPSS macro (Hayes, 2013). Because the macro is not designed for moderators with more than two levels, analyses were conducted on two recall conditions at a time. Each time, a 5,000-draw sample was used to examine the conditional indirect effects of end and beginning enjoyment.

As predicted, the results indicated no mediation of the effect of portion size on ICI by beginning enjoyment: The 95% confidence interval (CI) included zero for all three recall conditions (Figs. 1–3, which also show the regression coefficients from the analyses). Moreover, we did observe moderated mediation by end enjoyment: The 95% CI excluded zero for the control condition (Fig. 1) and end-recall condition (Fig. 2), but included zero for the beginning-recall condition (Fig. 3). To determine if the size of the indirect effect of portion size on ICI differed across recall conditions, we examined the index of moderated mediation. Results were consistent with our predictions. The difference in the indirect effects was not significant when we compared the control and end-recall conditions, 95% CI = [−3.53, 7.78], but was significant when we compared the control and beginning-recall conditions, 95% CI = [−7.37, −0.97], as well as the end-recall and beginning-recall conditions, 95% CI = [−11.21, −1.07]. Thus, participants in the control condition appeared to exhibit a recency effect, preferentially recalling the end rather than the beginning of their most recent consumption experience. The moderated mediation analyses suggest that this recency effect directly influences the ICI.

Experiment 2: Manipulating End Enjoyment Independently of Portion Size

In Experiment 2, we again tested whether end enjoyment influences the ICI, but this time we manipulated end enjoyment independently of portion size. Participants in the *control condition* drank juice and then ate two crackers. Participants in the *reset condition* consumed the same portion of juice, but also drank an additional sip after a delay. The purpose of the additional sip was to increase end enjoyment of the juice by exposing participants to the juice again after adaptation had been partially undone by the consumption of crackers and the delay (Epstein, Rodefer, Wisniewski, & Caggiula, 1992; Redden, 2008). If end enjoyment drives the ICI, despite the fact that participants in the two conditions consumed (essentially) the same portion of juice, participants in the reset condition would be expected to desire a shorter ICI than participants in the control condition because of their increased end enjoyment.

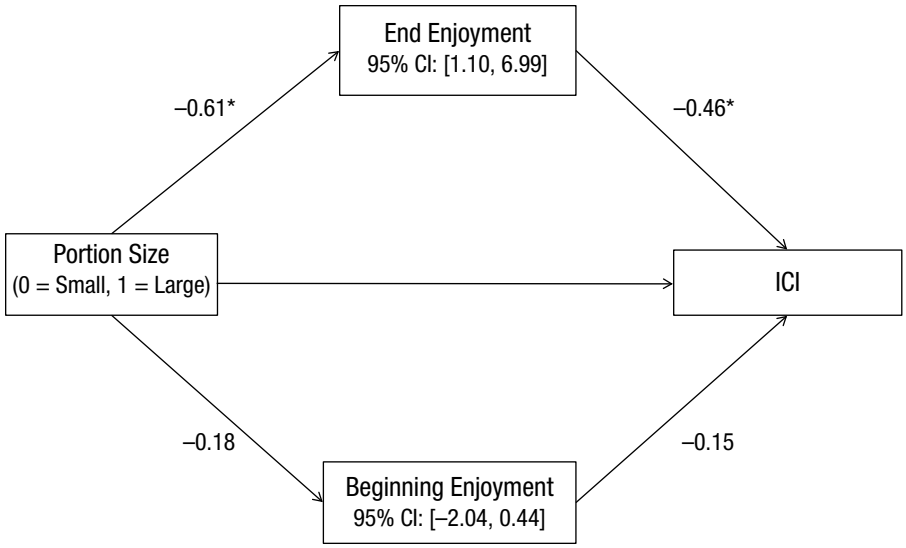

Fig. 1. Results of the moderated mediation analysis for the control condition in Experiment 1. The numbers along the arrows are regression coefficients for the effects of portion size on the interconsumption interval (ICI) via end and beginning enjoyment; asterisks indicate significant effects ($p < .05$). Also shown are the 95% confidence intervals (CIs) for the mediation effects.

Method

Sixty-one Stanford University students (49% male; mean age = 22.2) received $5 for participating. All participants took one sip of grape juice from a cup and rated how much they liked it on a sliding scale with endpoints *not at all* (0) and *extremely* (100). They then drank the entire cup (8 oz), rated the juice again on an identical scale, and ate two saltine crackers. All participants then completed a distractor task for 15 min ($M = 14.92$ min, $SD = 4.87$); for this task, they used specified rules to count the occurrences of the letter *e* in short passages (Litt, Reich, Maymin, & Shiv, 2011). Afterward, participants in the control condition provided their e-mail addresses. Participants in the reset condition took one final sip of juice and rated how much they liked it before providing their e-mail addresses.

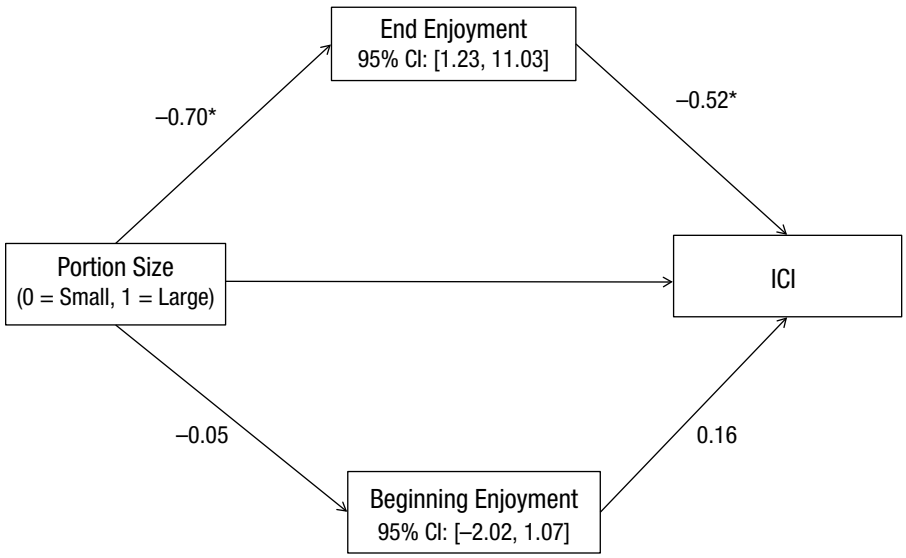

Fig. 2. Results of the moderated mediation analysis for the end-recall condition in Experiment 1. The numbers along the arrows are regression coefficients for the effects of portion size on the interconsumption interval (ICI) via end and beginning enjoyment; asterisks indicate significant effects ($p < .05$). Also shown are the 95% confidence intervals (CIs) for the mediation effects.

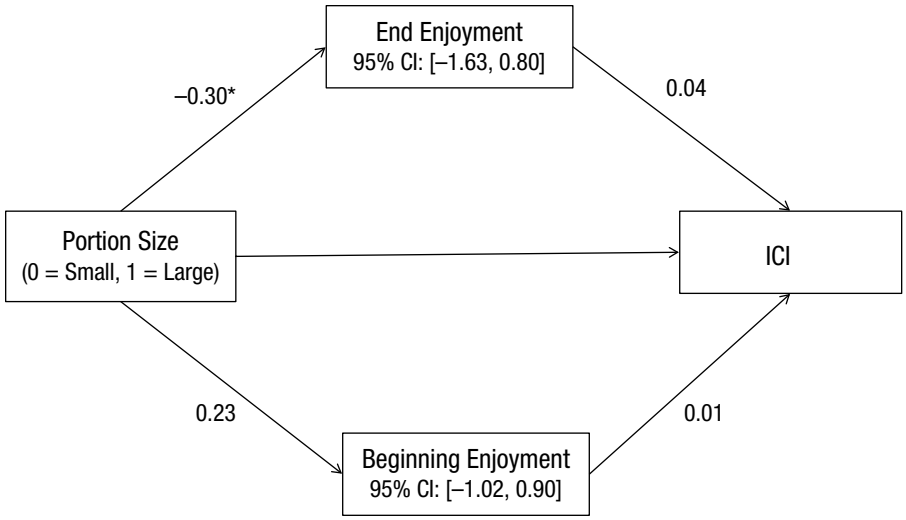

Fig. 3. Results of the moderated mediation analysis for the beginning-recall condition in Experiment 1. The numbers along the arrows are regression coefficients for the effects of portion size on the interconsumption interval (ICI) via end and beginning enjoyment; asterisks indicate significant effects ($p < .05$). Also shown are the 95% confidence intervals (CIs) for the mediation effects.

All participants received a follow-up survey the next day via e-mail. They rated their current hunger and thirst, and indicated their preferred delivery date for a free half-gallon of grape juice in a lottery. Fifty-eight participants completed this survey (95% response rate), and there was no significant difference in response rate between the two conditions, $\chi^2(1, N = 58) = 0.28$, $p = .60$.

Results and discussion

Initial and end enjoyment. We first examined differences in initial and end enjoyment. For all participants, initial enjoyment was the rating after the first sip of juice. End enjoyment differed by condition. For participants in the control condition, end enjoyment was the rating after drinking the whole cup. For participants in the reset condition, end enjoyment was the rating of the final sip after eating the crackers and completing the distractor task. Initial enjoyment did not differ significantly between the two conditions, $F < 1$, which suggests that random assignment was successful (control: $M = 77.03$, $SD = 20.99$; reset: $M = 80.37$, $SD = 14.04$). More important, we observed the predicted significant effect of condition on end enjoyment; participants in the reset condition reported significantly higher end enjoyment ($M = 70.96$, $SD = 19.58$) than did participants in the control condition ($M = 55.85$, $SD = 28.94$), $F(1, 59) = 5.39$, $p = .02$.

ICI. Results suggested that a recency effect rather than the amount consumed influences the ICI, as condition had a significant main effect on ICI, with participants in the reset condition desiring a shorter ICI ($M = 4.81$ days, $SD = 3.98$) than participants in the control condition ($M = 8.30$ days, $SD = 7.57$), $F(1, 55) = 4.58$, $p = .04$, $\eta_p^2 = .08$. (Differences in degrees of freedom across the statistical tests for Experiment 2 reflect differences in the number of participants completing the laboratory and follow-up measures, as well as the failure of 1 participant to indicate a delivery date.) No significant differences in hunger or thirst at the time of the follow-up were found, ts < 1.

Mediation analysis. To confirm that a recency effect rather than a primacy effect indeed drove the ICI, we conducted a mediation analysis in which we tested the indirect effects of end and beginning enjoyment on ICI using a bootstrap sample with 5,000 draws (Preacher & Hayes, 2004). The specific indirect effect of portion size on ICI through end enjoyment was statistically significant, as its 95% CI did not contain zero, whereas the specific indirect effect of portion size through beginning enjoyment was not statistically significant, as its 95% CI did contain zero (Fig. 4).

Summary. The results of Experiment 2 replicate the finding that end enjoyment, rather than beginning enjoyment, drives the decision of how long to delay repetition of a gustatory experience. With portion size held essentially constant, participants in the reset condition desired to repeat consumption sooner than did participants in the control condition. Presumably this was because participants in the reset condition experienced a more enjoyable ending.

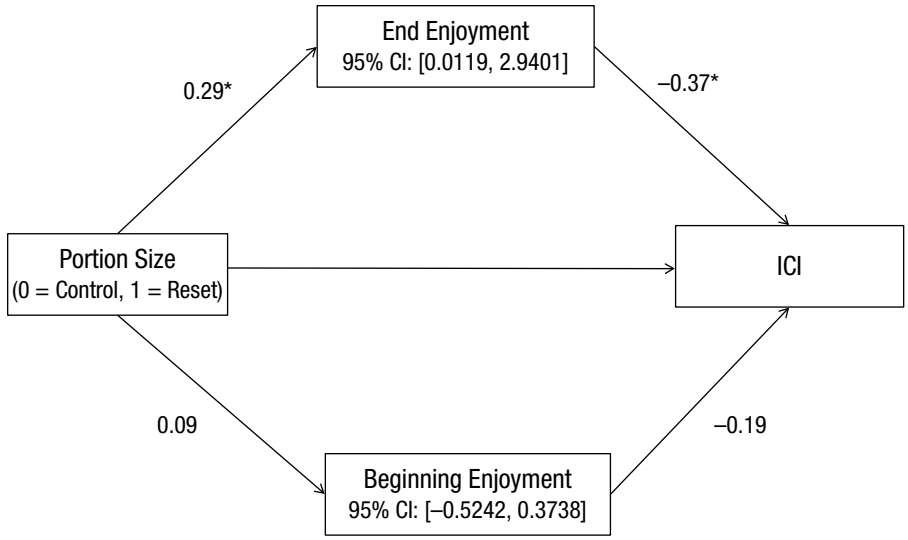

Fig. 4. Results of the mediation analysis in Experiment 2. The numbers along the arrows are regression coefficients for the effects of portion size on the interconsumption interval (ICI) via end and beginning enjoyment; asterisks indicate significant effects ($p < .05$). Also shown are the 95% confidence intervals (CIs) for the mediation effects.

Experiment 3: Why Does End Enjoyment Influence the ICI?

We suggest that end enjoyment is more influential than initial enjoyment because memory for end moments of a consumption experience interferes with the ability to accurately remember the initial moments of that experience. Thus, initial enjoyment has less influence because people cannot remember it accurately. Experiment 3 directly tested whether end enjoyment is more influential because of memory interference.

In this experiment, all participants drank juice. After consuming each ounce, participants in the *serial-ratings condition* rated their enjoyment of the juice on a separate page (i.e., one page per rating); participants in the *simultaneous-ratings condition* rated their enjoyment of each ounce on a single page (i.e., one page for all ratings). To rule out the potential influence of rating the food while consuming it (Larsen, Redden, & Elder, in press), we included a *control condition*, in which participants made no ratings during consumption. After consuming the juice, all participants retrospectively rated their initial enjoyment. The format of ratings in the simultaneous-ratings condition would be expected to facilitate memory for initial enjoyment of the juice, so if interference is responsible for the effect of end enjoyment on the ICI, initial enjoyment would be expected to have more influence on the ICI in that condition than in the others. We thus predicted a shorter ICI for participants in the simultaneous-ratings condition than for participants in the serial-ratings and control conditions (as more enjoyable moments of the consumption experience should have been more salient in the simultaneous-ratings condition).

Method

One hundred twenty-eight Stanford University students (43% male; mean age = 21.91) received $5 to participate. All participants drank 8 oz of grape juice. All cups had lines drawn on them to demarcate the ounces, so participants knew how many ounces they drank. Participants in the control condition made no ratings while drinking, whereas participants in the serial- and simultaneous-ratings conditions rated how much they enjoyed the juice each time they reached a line on the cup, using a sliding scale with endpoints *not at all* (0) and *extremely* (100). Participants in the serial-ratings condition made each rating on a separate page, whereas participants in the simultaneous-ratings condition made all ratings on the same page. After drinking the whole cup, all participants were instructed, on a new page, to think back and rate how much they liked the juice after their first sip.

The next day, all participants received a follow-up survey via e-mail. ICI was assessed as in Experiment 2. One hundred seven participants completed the follow-up survey (84% response rate), and there was no significant difference in response rate across conditions, $\chi^2(2, N = 107) = 0.11$, $p = .95$.

Results and discussion

Initial and end enjoyment. We first examined initial and end enjoyment for participants in the serial- and simultaneous-ratings conditions (participants in the control condition did not provide these ratings). Analysis of initial enjoyment revealed no significant effect of condition, $F < 1$, which suggests that participants in these two

Table 2. Memory Accuracy for Initial Enjoyment and Interconsumption Interval (ICI) by Rating Condition in Experiment 3

Measure	Control (no ratings)	Serial ratings	Simultaneous ratings
Recalled enjoyment	$70.07\ (17.75)_a$	$68.72\ (20.91)_a$	$78.28\ (16.46)_b$
Recall error	—	$16.30\ (13.29)_a$	$6.68\ (7.23)_b$
Recall error^2	—	$438.21\ (611.85)_a$	$95.66\ (170.36)_b$
ICI (days)	$8.51\ (7.13)_a$	$8.47\ (7.25)_a$	$5.00\ (3.11)_b$

Note: Standard deviations are in parentheses. Within a row, means that do not share a common subscript differ significantly, $p < .05$.

conditions liked grape juice to the same degree (serial ratings: $M = 76.00$, $SD = 23.84$; simultaneous ratings: $M = 78.44$, $SD = 21.08$). Similarly, analysis of end enjoyment revealed no significant effect of condition, $F < 1$, suggesting that participants were satiated to the same degree (serial ratings: $M = 54.05$, $SD = 26.95$; simultaneous ratings: $M = 49.56$, $SD = 28.45$).

Memory interference. We next examined whether the rating manipulation was effective at reducing interference. We did so by analyzing recall error, the difference between ratings of recalled initial enjoyment and ratings of actual initial enjoyment (participants in the control condition were excluded from these analyses because they did not provide ratings of actual initial enjoyment). An ANOVA revealed that recall error was larger in the serial-ratings condition than in the simultaneous-ratings condition, $F(1, 82) = 16.75$, $p < .001$ (Table 2). The squared recall error revealed the same main effect of condition, $F(1, 82) = 11.96$, $p < .01$ (Table 2).

To assess whether memory interference occurred for participants in the control condition, we relied solely on ratings of recalled initial enjoyment, which differed by condition, $F(2, 125) = 3.28$, $p = .04$. Planned contrasts revealed a significant difference between the simultaneous-ratings and control conditions, $t(125) = 2.05$, $p = .04$, but no difference between the serial-ratings and control conditions, $t < 1$ (Table 2). This suggests that memory interference was eliminated only for participants in the simultaneous-ratings condition.

ICI. Finally, there was a significant effect of condition on ICI, $F(2, 104) = 3.50$, $p = .03$, $\eta_p^2 = .06$. Planned contrasts revealed that participants in the simultaneous-ratings condition desired a shorter ICI than did participants in the serial-ratings condition and in the control condition, $ts(104) \geq 2.29$, $p = .02$ (Table 2). There was no significant difference in ICI between the serial-ratings and control conditions, $t < 1$, which suggests that the observed effects were not merely due to rating enjoyment while drinking. (Differences in degrees of freedom across the statistical tests for Experiment 3 reflect differences in the number of participants completing the laboratory and follow-up measures.)

Predictive ability. A mediation analysis could not be conducted because rating condition did not have a significant effect on end enjoyment. Thus, we regressed ICI on end enjoyment and initial enjoyment separately for participants in the serial- and simultaneous-ratings conditions. For participants in the serial-ratings condition, end enjoyment did predict ICI ($\beta = -0.42$, $t = 2.06$, $p = .05$), whereas beginning enjoyment did not ($\beta = 0.04$, $t = 0.20$, $p = .84$). However, for participants in the simultaneous-ratings condition, end enjoyment did not predict ICI ($\beta = -0.14$, $t = 0.70$, $p = .49$), whereas beginning enjoyment did ($\beta = -0.40$, $t = 2.04$, $p = .05$). These results suggest that end enjoyment is not the primary driver of the decision when to repeat consumption when memory interference is eliminated. (This analysis could not be performed for participants in the control condition because they did not provide either of these ratings.)

Summary. The results suggest that memory interference is responsible for the influence of end enjoyment on the ICI. Participants in the control and serial-ratings conditions recalled their initial enjoyment to be lower than did participants in the simultaneous-ratings condition. Furthermore, participants in the simultaneous-ratings condition desired a shorter delay before repeating consumption, presumably because their initial enjoyment was better remembered and accorded more weight in the consumption decision.

General Discussion

Enjoyment of the end of a pleasant gustatory experience, rather than the beginning, appears to determine the number of days that pass until consumption of that food or drink is repeated. This recency effect appears to result from memory of later moments of the consumption experience interfering with memory of its earlier moments. The findings thus identify an important factor affecting repeat-consumption delay, and elucidate why recency bias influences the decision to repeat consumption.

More generally, the findings contribute to an understanding of the crucial role that memory plays in food-consumption decisions (Higgs, 2008; Higgs, Williamson,

& Attwood, 2008; Robinson, Blissett, & Higgs, 2012) by identifying novel effects of memory and of sensory-specific satiety on the decision when to repeat consumption. This research also suggests strategies to influence repeat-consumption decisions. These strategies include encouraging recollection of the beginning of the most recent consumption experience to reduce the influence of satiety due to large portion size (Experiment 1), interrupting consumption with a novel food to decrease satiation and increase end enjoyment (Experiment 2), and providing ways to prevent memory interference (Experiment 3).

The translation of this work to the field, however, requires a critical caveat: Consumption quantity was determined exogenously, as participants in all three experiments were assigned to eat and did eat a portion of a predetermined size. Exogenously determined portions are common (e.g., restaurant entrées and frozen dinners), and evidence suggests that people typically eat the entire portion they receive (Wansink, 1996), but future research is needed to test whether the results will extend to endogenously determined portions. Large portion sizes of food consumed in restaurants appear to influence endogenously determined portions consumed at home (Schwartz & Byrd-Bredbenner, 2006), but there may be circumstances in which people purposefully eat small portions of foods they enjoy so that they will desire to consume those foods again sooner.

An important practical implication of this research is that the preference for larger portions expressed by consumers and companies (DiDomenico, 1994) may be disadvantageous for both. Larger portions not only increase intake and reduce average enjoyment of the foods that people consume, but also may extend the amount of time that passes until people again include those enjoyable foods in their shopping baskets or return to the same restaurants. Finally, an important theoretical implication of this research is that interference from memories of end moments may engender the recency bias observed across a broad category of judgments and decisions based on past experiences (e.g., Fredrickson & Kahneman, 1993; Kahneman, Fredrickson, Schreiber, & Redelmeier, 1993).

Author Contributions

All authors contributed to the study concept and designs. E. N. Garbinsky collected data with the aid of research assistants, performed the data analysis, and drafted the manuscript. C. K. Morewedge and B. Shiv provided critical revisions of the manuscript, and all authors approved the final version for submission.

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Open Practices

All data and materials can be accessed at http://stanford.edu/~emilyg47/cv.html. The complete Open Practices Disclosure for this article can be found at http://pss.sagepub.com/content/by/supplemental-data.

Note

1. Obviously, there is considerable variation among foods. If each bite is noticeably different from the one before it, we would expect less memory interference to occur.

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