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The Unsung Benefits of Material Things: Material Purchases Provide More Frequent Momentary
Happiness than Experiential Purchases

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Abstract

Although research suggests that people derive more happiness from buying life experiences than material objects, almost no studies have examined how people actually feel while consuming real-world experiential and material purchases. In the present research, we provided the first examination of people's momentary happiness while consuming these purchases. Participants were randomly assigned to spend \$20 on a material vs. experiential purchase (Study 1) or to report a material vs. experiential gift they received at Christmas (Study 2); participants in both studies reported their momentary happiness regarding these purchases over two weeks, using daily-diary (Study 1) and experience-sampling (Study 2) methodologies. Results suggest that material and experiential purchases deliver happiness in two distinct flavors: material purchases provide more *frequent* momentary happiness over time, whereas experiential purchases provide more *intense* momentary happiness on individual occasions.

Keywords: *experiential purchases; material purchases; happiness; well-being; decision making; money*

The Unsung Benefits of Material Things: Material Purchases Provide More Frequent Momentary Happiness than Experiential Purchases

A decade of research has documented the *experiential advantage*: individuals derive more happiness from experiential purchases—events that they personally encounter or live through, such as vacations or concerts—than material purchases, tangible objects that people obtain and keep in their possession, such as sweaters and couches (e.g., Howell & Hill, 2009; Kumar, Killingsworth, & Gilovich, 2014; van Boven & Gilovich, 2003; for reviews, see Dunn & Norton, 2013; Gilovich, Kumar, & Jampol, 2015). However, nearly all prior work has examined people's retrospective happiness when reflecting on experiential and material purchases, rather than momentary happiness while partaking in a life experience or using a material object (Dunn & Weidman, 2015). The goal of the present study was therefore to examine whether the experiential advantage may be more nuanced when considering momentary happiness instead of retrospective happiness.

As shown in Figure 1 (adapted from Dunn & Weidman, 2015), a single purchase can provide three distinct forms of happiness: anticipatory (looking forward to a purchase), momentary (consuming a purchase), and afterglow (looking back on a purchase). In the domain of spending, researchers typically capture *anticipatory happiness* by asking participants how much happiness they are feeling while thinking about a future purchase (e.g., Kumar et al., 2014), and typically capture *afterglow happiness* by asking participants how much a past purchase contributes to their overall happiness in life or how happy they feel about the purchase when they think back on it (e.g., Howell & Hill, 2009; van Boven & Gilovich, 2003). In contrast, *momentary happiness* is defined as the pleasure people feel while actually consuming a purchase (Dunn & Weidman, 2015). The distinction between momentary and afterglow happiness mirrors

Kahneman's (2010) distinction between happiness *in your life* and happiness *about your life*, and evaluations of these two forms of happiness often differ (Robinson & Clore, 2002). For example, a trip to the San Diego Zoo may be remembered years later as a wonderful family bonding experience, in which little Jimmy saw lions and tigers for the first time, producing a great deal of afterglow happiness—even if the very same trip also included tears, long lines, and dropped ice cream cones, impairing momentary happiness during the visit. Conversely, purchasing a material thing such as a cashmere sweater may provide a great deal of momentary happiness, by making its owner feel both snug and sexy every time she wears it, even if the sweater fails to provide the fond memories that underlie afterglow happiness.

The past decade of research has clearly demonstrated that experiential (vs. material) purchases win out when considering afterglow happiness (Gilovich et al., 2015) and anticipatory happiness (Kumar et al., 2014). In addition, several studies have examined *remembered happiness*, showing that participants recall having felt greater momentary happiness while consuming experiential purchases made weeks or months in the past (e.g., Caprariello & Reis, 2013; Carter & Gilovich, 2010; see Figure 1).

In contrast, only two studies have examined momentary happiness while participants were consuming a purchase; both of these studies measured participants' momentary happiness while consuming purchases selected by the researchers, which were worth less than \$5, and were consumed in a single laboratory setting (e.g., bag of chips, pen, music video, key chain; Carter & Gilovich, 2010, Study 4; Nicolao, Irwin, & Goodman, 2009, Study 3). Although this approach is understandable given limited research budgets, caution is needed in drawing conclusions about more substantive purchases from studies of cheap trinkets. More broadly, given that social

psychology effects observed in the field do not always correspond to those observed in the lab (Mitchell, 2012), research needs to examine momentary happiness over time outside the lab.

Importantly, when momentary happiness is examined over time outside of the lab, material purchases may look better than in studies of afterglow happiness, for the simple reason that they may be consumed for a longer period of time than experiential purchases. The most popular experiential purchases reported in past research (e.g., tickets to events; travel; dining; Howell & Hill, 2009; van Boven & Gilovich, 2003) typically involve just one consumption occasion, whereas the most popular material purchases (e.g., clothing and jewelry; televisions and computers) typically allow for repeated usage over time. Similarly, people retrospectively report having spent many more days consuming material than experiential gifts they received (Chan & Mogilner, 2015). Material (vs. experiential) purchases therefore may allow for more *frequent* momentary happiness over time, even if experiential purchases provide more *intense* momentary happiness during specific instances in which they are enjoyed. Yet, research suggests that frequency may have little bearing on people's reports of afterglow happiness; people often do not take the length of an event into account when reporting their cumulative feelings during that event, instead relying primarily on the intensity of peak feelings (e.g., Fredrickson & Kahneman, 1993; Kahneman, Fredrickson, Schreiber, & Redelmeier, 1993; Redelmeier & Kahneman, 1996). Material purchases are therefore likely to compare more favorably to experiential purchases when considering momentary happiness than when considering afterglow happiness.

The Current Research

The present research was designed to provide the closest examination to date of the momentary happiness people derive from consuming experiential and material purchases in their

everyday lives. In Study 1, we gave participants \$20 to spend on an experiential or material purchase of their choice, and in Study 2, we assigned participants to report one experiential or material gift they had received during the holidays. We then tracked participants' happiness across two weeks via daily-diary (Study 1) and experience-sampling (Study 2) methodologies. We predicted that experiential and material purchases would provide momentary happiness via two distinct routes: material purchases would provide greater *frequency* of momentary happiness, whereas experiential purchases would provide greater *intensity* of momentary happiness.

In accordance with recommended research practices in psychological science, raw data sets and all materials for both studies, and pre-registered predictions for Study 1, are publicly available online at the Open Science Framework (OSF; Study 1 available at osf.io/ixgas; Study 2 is available at osf.io/p2fgv). Results from a pilot study are also posted on the OSF. Following recommendations by Simmons, Nelson, and Simonsohn (2011), we report all measures, conditions, data exclusions, and how we determined our sample sizes.

Study 1

Method

Participants. Participants were 67 undergraduates who received partial course credit ($M_{age}=19.67$; $SD=1.99$; 81% female; 55% East Asian, 18% Caucasian; 15% South Asian; 12% Other). We arrived at this sample size by running as many participants as we could within the budget provided by a research grant to the first author. This sample size would yield 80% power to detect an effect size of $d=.70$ for a between-subjects analysis; for our within-subjects analyses—which involved 238 individual responses nested within participants—statistical power would be higher to the extent that these responses provide unique information (Scherbaum &

Ferreter, 2009). The between-subjects power analysis therefore represents a conservative estimate.

Procedure. The study involved three parts. First, participants partook in an initial lab session, in which they completed the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999), which assesses individuals' tendency to view themselves as a happy person ($\alpha=.81$).¹ Participants were then told that they would receive \$20 to spend on a purchase of their choice that was meant to advance their happiness, which they could enjoy at some time during the subsequent two weeks. They were asked to make the purchase the following day. Participants were randomly assigned to make either an experiential or material purchase, defined on participants' questionnaires following van Boven and Gilovich (2003). Participants only saw the definition for their purchase type, and were unaware that we were comparing different purchase types.

Second, beginning the following day, participants were asked to complete nightly online questionnaires for two weeks. These questionnaires included two sets of questions—one set each for momentary and afterglow happiness. For momentary happiness, participants were first asked whether they partook in the life experience (experiential condition) or used the material possession (material condition) associated with their purchase on that day. If participants answered no to this question, they received no further questions for momentary happiness. If participants answered yes to this question, they were asked to write a description of the specific occasion that day when they were [partaking in the life experience/using the material object], and were then asked to report how happy they were during this occasion on a five-point scale (1=*not at all*; 5=*extremely*), along with one other exploratory measure (see osf.io/ixgas). For afterglow

happiness, these questions were identical, except they referred to reminiscing about the purchases.

Third, 1-3 days after submitting the final nightly questionnaire, participants completed two items assessing their afterglow enjoyment of their purchase (item 1: *When you think about this purchase, how happy does it make you?*; item 2: *How much does this purchase contribute to your overall happiness in life?*; van Boven & Gilovich, 2003); these items were averaged to form a composite ($\alpha=.72$). Fourth, approximately one month later, participants were contacted via email, and asked to report the number of days on which they had enjoyed their gifts since the study ended, plus one other exploratory measure (see osf.io/ixgas).

Results

Overview

Response rates. Participants recorded 846 responses (90% completion; experiential=92%; material=88%), 238 of which involved deriving some enjoyment from purchases.² Additionally, 41 participants (61%) responded to the one-month follow-up survey (experiential=55%; material=68%); participants who did and did not complete the follow up did not significantly differ on the SHS ($M_{\text{Yes}}=4.77$, $SD=1.03$; $M_{\text{No}} = 5.08$, $SD=.83$; $p=.19$).

What did participants purchase? Participants' purchases are displayed in Table S1. We also created a continuous score of the experiential or material nature of each purchase; undergraduate and graduate students rated the extent to which each purchase could be considered a life experience or a material object on a five-point scale (1=*purely a life experience*; 5=*purely a material object*), based on the definitions of experiential and material purchases provided in van Boven and Gilovich (2003). We excluded participants from the experiential condition whose

purchases received average scores of greater than 4 ($n=2$), and participants from the material condition whose purchases received average scores of less than 2 ($n=1$).

Analytic strategy. For both momentary and afterglow happiness, we examined the relationship between condition (material vs. experiential) and the frequency and intensity of happiness participants experienced. Following Schimmack and Diener (1997), *frequency* of momentary happiness was defined as the number of days during which each participant reported deriving at least some happiness while consuming their purchase (i.e., scores between 2-5); given that participants provided an unequal number of responses, for each participant, we divided the total number of happiness days by the total number of responses, yielding a percentage. *Intensity* of momentary happiness was defined as the level of happiness reported across all occasions included in this frequency count. For analyses involving intensity of momentary happiness, we conducted multilevel modeling, given that each happiness report was nested within a participant; in these analyses, condition was treated as a level-two predictor.

Across both Studies 1 and 2, for analyses regarding frequency of momentary happiness, we report medians and p -values from Mann-Whitney U tests in text, given the substantial skewness of these variables. Complete statistical information, including means, standard deviations, traditional inference tests, effect sizes, confidence intervals, and relations between our dependent variables and the continuous purchase score, are reported in Tables 1-4. Analyses involving continuous purchase score were conceptually identical to those involving between-condition comparisons.

Frequency of momentary happiness. Across two weeks, participants derived more frequent momentary happiness from material purchases than experiential purchases ($\text{Median}_{\text{Mat}} = 38\%$ of responses; $\text{Median}_{\text{Exp}} = 10\%$; $p < .01$; $d = .88$; see Figure 2), corresponding to a median of 3

days for each material purchase, compared to only 1 day for each experiential purchase. Additionally, when contacted at the one-month follow-up, participants reported having enjoyed material purchases more frequently than experiential purchases since the study ended (Median_{Mat}=8.5 days; Median_{Exp}=0 days; $p<.001$).

Intensity of momentary happiness. Across individual instances of enjoyment, participants consuming experiential and material purchases did not significantly differ in the average intensity of momentary happiness ($M_{Mat}=3.39$; $M_{Exp}=3.61$; $b=.26$, $p=.13$; see Figure 3).

Frequency and intensity of afterglow happiness. Participants did not differ in frequency (Median_{Mat}= 14% of responses, and 1 day; Median_{Exp}=15%, and 2 days; $p=.89$) or intensity ($M_{Mat}=3.31$; $M_{Exp}=3.43$; $p=.36$) of afterglow happiness during the two-week study period. Similarly, when asked at the final assessment to rate their *overall* afterglow happiness, participants in each condition reported similar levels ($M_{Exp}=3.13$ vs. $M_{Mat}=3.14$, $p=.97$).

Discussion

Over two weeks, participants derived more *frequent* momentary happiness from material purchases. In contrast, participants did not report more *intense* momentary happiness from experiential than material purchases, though the mean for experiential purchases was higher; this null finding should be interpreted with caution, however, given that study was not powered to detect small-to-medium effects. No differences were found between experiential and material purchases in the frequency or intensity of afterglow happiness; these null effects may be due to the fact that participants were asked to consider purchases consumed in the immediate past, whereas experiences typically are viewed more favorably in the distant past (Mitchell, Thompson, Peterson, & Cronk, 1997). In addition, given the low cost of the purchases, most

purchases may have provided little afterglow happiness, limiting our ability to detect between-condition differences.

Study 1 suffered from several limitations, which we sought to address in Study 2. First, we cannot be certain that the happiness participants reported via nightly questionnaires corresponded to the average happiness participants experienced during the actual moments when they were consuming their purchases, rather than a peak moment of happiness. In Study 2, we therefore employed an experience-sampling methodology, in which participants repeatedly reported how much happiness they were deriving from their purchases in the present moment. Building on other recent work that has examined experiential versus material gifts (Chan & Mogilner, 2015), we capitalized on the Christmas season by asking participants to report their feelings 3-5 times per day (via text message) about a material or experiential gift they had received. By assessing happiness more than 50 times over a two-week period, Study 2 allowed us to employ growth-curve modeling to examine the trajectory of momentary happiness over time, and whether this differed between experiential and material gifts.

Second, this method also enabled us to test whether our findings generalized to more expensive purchases than those made for under \$20 in Study 1; this is an important step to take before drawing strong conclusions, given that some of the most common and enjoyable experiential and material purchases (e.g., concerts, travel) tend to be more expensive. By asking participants to report on the gifts they received over the Christmas holiday, we were therefore able to overcome the constraints of lab budgets that typically prevent researchers from tracking momentary, day-to-day enjoyment of purchases that range in cost.

Study 2

Method

Participants. Participants were 81 undergraduates who received partial course credit (M age=19.94; $SD=2.08$; 64% female; 42% East Asian, 27% Caucasian, 11% Middle Eastern, 10% South Asian, 10% Other). Eighty-nine participants originally enrolled in the study, but eight dropped out prior to the experience-sampling period. We received feedback on an earlier draft of this manuscript on October 31, 2014, and, after obtaining ethics approval to employ an experience-sampling design, recruited as many participants as possible in the study before the end of the fall 2014 academic term (November 28, 2014). This sample size would yield 80% power to detect an effect size of $d=.63$ for a between-subjects comparison. As in Study 1, however, power for our within-subjects analyses—which involved 702 individual responses nested within participants—would likely have been considerably higher.

Procedure. The study involved three parts. First, participants completed an initial lab session in November, 2014, in which they completed the SHS ($\alpha=.87$), and an exploratory measure of dispositional materialism (see osf.io/p2fgv). Participants were randomly assigned to select one experiential or material gift they received, defined as in Study 1 (again, participants only saw one gift definition, and were not aware that we were comparing material and experiential gifts). Participants were told to choose from among the gifts they received over the holiday break, rather than asking for a gift to fit the definition provided; participants were told that, if they did not receive a gift in the correct category, to choose the gift that most closely corresponded to the provided definition of life experience or material object. Participants were instructed that there were no restrictions on the cost of their gift. Participants were then told that we would text them questions every day for two weeks over the upcoming Christmas break.

Second, beginning on Christmas Day, participants were sent 3-5 text messages per day for two weeks. Each text contained two questions. First, participants were asked “How much is

your gift contributing to your happiness in life right now?" on a scale from 0 (none) to 5 (very much).³ We chose this wording, rather than simply asking participants how happy they were, to more directly isolate the happiness being derived from the gift, rather than from extraneous factors. Second, participants were asked "Are you [experiencing/using] your gift right now?" and were asked to respond yes or no. For the second question, *experiencing* was used for the experiential condition, and *using* for the material condition.

Third, approximately one month after the conclusion of the texting period, participants completed a follow-up questionnaire via phone. Participants were asked the two questions assessing afterglow happiness regarding their gifts, as in Study 1 (van Boven & Gilovich, 2003; $\alpha=.72$), along with other exploratory measures (see osf.io/p2fgv). Finally, participants estimated the cost of their gift.

Results

Overview

Response rates. Participants responded to a total of 3419 texts (77% response rate; experiential=79%; material=75%), 701 of which involved participants deriving some enjoyment from gifts. Additionally, 71 participants (88%) completed the follow-up assessment (experiential: 89%; material: 87%); participants who did and did not complete the follow up did not differ on the SHS ($M_{Yes}=4.71$, $SD=1.13$; $M_{No} = 4.50$, $SD=.98$; $p=.59$).

What gifts did participants receive? Participants' gifts are displayed in Table S2. We again created a continuous score of the experiential or material nature of each gift, and excluded participants from the experiential condition whose gifts received average scores of greater than 4 ($n=8$), and participants from the material condition whose gifts received average scores of less than 2 ($n=0$).

Importantly, gifts received in Study 2 were substantially more expensive than purchases made in Study 1; of the 71 participants who completed the follow-up assessment, gift cost ranged from \$5-\$3,000 ($M=\$327.25$; Median=\$150; $SD=\$528.21$); median cost did not differ between-conditions (Experiential=\$175; Material=\$150; Table S2).

Analytic strategy. As in Study 1, we compared the frequency and intensity of happiness participants experienced between-conditions (material vs. experiential). *Frequency* of momentary happiness was again defined as the number of occasions during which participants reported deriving at least some happiness from consuming their gift (i.e., scores from 1-5), divided by the total number of texts to which participants responded, and *intensity* of momentary happiness was again defined as the level of happiness reported across all occasions included in the frequency count. All reported analyses held when controlling for gift cost.

Frequency of momentary happiness. Across two weeks, participants reported enjoying material gifts more frequently than experiential gifts (Median_{Mat}= 21% of texts; Median_{Exp}=and 4%; $p<.01$; $d=.40$; see Figure 2), corresponding to a median of 9 texts for each material purchase, and only 2 texts for each experiential purchase. Similarly, participants enjoyed material gifts more frequently than experiential gifts in the month after the study ended (Median_{Mat}=17 days; Median_{Exp}=0 days, $p<.001$; $d=1.54$).

Intensity of momentary happiness. Across individual consumption occasions, participants reported higher average happiness during each moment of enjoyment for experiential gifts ($M=4.21$) than material gifts ($M=3.43$; $b=.80$, $p<.01$; see Figure 3).⁴

What is the trajectory of momentary happiness over time? To examine whether intensity of momentary happiness changed over time, we performed growth curve modeling using multilevel modeling (Singer & Willett, 2003). Intensity of momentary happiness was regressed

on a continuous variable that represented the number of hours that had elapsed between the beginning of the study and the participant's happiness response; this yielded a linear slope for each participant's happiness across the two-week sampling period, allowing us to examine the average slope across the entire sample. Additionally, condition was entered as a level-two variable, as well as the interaction between the hours-elapsed variable and condition, allowing us to examine whether the average slope differed by gift type. On average, happiness decreased with each hour elapsed ($b=-.001$, $SE=.0005$, $z=2.49$, $p=.02$), but this effect was not moderated by gift type ($b=.001$, $SE=.0014$, $z=.94$, $p=.35$), suggesting that participants derived less happiness from their gifts over time, regardless of gift type.⁵

Afterglow happiness. In contrast to Study 1, participants reported more overall afterglow happiness regarding experiential than material gifts at the follow-up assessment ($M_{Exp}=3.15$; $M_{Mat}=2.37$; $p<.01$, $d=.81$). We further examined whether frequency and intensity of momentary happiness predicted reports of afterglow happiness at the one-month follow-up, by simultaneously regressing afterglow happiness on both the frequency and intensity indices. Intensity positively predicted afterglow happiness ($\beta=.53$, $p<.001$; $CI_{95}=[.31, .74]$), but frequency did not ($\beta=.10$, $p=.36$; $CI_{95}=[-.11, .31]$), suggesting that afterglow happiness was driven predominantly by how intensely—rather than how frequently—participants enjoyed their gifts.

Discussion

Replicating the findings of Study 1, over a two-week period, participants derived more *frequent* momentary happiness from material than experiential gifts—a trend that continued in the month following the study. In contrast to Study 1, however, participants also reported more *intense* momentary happiness from experiential than material gifts. Also in contrast to Study 1 and consistent with prior research, we found that participants derived greater afterglow happiness

from experiential than material gifts in the month following the study. Additionally, afterglow happiness was more strongly determined by intensity than frequency of momentary happiness.

General Discussion

In contrast to the large body of research documenting the experiential advantage, the present research suggests that material and experiential purchases both provide happiness during consumption, but in reliably different flavors. Whereas experiential purchases provided more *intense* momentary happiness, material purchases provided more *frequent* momentary happiness over the course of two weeks. Although these findings were stronger in the more highly-powered Study 2, it is worth noting that the same general pattern of findings emerged across studies using daily-diary (Study 1) and experience-sampling (Study 2) methodologies, across studies in which purchases were relatively inexpensive (Study 1) and in which they ranged into the hundreds and thousands of dollars (Study 2), and regardless of whether participants made the purchases (Study 1) or received them as gifts (Study 2). Additionally, in line with previous research, participants in Study 2 reported deriving more afterglow happiness from experiential (vs. material) purchases. We further found that reports of afterglow happiness were predominantly driven by intensity, rather than frequency, of momentary happiness.

The strong link between intensity of momentary happiness and reports of afterglow happiness helps to account for previous demonstrations of the experiential advantage. Studies examining this phenomenon typically ask individuals to report current happiness with a past purchase (e.g., van Boven & Gilovich, 2003; Howell & Hill, 2009); our findings suggest that these reports may be driven largely by the intensity of positive feelings during consumption, rather than the frequency of positive feelings. People's reliance on intensity (vs. frequency) is likely to cause reports of afterglow happiness to appear superior for life experiences than

material objects, even if material objects provide more frequent bouts of momentary happiness over time. Therefore, although afterglow happiness provides genuine enjoyment, it does not always correspond to momentary happiness across time, highlighting the importance of studying momentary happiness in its own right.

Limitations and Future Directions

Our work has several limitations, leaving open intriguing avenues for future research. First, although we endeavored to track momentary happiness over an extended time period, pragmatic constraints limited this period to two weeks of intensive sampling. Given prior work suggesting that pleasure wanes over time (Frederick and Loewenstein, 1999), future research should track momentary happiness of purchases over months or years, to examine whether our findings generalize to longer time frames. By doing so, researchers could also measure people's feelings of happiness while they are actively reminiscing about their purchases, long after consumption has ended. Whereas our investigation showed that material (vs. experiential) purchases provided more frequent momentary happiness during consumption, it is possible that experiential purchases provide more frequent happiness during reminiscence. Second, although we captured a representative sample of moments in Study 2, it is possible that we did not capture some of the most pleasurable or displeasurable moments, due to factors such as inattentiveness (e.g., participants engrossed in an enjoyable experience may not have noticed a text message). The fact that response rates were equivalent across conditions, however, helps ameliorate this concern.

Third, it is possible that the happiness participants reported at any given assessment did not reflect the happiness they were receiving from their purchase (i.e., a participant could have been wearing a new pair of jeans, without necessarily attending to or deriving happiness from

those jeans). We attempted to minimize this problem in Study 2 by specifically asking participants to report how much their gifts were contributing to their happiness in life in any given moment. Importantly, our measure of *frequency* of momentary happiness included only those moments when participants were deriving some happiness from their purchases.

To Do or To Have? It Depends on How Happiness is Measured

What do these findings imply for the well-documented *experiential advantage*, or the suggestion that consumers who wish to maximize their happiness should spend money on life experiences, rather than material objects (Dunn & Norton, 2013; Gilovich et al., 2015; van Boven & Gilovich, 2003; van Boven, 2005)? We propose that the accuracy of this conclusion depends on the type of happiness one values. Specifically, if an individual wishes to maximize happiness while anticipating or reflecting on their consumption of a purchase, life experiences are clearly the best investments. When it comes to momentary happiness during consumption, experiential purchases may also be superior if one wants to maximize the intensity of pleasure in a given moment. However, material purchases have an unsung advantage, in that they provide more frequent bouts of momentary happiness in the weeks after they are acquired.

These findings raise the question of whether experiential or material purchases provided more *total* momentary happiness over two weeks. Across studies, participants reported about half a point higher intensity of happiness for experiential (vs. material) purchases, but derived happiness three to four times more often for material (vs. experiential) purchases over two weeks. Thus, simply summing all reports of momentary happiness across two weeks would point to the conclusion that material purchases provide more total momentary happiness than experiential purchases. Determining how frequency and intensity *should* be weighted, however, raises thorny philosophical issues. Individuals and cultures may place different relative value on

intensity vs. frequency of happiness. To the extent that people in increasingly prosperous countries such as China devote their newfound wealth to material things, research on the experiential advantage would point to the conclusion that increased prosperity may fail to yield increased happiness. If, however, people in China value low-arousal positive feelings (Tsai, 2007), the decision to buy material things may be optimal. Similarly, given that introverts (vs. extraverts) prefer to experience low-arousal pleasant feelings (Rusting & Larsen, 1995), these individuals might derive optimal happiness from consuming material purchases, rather than subjecting themselves to the intense thrills that often accompany life experiences.

To conclude, our findings suggest that the choice between material and experiential purchases inherently involves a trade-off between frequent and intense momentary happiness. When asking oneself “To Do or to Have?” (van Boven & Gilovich, 2003), the answer may hinge on whether one is seeking an intense but fleeting form of happiness that is accompanied by a rosy afterglow, or a more subtle frequent form of happiness that will endure for weeks or months.

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Table 1: Descriptive statistics for primary variables (Study 1)

Report	Experiential	Material
Momentary phase		
Frequency (days)	Median = 1 <i>M</i> = 2.26 <i>SD</i> = 2.19	Median = 3 <i>M</i> = 4.09 <i>SD</i> = 2.88
Frequency (percent of responses)	Median = 10 <i>M</i> = 17 <i>SD</i> = 16	Median = 38 <i>M</i> = 35 <i>SD</i> = 24
Intensity	<i>M</i> = 3.61 <i>SD</i> = .78	<i>M</i> = 3.39 <i>SD</i> = .73
Usage (follow-up)	Median = 0 <i>M</i> = 1.13 <i>SD</i> = 1.82	Median = 8.5 <i>M</i> = 13.6 <i>SD</i> = 19.66
Reminiscing phase		
Frequency (days)	Median = 2 <i>M</i> = 2.32 <i>SD</i> = 2.31	Median = 1 <i>M</i> = 2.03 <i>SD</i> = 2.10
Frequency (percent of responses)	Median = 15 <i>M</i> = 18 <i>SD</i> = 17	Median = 14 <i>M</i> = 19 <i>SD</i> = 22
Intensity	<i>M</i> = 3.43 <i>SD</i> = .65	<i>M</i> = 3.31 <i>SD</i> = .78
Afterglow happiness	<i>M</i> = 3.13 <i>SD</i> = .85	<i>M</i> = 3.14 <i>SD</i> = .70

Note:

Frequency (days): Number of days during which participants reported deriving at least some happiness while consuming their purchase (i.e., scores between 2-5) (between-subjects)

Frequency (percent of responses): Percentage of days on which participants responded to our nightly questionnaires and reported deriving at least some happiness while consuming their purchase (i.e., scores between 2-5) (between-subjects)

Intensity: Mean level of happiness reported across all occasions included in the frequency count (within-subjects)

Usage (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having enjoyed their gifts (between-subjects)

Afterglow happiness: Measures taken at end of two-week daily sampling period (between-subjects)

Table 2: Descriptive statistics for primary variables (Study 2)

Report	Experiential	Material
Momentary phase		
Frequency (texts)	Median = 2 <i>M</i> = 5.86 <i>SD</i> = 8.75	Median = 9 <i>M</i> = 10.58 <i>SD</i> = 8.51
Frequency (percentage of responses)	Median = 04 <i>M</i> = 18 <i>SD</i> = 25	Median = 21 <i>M</i> = 28 <i>SD</i> = 25
Intensity	<i>M</i> = 4.21 <i>SD</i> = 1.01	<i>M</i> = 3.43 <i>SD</i> = 1.11
Usage (follow-up)	Median = 0 <i>M</i> = 2.04 <i>SD</i> = 4.85	Median = 17 <i>M</i> = 17.49 <i>SD</i> = 12.14
Reminiscing phase		
Afterglow happiness	<i>M</i> = 3.15 <i>SD</i> = 1.15 Median = 3	<i>M</i> = 2.37 <i>SD</i> = .84 Median = 5
Reminiscing (follow-up)	<i>M</i> = 5.95 <i>SD</i> = 5.61	<i>M</i> = 5.87 <i>SD</i> = 3.66
Reminiscing happiness	<i>M</i> = 3.32 <i>SD</i> = .95	<i>M</i> = 2.87 <i>SD</i> = .83

Note:

Frequency (texts): Number of occasions during which participants reported deriving at least some happiness while consuming their purchase (i.e., scores between 1-5) (between-subjects)

Frequency (percentage of responses): Percentage of occasions on which participants responded to a text message and reported deriving at least some happiness while consuming their purchase (i.e., scores between 1-5) (between-subjects)

Intensity: Mean happiness reported across all occasions included in the frequency count (within-subjects)

Usage (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having enjoyed their gifts (between-subjects)

Afterglow happiness: Measures taken at end of two-week daily sampling period (between-subjects).

Reminiscing (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having reminisced about their gifts (for those participants who reported reminiscing; between-subjects)

Reminiscing happiness: Mean happiness reported at one specific reminiscing occasion that participants were asked to report (between-subjects)

Table 3: Inferential statistics for primary variables (Study 1)

Report	Mann-Whitney <i>U</i> test: Between conditions	Parametric test: Between conditions	Relation with purchase score
Momentary phase			
Frequency (days)	$z = 3.04, p < .01$	$t(59) = 2.88, p < .01$ $d = .71, \text{CI}_{95} = .21, 1.22$	$r = .48, p < .001$
Frequency (percent of responses)	$z = 3.03, p < .01$	$t(56) = 3.50, p < .01$ $d = .87, \text{CI}_{95} = .36, 1.39$	$r = .46, p < .001$
Intensity	--	$t(62) = 1.52, p = .13$ $b = -.26^a, \text{CI}_{95} = -.59, .07$	$t(65) = 3.52, p < .001$ $b = -.29^a, \text{CI}_{95} = -.45, -.13$
Usage (follow-up)	$z = 4.18, p < .001$	$t(19)^b = 2.82, p = .01$ $d = .85, \text{CI}_{95} = .16, 1.53$	$r = .50, p < .01$
Reminiscing phase			
Frequency (days)	$z = .59, p = .56$	$t(62) = .53, p = .60$ $d = -.13, \text{CI}_{95} = -.62, .36$	$r = -.05, p = .70$
Frequency (percent of responses)	$z = .14, p = .89$	$t(62) = .25, p = .80$ $d = .05, \text{CI}_{95} = -.44, .54$	$r = -.03, p = .82$
Intensity	--	$t(50) = .93, p = .36$ $b = -.12^a, \text{CI}_{95} = -.37, .13$	$t(53) = 2.31, p = .02$ $b = -.15^a, \text{CI}_{95} = -.27, -.02$
Afterglow happiness	--	$t(60) = .04, p = .97$ $d = .01, \text{CI}_{95} = -.49, .51$	$r = -.04, p = .78$

Note: Positive relations indicate higher values for material (vs. experiential) purchases

CI_{95} = 95% confidence interval for standardized effect size

^a Unstandardized regression coefficient calculated using multilevel modeling

^b Degrees of freedom calculated using Welch's formula in the presence of unequal group variances

Relations with purchase score: Positive values indicate that higher numbers are associated with purchases seen as material objects

Frequency (days): Number of days during which participants reported deriving at least some happiness while consuming their purchase (i.e., scores between 2-5) (between-subjects)

Frequency (percent of responses): Percentage of days on which participants responded to our nightly questionnaires and reported deriving at least some happiness while consuming their purchase (i.e., scores between 2-5) (between-subjects)

Intensity: Mean level of happiness reported across all occasions included in the frequency count (within-subjects)

Usage (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having enjoyed their gifts (between-subjects)

Afterglow happiness: Measures taken at end of two-week daily sampling period (between-subjects)

Table 4: Inferential statistics for primary variables (Study 2)

Report	Mann-Whitney U test: Between conditions	Parametric test: Between conditions	Relation with purchase score
Momentary phase			
Frequency (texts)	$z = 3.26, p < .01$	$t(71) = 2.28, p = .03$ $d = .55, \text{CI}_{95} = .07, 1.03$	$r = .12, p = .28$
Frequency (percentage of responses)	$z = 2.75, p < .01$	$t(71) = 1.67, p = .10$ $d = .40, \text{CI}_{95} = -.08, .88$	$r = .06, p = .59$
Intensity	--	$t(64) = 3.37, p < .01$ $b = -.80^a, \text{CI}_{95} = -1.26, -.33$	$t(72) = 3.11, p < .01$ $b = -.30^a, \text{CI}_{95} = -.49, -.11$
Usage (follow-up)	$z = 5.02, p < .001$	$t(54) = 7.08, p < .001$ $d = 1.54, \text{CI}_{95} = .96, 2.12$	$r = .58, p < .001$
Reminiscing phase			
Afterglow happiness	--	$t(38)^b = 2.87, p < .01$ $d = -.81, \text{CI}_{95} = -1.33, -.28$	$r = -.32, p < .01$
Reminiscing (follow-up)	$z = .84, p = .40$	$t(32)^b = .05, p = .96$ $d = .02, \text{CI}_{95} = -.66, .69$	$r = -.08, p = .63$
Reminiscing happiness	--	$t(32)^b = 1.45, p = .16$ $d = -.50, \text{CI}_{95} = -1.19, -.19$	$r = -.32, p = .06$

Note: Positive relations indicate higher values for material (vs. experiential) purchases

CI_{95} = 95% confidence interval for standardized effect size

^a Unstandardized regression coefficient calculated using multilevel modeling

^b Degrees of freedom calculated using Welch's formula in the presence of unequal group variances

Relations with purchase score: Positive values indicate that higher numbers are associated with purchases seen as material objects

Frequency (texts): Number of occasions during which participants reported deriving at least some happiness while consuming their purchase (i.e., scores between 1-5) (between-subjects)

Frequency (percentage of responses): Percentage of occasions on which participants responded to a text message and reported deriving at least some happiness while consuming their purchase (i.e., scores between 1-5) (between-subjects)

Intensity: Mean happiness reported across all occasions included in the frequency count (within-subjects)

Usage (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having enjoyed their gifts (between-subjects)

Afterglow happiness: Measures taken at end of two-week daily sampling period (between-subjects).

Reminiscing (follow-up): Number of days in the month following the two-week daily sampling period during which participants reported having reminisced about their gifts (for those participants who reported reminiscing; between-subjects)

Reminiscing happiness: Mean happiness reported at one specific reminiscing occasion that participants were asked to report (between-subjects)

Figure 1: Different types of happiness for a purchase

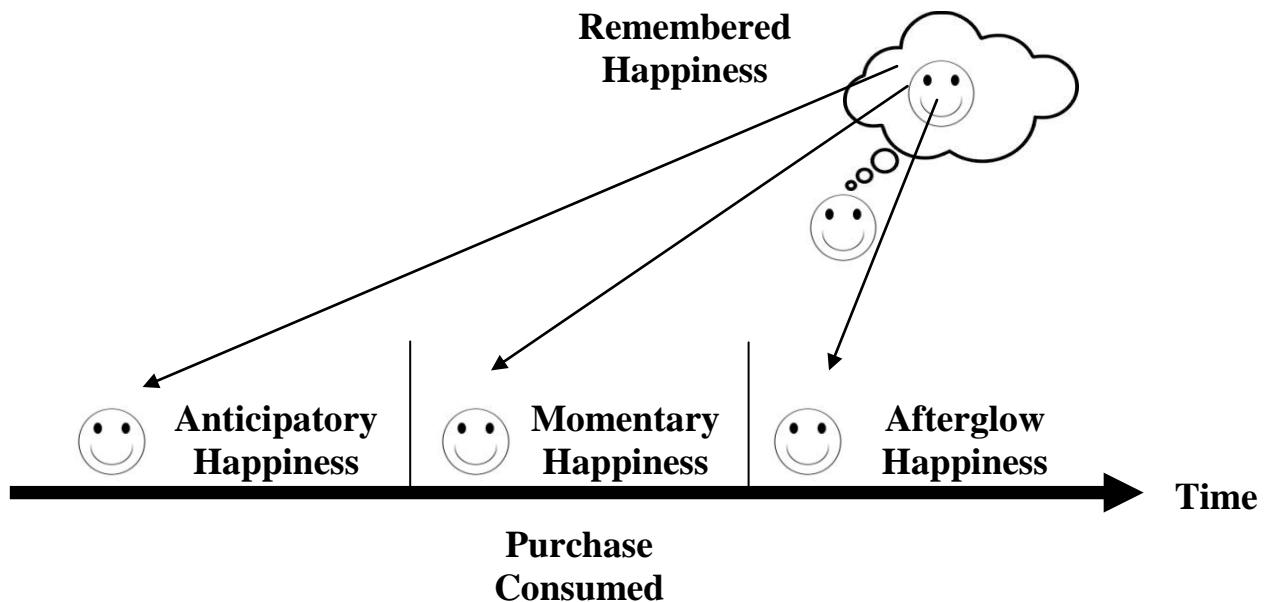
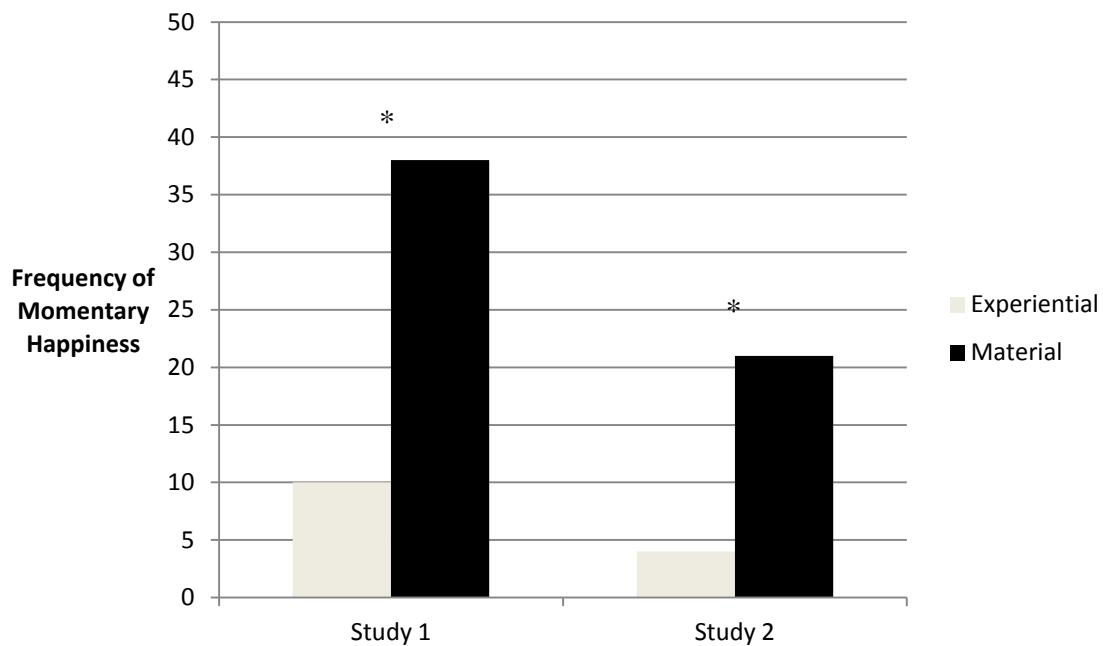
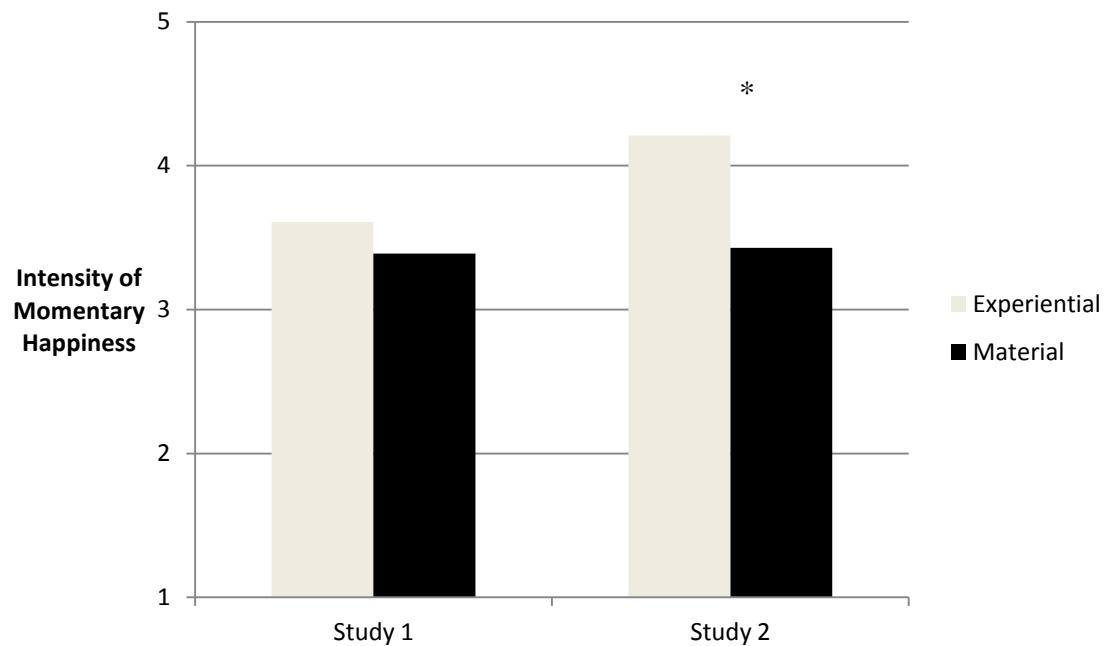


Figure 2: Frequency of momentary happiness (Studies 1 and 2)



Note: Frequency represents the median percentage of occasions on which participants reported deriving at least some happiness while consuming their purchase. Frequency represents the percentage of days in Study 1, and the percentage of text messages in Study 2.

Figure 3: Intensity of momentary happiness (Studies 1 and 2)



Note: Intensity represents the mean level of happiness reported across all instances during which participants reported enjoying their gifts during the two-week study period.

Footnotes

¹ Dispositional happiness did not systematically vary across conditions in Study 1 nor Study 2 ($p > .75$), and is not discussed further.

² Eight individual occasions of momentary consumption or reminiscing (2%) were recoded as instances of non-consumption or non-reminiscing, given that participants' descriptions of these occasions indicated that they did not involve consumption. These excluded cases were approximately equally distributed across condition (experiential=5; material=3) and purchase phase (momentary=3; reminiscing=5).

³ The scale labels were shortened from Study 1, so that they could fit into the character limits for the text messages. Additionally, due to experimenter error, the low scale endpoint was "0", instead of "1".

⁴ Participants sometimes reported a number greater than zero to the question of how much happiness they were currently receiving from their gift, despite responding *no* to the question of whether they were currently experiencing/using their gift. Average happiness did not differ between-conditions for these texts ($M_{Exp}=1.00$, $M_{Mat}=1.13$; $b=.08$; $p=.81$).

⁵ To test for non-linear declines in happiness, we re-ran our analyses with a negative quadratic and negative cubic term for hours elapsed, in separate models; neither term was significant ($p > .28$) and neither term interacted with condition ($p > .15$), suggesting that declines in happiness were linear.