Argumentum ad Novitatem: Mere newness as a choice heuristic

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ABSTRACT

In philosophy, the logical fallacy of *argumentum ad novitatem* is defined as claiming that something is superior based exclusively on its newness. If two options are identical except for how new they are, do people prefer the newer or older option? We document a general preference for newer options, across a variety of domains, even where there are no rational reasons to prefer newer. People even prefer to bet on newer die rolls and coin tosses, where newer transparently cannot be better. We propose a heuristic hypothesis to explain our findings. We find convergent evidence for the heuristic hypothesis: People who chose the newer option spend less time in making their decisions and neither time pressure nor cognitive load affects the bias. On the other hand, deliberation can eliminate the bias for newness. We further propose that the heuristic is driven by an automatic associations between new and better. The bias disappears in domains where oldness is associated with higher value such as classic artwork. Last but not least, we also show that people are willing to pay more for newer goods even when the newness is irrelevant.

**Keywords:** newness, heuristic, preference, choice
INTRODUCTION

The date a product was released or produced is a readily available extrinsic cue (Miyazaki, Grewal, and Goodstein 2005) for many consumer products. Surprisingly, we know very little about how chronological newness—newness related to the time dimension—impacts consumer decisions. When choosing between two similar options, will people generally prefer the newer or older option? The present research contributes to the extant literature in marketing and psychology on novelty by proposing a new kind of novelty seeking for options that are merely newer.

By construction, people should ignore chronological newness if it is the only thing differentiating two otherwise identical options. Empirically, our research shows otherwise. In a series of studies, we held the expected quality (where quality is defined broadly as a product’s ability to fulfill consumer needs and expectations) of two options constant but still found consistent preference toward the newer option despite having no rational basis for inference from the chronological information. We propose a newness as heuristic hypothesis to explain our finding: In tasks involving the complexity of assessing probabilities and predicting values (Tversky and Kahneman 1974), people will use newness a shortcut to resolve choice difficulty.

PREFERENCE FOR NEWNESS

Humans and other foraging species exhibit a neurological preference for new things, perhaps due to the evolutionary benefits of exploration (Mesulam 1998). For example, people chose novel pictures over more familiar ones (Krebs et al. 2009; Wittmann et al. 2008). However, preference for novel options due to a lack of experience or familiarity does not make a unique prediction in many choice contexts, such as when people face a choice between two equally familiar or equally unfamiliar options. This phenomenon is fairly common in consumer
purchase decisions, especially for product categories in which the consumer has no prior experience. When people have equal (or no) exposure to the options, could they still have a preference for one due to its *chronological* newness? That is, all else equal, do people prefer chronologically newer or older options?

**Novelty in marketing**

Novelty has played a prominent role in marketing research, ranging from research on new products (e.g., Cooper 1979; Goldenberg, Lehmann, and Mazursky 2001; Henard and Szymanski 2001; McAlister and Pessemier 1982) to consumer innovativeness (Hirschman 1980; Midgley and Dowling 1978; Roehrich 2004) and novelty seeking (Bianchi 1998; Hirschman 1980). For example, research on the relationship between new products’ novelty and their market success has found mixed findings, including linear, U-shaped, and inversed U-shaped relationships (van Trijp and van Kleef 2008). Research on consumer innovativeness takes more of an individual differences approach. For example, Steenkamp, Hofstede, and Wedel (1999, p. 56) define consumer innovativeness as “the predisposition to buy new and different products and brands rather than remain with previous choices and consumption patterns,” a personality trait regarding how early a consumer adopts new products. However, most extant research focuses on novelty as the extent to which a product is unique, original, and radical (Henard and Szymanski 2001; Steenkamp and Gielens 2003), largely ignoring the simpler, more objective dimension of chronological newness. We next argue how people use this readily available cue as a heuristic to aid choice.
Newness as a heuristic

The importance of consumer inference is well documented in marketing (Kardes, Posavac, and Cronley 2004b; Kramer et al. 2012). Product quality inferences are perhaps the most important for consumer purchase decisions (see Kirmani and Rao 2000 for a review) and price is documented as perhaps the most common cue to infer quality (De Langhe et al. 2014; Kardes et al. 2004a; Yan and Sengupta 2011).

In the present research, we propose that newness works as a heuristic when people are making difficult choices. The heuristic is caused by an automatic association, or “heuristic-based inference” (Kardes et al. 2004b) that people made between newness and betterness in whatever criterion they choose (Gigerenzer and Gaissmaier 2011). Such an association between newer and better exists due to its ecological validity. Just as higher price products are generally higher quality (Kardes et al. 2004a), newer products in modern society tend to incorporate the latest technology and trends, are manufactured with the latest methods, and improve upon the shortcomings in previous models. After repeated daily exposure of newer product being superb quality, people automatic associate newer with better. Consequently, people use these cues as heuristics to draw general conclusions about benefits that are difficult to assess directly (Kardes et al. 2004b). To the best of our knowledge, there is little research on chronological newness and its effect on people’s decision, despite the fact that a product’s release date or production date is often as available as its price or brand. Because of its ecological validity that people often associate newness with better, we argue that people use newness as a heuristic even if it is irrelevant to the choice.

Heuristics are strategies that allow decision makers to ignore information to make decisions faster, more frugally, and/or more accurately (Gigerenzer and Gaissmaier 2011, p.454).
That is, heuristics reduce complex tasks to simpler judgmental operations (Tversky and Kahneman 1974). People can prefer the newer option for both rational and irrational reasons. For example, newer things are often more advanced (e.g., technology), more fresh and less contaminated (e.g., food), and more trendy (e.g., movies and music). Our current research focuses only on people’s preference for newness when there is no logical reason to do so. Our main hypothesis is that participants in our studies use choosing the newer option as a heuristic to simplify their choice process.

Specifically, we hypothesize that chronological newness information (e.g., release date or production date) can bias people towards choosing newer options over older ones. We describe this phenomenon as a newness bias. When people rely on newness as a heuristic in making their decisions, the newer option does not even need to be newer in any meaningful way, as people have already established the association between new and better. On the other hand, in domains where older is often associated with better, the automatic association between newer and better could be severed, so we hypothesize the following:

**H1a:** People have a newness bias, all else equal.

**H1b:** In domains where newness is often associated with less value, people won’t show the newness bias.

Since heuristics are effort-saving strategies that simplify and expedite information processing (Eidelman and Crandall 2014; Gigerenzer and Gaissmaier 2011; Shah and Oppenheimer 2008), we hypothesize that people who rely on the newness heuristic will make their decision faster than those who do not rely on it so that we can observe on average people will spent less time when they are choosing the newer option (vs. older option). Since heuristics are also automatic, they should not be affected by manipulations that undercut deliberate
responding such as cognitive load or time pressure (Eidelman and Crandall 2014; Ferreira et al. 2006). According the dual process approach, when people are under high (vs. low) cognitive load, the depletion of the attentional resources is expected to decrease analytical processing but to leave heuristic estimates largely invariant (Ferreira et al. 2006). According to the effort-reduction framework, high cognitive load can even increase the use of heuristics (Shah and Oppenheimer 2008). Nevertheless, our studies were set up as simple choice scenarios, cognitive load or time pressure may not make people rely on the heuristic more (so choosing the newer option more). Therefore, we should at least expect that cognitive load or time pressure manipulation won’t attenuate the newness effect (Eidelman, Crandall, and Pattershall 2009).

**H2a:** People choosing the newer option will make their decision faster on average than those who chose the older options.

**H2b:** Newness bias is not affected when people are under cognitive load or time pressure.

Judgement based on heuristics (System 1) can often be modified or overridden in a more deliberate mode of System 2 operation (Kahneman 2003) such that reflection and effort can overcome or correct the initial heuristic response (Devine 1989; Gilbert and Osborne 1989). Therefore, we hypothesized that deliberation can moderate bias toward newer options. When people deliberate more, their responses will be less likely to be affected by the newness heuristic. Formally, we put forward the following hypothesis.

**H3:** Deliberation moderates the newness bias.
OVERVIEW OF RESEARCH

In five studies, we show that, when choosing between newer and older options with identical quality information, people prefer the newer option across a range of domains (studies 1-3). The preference for newer options persists even for die rolls and coin tosses, where there cannot be any difference in quality and where there is no social relevance to newness (study 2a and study 2b). We provided process evidence that newness is a heuristic people adopts, for they spent less time choosing newer options than older options (study 3), cognitive load won’t affect the newness bias (study 3), and deliberation can turn off this bias (study 4). We also show in domains where people associate older with better, newness bias disappear (study 4). Last but not least, we found that chronological newness can lead to higher willingness to pay in joint evaluation but not in separate evaluation (study 5).

STUDY 1: PREFERENCE FOR GEORGE CARLIN JOKES

Many consumer domains feature products that do not appreciably improve in quality over time, such as comic strips or jokes, at least not over short periods of time such as days or weeks. We therefore chose these domains to provide a naturalistic initial test of H1. In a pre-test, 155 Amazon Mechanical Turk (MTurk) participants chose between two Dilbert comic strips to view, one “just released this morning” and one “released exactly one week ago.” We told participants that “both comics were carefully chosen by the researcher for their high ratings.” Overall, 72.9% of participants chose to view today’s comic strip over the one from a week ago (two-tailed binomial test for difference from 50%, \( \chi^2 (1) = 31.61, p < 0.001 \)).

Although we have found the people’s preference for the newer option, there may be other rational inferences that the newly released comic strip has been read by less people, contain more
information value or more trendy than the one from a week ago. To exclude such explanations, we used randomly selected jokes from a comedian who has already passed away in our study1.

Method

In study 1, 100 Amazon Mechanical Turk (MTurk) participants read that George Carlin was an American stand-up comedian and is ranked No.1 on “The Funniest Stand Up Comedians of All Time” on Ranker.com. Importantly, they also learned that he died on June 22, 2008. Then, they were told: “We have launched a joke of the day mailing list to pay tribute to him. Every day, we randomly pick one of his great jokes from his entire career (mainly one-liners), and send it to the mailing list as the “joke of the day” in the early morning. You can now choose to read either today’s joke or yesterday’s joke.”

The choice options were randomized (we also randomized the order of choice options in all remaining studies.) After choosing, all participants saw the same George Carlin joke regardless of their choice. Next they were asked to rate “How funny is this joke” on a scale of 1 (not funny at all) to 7 (very funny). Finally, participated reported whether they had previously heard this joke and their familiarity with George Carlin’s humor.

Results and discussion

78% of participants chose to view today’s joke over yesterday’s joke ($\chi^2(1) = 30.25, p < 0.001$). There was no difference in funniness rating between those who chose today’s joke ($M = 4.32$) and yesterday’s joke ($M = 4.32; t(98) = 0.006, NS$). Both results remained unchanged when we controlled for prior exposure to the joke or familiarity with Gorge Carlin’s humor.

Most people seem to prefer the newer joke despite there being no reason to believe that the more recently released joke is any more entertaining. Both days’ jokes were randomly
selected from a static pool of jokes from a dead comedian, so the joke has been heard by many people a long time ago. Therefore, explanations of the newer joke being more trendy, socially relevant, or containing more information value are all unlikely to explain our finding.

**STUDY 2A DIE ROLLS**

We have carefully chosen domains and crafted scenarios that should eliminate any substantive quality difference between older and newer options, but most participants nonetheless expressed a preference for newer options. Next, we provide an even stronger test using domains in which absolutely no quality difference can be rationally inferred from newness.

**Method**

In study 2a, we used a domain with no social aspect to consumption and where chronological time is explicitly unrelated to expectations about the choice options: betting on the results of die rolls. We adopted a 2 × 2 between-subjects design, in which the first factor is a randomly selected betting rule (bigger or smaller wins) and the second factor is the order of betting and prediction questions.

Two hundred and four MTurk participants were paid $0.08 to play a bet, with winners doubling their payment. They were told that our lab has launched a dice game. Every morning the same staff member will roll a die and record its result. After reading the instruction, participants were then given the chance to determine by random coin flip (self-reported) whether the bigger or smaller die would win. Doing so makes it clear that we are not fixing the die roll results. Next, they were asked to bet on a today’s die roll or that of one week ago and predict which result is more likely to be smaller or bigger depending on the rule determined earlier. The order of placing bet and predicting results were randomized so that half of the participants
placed their bet first and the other half predict the result first. Finally, all participants were told that the die lands on 5 today landed on 2 one week ago.

**Results and discussion**

In Study 2a, 69.6% of all participants chose to bet on today’s die roll over one week ago ($\chi^2(1) = 30.59, p < 0.001$). Among the 94 participants playing for “larger die wins,” 75.5% chose to bet on today’s die ($\chi^2(1) = 23.5, p < 0.001$). Among the 110 participants playing for “smaller die wins,” 65% chose to bet on today’s die ($\chi^2(1) = 8.73, p < 0.01$). The difference between these two proportions was not significant ($\chi^2(1) = 2.40, NS$). Consistent with the actual choice, most participants predicted that “today’s die is more likely to be larger” if they chose that larger die wins (76.6%, $\chi^2(1) = 25.54, p < 0.001$); most participants predicted that “today’s die is more likely to be smaller” if their self-chosen betting rule is that smaller die wins (63.6%, $\chi^2(1) = 7.65, p < 0.01$). A logistic regression of bet choice on self-determined betting rule, order of bet and prediction questions, and the order of choice options showed that none of these variables significantly explain people’s choices significantly, leaving only the intercept representing the main newness effect ($\beta_0 = 0.89, z = 2.95, p < 0.01$).

Despite the fact that the expected value and degree of uncertainty for the die roll from this morning and for the roll from one week ago are statistically identical, and regardless of whether smaller die wins or larger die wins, participants showed a preference for a newer die and predicted newer die has a larger chance to win. Since participants chose their own rules of betting, it is not possible for them to think the older die were more likely to be rigged. In addition, newer die cannot be more socially relevant. Furthermore, 53.9% of the 204 participants actually won the bet ($\chi^2(1) = 1.1, NS$) and were paid a bonus, so there was no evidence of cheating among participants.
STUDY 2B COIN TOSSES

Study 2b used a similar design, but replaced die rolls with coin tosses and removed the need to compare two stimuli: If the coin tossed on the chosen day landed heads, participants would win $0.25 in addition to their $0.25 participation fee. In a between-subject design, 186 MTurk participants were randomly assigned to choose between two tosses of a fair coin, either between this morning versus yesterday morning, or between yesterday morning versus the day before yesterday morning. This latter condition allowed us to test whether the preference for newness is limited to preferring options related to today. As per the instructions, the experimenter tossed a coin for three consecutive days (landing heads, heads, and tails) and rewarded the winners accordingly.

Results and Discussion

In study 2b, 73.1% of participants ($\chi^2(1) = 18.97, p < 0.001$) chose the coin toss from this morning over the coin toss from yesterday morning, and 71.0% of participants ($\chi^2(1) = 15.53, p < 0.001$) chose the coin toss from yesterday morning versus over the coin toss from the day before yesterday morning. There was no difference between the two proportions ($\chi^2(1) = 0.027, NS$). This study shows that preference for newness is not limited to today’s option, thus ruling out explanations based on the match between choices that occur today and choosing something that happened today.

STUDY 3: COGNITIVE LOAD

Heuristics can provide quick answers with little effort (Eidelman and Crandall 2014) so that cognitive load depletes effortful, controlled processing while leaving more automatic, heuristic processing intact (Brandstätter, Lengfelder, and Gollwitzer 2001). In addition,
heuristics can be attenuated by deliberate processing, which in turn can uncover the information inconsistent with the output of heuristic process (e.g., the joke is randomly chosen, so it really does not matter which day’s joke to read). If relying on newness serves as a choice heuristic, we can predict three things about reaction time. First, increasing cognitive load would have no effect on the mere newness effect, since heuristics are largely automatic and do not require cognitive resources. Two, people who choose the older option will spend more time in making their choices than those who choose the newer option, but only when cognitive resource is abundant (in low/no cognitive load) versus scarce (high cognitive load). Three, deliberation will mitigate the newness bias.

Method

Study 3 replicated the procedure in study 2a, but manipulated cognitive load first. The study was the first of a series of lab studies in which 329 undergraduate business students completed 45 minutes in exchange for course credit. We used a traditional cognitive load manipulation (Kessler and Meier 2014; Shiv and Fedorikhin 1999) by requiring students to memorize a letter string first and recall immediately the string after they made their choice. In the high cognitive load group, participants were instructed to memorize a nine-character string “GXNTDPLRW,” whereas in the low cognitive load group they only needed to memorize a three-character string “GXN.”

After shown the sequence, they read the same cover story in study 2a. They were also told that all winners would be entered into a lottery in which we would randomly selected three winners to win $5. In the next screen, they needed to place their bet by selecting “I want to bet on ‘the die result from this morning’ or ‘the die result from one week ago’.” “We have recorded participants’ time spent on this screen. In the third screen they were prompted to recall the
sequence and type it in a blank box. One of the authors rolled a die before and during the experiment week. Participants were rewarded two weeks later.

**Results and discussion**

In study 3, we again found the newness effect but no difference between those choosing under high load (79%, $\chi^2(1) = 53.39, p < 0.001$) and those choosing under low load (79%, $\chi^2(1) = 55.19, p < 0.001$), suggesting that newness heuristic is not affected by cognitive load and therefore relatively effortless. On the other hand, our choices are simple and therefore cognitive load did not increase heuristic usage. We ran a logistic regression of decision time on the choice by groups. As predicted, participants’ time spent on making the choice predicts their choice in the low load group ($\beta = -0.13, z = -2.89, p < 0.01$), but not in high load group ($\beta = -0.03, NS$).

Study 3 shows that cognitive load had no effect on the mere newness bias, while longer decision time is negatively related to the bias. In our next study, we manipulated both deliberation and time pressure to test the heuristic hypothesis. If this heuristic (bias) can be moderated by rational thinking, then making people deliberate can mitigate the newness bias; meanwhile, consistent with the finding from cognitive load manipulation, we hypothesize that pressing people to make decisions faster would have no effect either. In addition to the time pressure and deliberation manipulation, we also manipulated the choice domain. As proposed in H1b, in domains where older is regarded better (such as classic art work) (Eidelman, Pattershall, and Crandall 2010), such conflicting association could prevent the heuristic process from occurring, so we will find disappearance of this effect.
STUDY 4: DELIBERATION MANIPULATION

Method

In this study, participants have to choose between Wednesday’s poster and Thursday’s poster. Five hundred Sixty-One Mturk participants were randomly assigned to one condition in a 2 (domain: movie vs. art) x 3 (group: time pressure vs. deliberation vs. control) between-subjects design on a weekend.

Respondents were instructed to participate in a task called “pick up a poster and we will send it to you.” Each participant read the instruction that “Our lab is giving away some 24" x 36" (2ft x 3ft) posters of recent blockbuster movies (famous pieces of classic art) left over from a different study. Each day of the past week, we randomly designated one poster to give away. We will give all five posters away today. One random participant will be selected to have their chosen poster sent to him or her for real.”

In the time pressure condition, participants were instructed that they need to make their decision as rapid as possible (Dror, Basola, and Busemeyer 1999; McConnell and Leibold 2001) for they would have only 5 seconds (Dhar and Nowlis 1999) to make their decision in the next screen before it automatically advance to a third screen. In the choice screen, they were asked to choose between “Thursday’s poster (two days ago)” and “Wednesday’s poster (three days ago)”. A timer was also shown on the same screen counting down from 5 (Dhar and Nowlis 1999; Pieters and Warlop 1999), and the screen automatically advance when the timer hit 0. In the deliberation condition, participants were instructed that they had unlimited amount of time (Dhar and Nowlis 1999) and they were encouraged to think carefully before making their decisions in the next screen. In the choice screen, they were asked the same question in the pressure condition with one difference: they can only start submit their answers after 15 seconds (Dijksterhuis
2004). In the control condition, participants were just instructed to make a choice between two posters in the next screen. There was neither timer counting down nor delayed submission button in the choice screen.

**Results**

Among the three conditions where participants choose a movie poster, only participants in time pressure condition (61.6%, $\chi^2(1) = 4.89, p < 0.05$) and control condition (64.4%, $\chi^2(1) = 6.94, p < 0.01$) showed a significant newness bias, whereas the effect was attenuated in deliberation condition (56.7%, $\chi^2(1) = 1.34, NS$). In comparison, participants did not differ from 50% in all three conditions in which they were asked to pick a classic art poster (Time Pressure: 44%, $\chi^2(1) = 1.10, NS$; Deliberate: 56.5%, $\chi^2(1) = 1.32, NS$; Control: 43.4%, $\chi^2(1) = 1.45, NS$).

A further analysis showed that the proportion difference between the two domains (movie vs. art) were significant in both time pressure condition (61.6% vs. 44%, $\chi^2(1) = 4.89, p < 0.05$) and control condition (64.4% vs. 43.4%, $\chi^2(1) = 7.54, p < 0.01$), but reduced to close to zero when participants were asked to deliberate (56.7% vs. 56.5%, $\chi^2(1) = 0, NS$).

A logistic regression of domain, group, domain by group interaction on people’s choice yielded a significant effect of movie ($\beta = 0.86, z = 2.87, p < 0.01$) and movie by deliberate interaction ($\beta = -0.85, z = -2.02, p < 0.05$) on choice. This supports our prediction that people have a newness bias in movie condition but not in art condition, and deliberation can moderate the bias.
**Discussion**

Study 4 lends further support for our proposed heuristic hypothesis. Although explicit instructions to deliberate more attenuated the bias for newer options, putting people under time pressure did not exacerbate the bias. The fact that we still found a newness effect for completely randomly chosen stimuli differing only in days picked (Wednesday vs. Thursday) further increases our confidence in this effect. In addition, we found that the preference for newer options does not exist for classic art, a domain where people generally associate oldness with more value. In fact, if anything, people may have had a slight bias for older options in the art domain, although this difference was not significant. The domain difference supports our assertion that the newness heuristic is caused by automatic associations. Most importantly, the difference in domains found in the control and time pressure conditions completely disappeared when people were asked to deliberate before making their choice.

Having established the mere newness bias as a result of heuristic process driven by association, we want to check what substantive difference the mere newness would make. For instance, how much are people willing to pay for identical raffle tickets for the same raffle
drawing that were purchased on different dates? Study 5 attempts to answer this question in order to put a price on the value of newness.

**STUDY 5: WILLINGNESS TO PAY**

**Method**

Study 5 adopted a 2 (risk, between-subject factor) × 5 (time, within subject factor) mixed design. Two hundred and sixty-five undergraduate students were randomly assigned into 2 groups (lottery winning chance: high chance vs. low chance), and each student’s willingness to pay (WTP) for the raffle ticket was measured five times, differing only on when the raffle was drawn (one year ago, one month ago, one week ago, yesterday, today). Importantly, the order of the conditions within-subjects was randomized.

Participants read the following scenario: Imagine that every morning in the last year (366 total, including today), I have purchased a raffle ticket and put it directly into my file cabinet. They are all for the same raffle in which 1 ticket (100 tickets) will be drawn to win $1000. The drawing for this raffle is next week and each raffle ticket has the same chance of being chosen in the drawing. Now, imagine that I give you the opportunity to buy one of these raffle tickets. What is the most you would be willing to pay for the raffle ticket I purchased one year ago/one month ago/one week ago/yesterday/today? Each participant answered all five questions in five separate screens.

**Results**

Average WTP for the raffle ticket across all participants in the chronological order from old to new was 2.25 (2.31), 2.32 (2.11), 2.47 (2.25), 2.61 (2.40), and 2.77 (2.42). To control for subjects’ variability, participants’ willingness to pay was submitted to a 2 (between-subject factor risk) × 5 (within-subject factor time) repeated measure ANOVA. Not surprisingly, more
chances to win lead to higher willingness to pay \((F(1, 263) = 8.06, p < 0.01)\). There was also a significant time effect on WTP \((F(4, 1052) = 9.14, p < 0.001)\), but no interaction effect between risk and time \((F(4, 1052) = 1.80, NS)\).

To further test the linearity hypothesis within subject, we did a contrast in a repeated measure design by constructing a Lambda Score \((L)\) for every participant. The \(L\) score reflects the degree to which a particular unit’s repeated measures are consistent with the prediction made in terms of the lambda weights defining it (Rosenthal and Rosnow 1991). To address the question of the degree to which the scores of this sample of subjects support our linear prediction (defined by lambda weights of -2, -1, 0, 1, 2), we computed a one sample t-test for both high risk \((t(132) = 2.38, p < 0.05)\) and low risk groups \((t(131) = 3.31, p < 0.01)\). Both groups show a significant linear trend. The two groups also has no difference in linear trend \((t(263) = -0.84, NS)\). Next we analyzed the first WTP each subject indicated, for only the first answer is unaffected by other WTPs. The average WTP in the chronological order of raffle drawing date is 2.18, 2.28, 2.90, 3.00, and 2.53. An ANOVA of WTP on time yields a non-significant result between subjects \((F(4, 260) = 1.37, NS)\).

In order to validate our finding, we tested another large Amazon Mechanical Turk sample of five hundred and five participants with the same within-subject manipulation of time but without the between-subject manipulation of risk. We found the same pattern that there is a linear trend of WTP within subjects \((t(504) = 2.63, p < 0.01)\) but not between subjects \((F(4, 500) = 1.01, NS)\).
Discussion

Even though we told participants explicitly that every raffle ticket is the same and has the same chance to be drawn, they are still willing to pay a premium for a newly drawn raffle ticket over an older one. Our finding shows that the mere newness effect can lead to a material difference in WTP. More importantly, the mere newness effect can be translated into higher WTP only in our within-subjects manipulation but not between-subjects manipulation. This suggests a boundary condition of mere newness effect that it only occurs in joint evaluations but not in separate evaluations (Hsee 1996). This also suggests that in order for the newness heuristic to work, the options should be placed in a joint evaluation, as demonstrated by study 1-4.

GENERAL DISCUSSION

Consumers are often drawn to new products for their improved design and features. Yet, newer products in many domains are often newer without necessarily being better. For example, the newest hit song or latest diet fad are not necessarily any more enjoyable or more likely to help you lose weight than their predecessors were. However, even in these cases where newness is not associated with greater quality, people may nonetheless show a preference for newer options.

Relationship to prior novelty research

It is important to distinguish how the preference for chronologically newer options is situated relative to existing research on novelty in marketing and psychology. In marketing, the well-studied constructs of consumer innovativeness and novelty-seeking focus on individual differences in tendency for consumers to seek out and adopt new products and information, whereas what we study is a more generalized preference for newer options, particularly among
options with the same quality, prior exposure, and familiarity. Also, whereas newness is generally associated with actual improvement or variety in the prior work, newness here is merely a temporal cue that people implicitly or explicitly infer quality from.

Another major difference between the previous psychological research on novelty seeking and our work is that prior studies examined participants’ choices to more novel or familiar stimuli, where novelty and familiarity were a function of prior exposure (Förster 2009; Krebs et al. 2009; Wittmann et al. 2008). That is, participants made choices after exposure to the stimuli, whereas participants in our studies made choices before they were exposed to any stimulus, based only on a label of time. We have therefore shown that people seek newer options even before stimuli exposure, as is the case with any consumer choice between products that they have not been used in the past, and that the preferences for newness extends beyond differences in product familiarity.

Implications

Consumers generally prefer newness and treat it as a cue to infer quality. Our research have found that such inferences are quite automatic (Kardes et al. 2004b), which we describe as a newness heuristic. Since quality can only be fully evaluated after usage or purchase for most products or services, particularly for “experience goods” (Nelson 1974), an overgeneralized preference for newer options could result in suboptimal purchase decisions when firms release newer products that are either worse (e.g., Windows ME) or no better than older products (e.g., annual new editions of text books). Even if the newer product is a net improvement, consumers may end up overpaying for newer products a process that may contribute to the phenomenon of price skimming (Besanko and Winston 1990).
Signaling. According to signaling theory, sellers can send pre-purchase quality signals to consumers when buyers and sellers possess asymmetric quality information, such as the durability of a shoe (Boulding and Kirmani 1993). For firms that produce experience goods, one strategy to signal product quality is to prominently display how new the product models is or how recently it was produced. Perhaps this is why the word “new” features so prominently in the packaging and advertisements for new products, often appearing in bold fonts and colors or as a separate label or sticker, or why product production dates rarely appear on product labels: A “new” label will always convey newness whereas a product with a longer expected shelf life may still be on the shelf long after its production date indicates that it is new.

Newness may even impact consumer decisions when there is nothing substantively new. Selling “old wine in new skins”—repackaging an old product or updating product appearances (e.g., “New look. Same great taste.”)—can make a product more appealing, especially if the “new” product comes with a new release date.

New product cycle. Our findings also provide one potential explanation for why firms release new models so frequently: releasing new products signals to consumers that their products keep improving. As a typical example, Apple launches new iPhones and iPads in highly anticipated events every year, just as (and likely because) Samsung and other competitors also release new products every year. Having the comparatively older product on the market may cause consumers to infer that it is inferior just due to release dates. One of the major reasons for such frequent new product releases is to send a marketing signal above and beyond actual quality improvement. Sending such signals is even important within a firm’s own product line extensions, where cannibalization can be a concern (Desai 2001). One way to reduce how much a new product cannibalizes existing products is to update existing products in some superficial
way. Again returning to Apple, this may be why the iPhone 5s was launched aside the iPhone 5c as a replacement for the year-old iPhone 5, with the only update being a colorful, plastic exterior.

**Appeal to tradition.** The preference for newer options is similar to the logical fallacy of *argumentum ad novitatem*—arguing that something is better just because it is new. However, *argumentum ad antiquitatem*—appeal to tradition or antiquity—is another frequently encountered fallacy with relevance for decision making. That is, people may draw an inference that if something has been around for a long time, it must be good (e.g., traditional medicines). Consistent with this inference, just as new products advertise their newness, older products and companies often advertise their oldness (e.g., Coca-Cola’s “since 1886”). While our finding only supports newness as a choice heuristic, one limitation of our studies is that we have pitted newer options against older options that are only somewhat older on some dimension, ranging from one day to one year. Eidelman and colleagues (2010, 2014) documented a “longevity bias”: preference for things that have existed longer. The apparent contradiction between longevity bias and newness bias may be reconciled by different time ranges (today versus yesterday or 10 years versus 100 years) and stimuli nature. Apparently, time’s arrow points in multiple ways. Further research is needed to understand when appeals to newness versus oldness are more important or relevant for quality inference.

**Conclusion**

Even though people may prefer newer options (or older options) for a variety of reasons or inferences, our study tried to answer a basic question: do people have a predictable preference for chronological newness (or oldness) when choosing from identical options? Our findings supports a newness as heuristic hypothesis. No matter whether it is choosing a randomly selected
joke by a dead comedian or betting on a die roll/a coin, the majority of people picked the merely newer option despite having no rational reason to do so. In study 5, even though we told participants explicitly that every raffle ticket was the same and had the same chance to be drawn, individuals are still willing to pay a premium for a newly drawn raffle ticket over an older one. Rational inference accounts, such as newer things being more advanced, trendier, more fresh, purer, less contaminated, or containing more information value cannot explain our findings. We proposed a heuristic hypothesis: people choose the newer option to resolve choice difficulty, and found supporting evidence.

Chronological newness information from product release date or production date is readily available for many products in consumer market. Surprisingly, there have been no studies on objective chronological newness, despite the extensive literatures on new product development, consumer innovativeness, and consumer novelty seeking. We believe that our findings complements the existing novelty literature and has numerous implications. If such a piece of information, when made salient, can bias people’s choices in a predictable way, further studies are needed to explore its antecedents and consequences. Although we have a heuristic account to explain people’s consistent preference toward newer options, they may be other psychological mechanisms driving this preference. Fallacy or not, argumentum ad novitatem works. We welcome further studies of this effect, and its application in marketing.
REFERENCES


