Buying time promotes happiness

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Around the world, increases in wealth have produced an unintended consequence: a rising sense of time scarcity. We provide evidence that using money to buy time can provide a buffer against this time famine, thereby promoting happiness. Using large, diverse samples from the United States, Canada, Denmark, and The Netherlands ($n = 6,271$), we show that individuals who spend money on time-saving services report greater life satisfaction. A field experiment provides causal evidence that working adults report greater happiness after spending money on a time-saving purchase than on a material purchase. Together, these results suggest that using money to buy time can protect people from the detrimental effects of time pressure on life satisfaction.

time | money | happiness | well-being

In recent decades, incomes have risen in many countries (1, 2), potentially exacerbating a new form of poverty: from Germany to Korea to the United States, people with higher incomes report greater time scarcity (3). Feelings of time stress are in turn linked to lower well-being, including reduced happiness, increased anxiety, and insomnia (4–6). Time stress is also a critical factor underlying rising rates of obesity: lacking time is a primary reason that people report failing to eat healthy foods or exercise regularly (7, 8). In theory, rising incomes could offer a way out of the "time famine" of modern life (9), because wealth offers the opportunity to have more free time, such as by paying more to live closer to work. However, some evidence suggests that wealthier people spend more time engaging in stressful activities, such as shopping and commuting (10). Experimental research shows that simply leading people to feel that their time is economically valuable induces them to feel that they do not have enough of it (11).

A great deal of attention has been devoted to reducing financial scarcity, but there is relatively little rigorous research examining how to reduce feelings of time scarcity, which in fact may offer a particularly difficult challenge given that time, unlike money, is inherently finite. Could allocating discretionary income to buy free time—such as by paying to delegate common household chores, like cleaning, shopping, and cooking— reduce the negative effects of the modern time famine, thereby promoting well-being? The growth of the sharing economy has made time-saving services increasingly accessible, but no empirical research has tested whether using such services enhances happiness.

From our theoretical perspective, buying time should protect people from the negative impact of time stress on life satisfaction. This conceptualization draws on the social support literature, in which research on the "buffering hypothesis" has demonstrated that receiving social support can protect people from experiencing the negative consequences of stress (12). That is, the typical relationship between stress and reduced well-being is attenuated for individuals who are able to access social support (13–15). We suggest that buying time may provide an alternate mechanism to receiving the support needed to cope with daily demands, such that the relationship between time stress and reduced life satisfaction should be attenuated among people who use money to access more time.

Results

As an initial test of this hypothesis, we surveyed Mechanical Turk workers in the United States ($n = 366$), a nationally representative

sample of working Americans living in the United States ($n = 1,260$), adults in Denmark ($n = 467$), and Canada ($n = 326$), and both a nationally representative sample ($n = 1,232$) and a sample of millionaires ($n = 818$) in The Netherlands. See Table 1 for sample demographics. In all samples, respondents completed two questions about whether—and how much—money they spent each month to increase their free time by paying someone else to complete unenjoyable daily tasks. In addition, respondents rated their satisfaction with life (SWL) and reported their annual household income, the number of hours they work each week, age, marital status, and the number of children living at home (*SI Appendix*). In the Canadian and Dutch surveys ($n = 2,376$), respondents also completed a measure of time stress (4), allowing us to test the prediction that buying time mitigates the negative effects of time stress on life satisfaction.

Here we report the meta-analytic effects across samples (16); results for individual samples are provided in Fig. 1 and *SI Appendix*. Across samples ($n = 4,469$), 28.2% of respondents spent money to buy themselves time each month [mean$_{amount}$ = $147.95 US dollars (USD) for respondents who reported buying time]. Respondents who spent money in this way reported greater life satisfaction, $d = 0.24$, $P < 0.001$, 95% CI (0.18, 0.31). This relationship was positive within each sample and reached statistical significance for the nationally representative sample of working Americans, adults in Canada and Denmark, and millionaires in The Netherlands (Fig. 1). This effect held controlling for our key set of covariates ($n = 3,983$), $d = 0.22$, $P < 0.001$, 95% CI (0.15, 0.29) and was not moderated by income or wealth, $Z = -0.35$, $P = 0.729$, 95% CI (-0.08, 0.06): people from across the income spectrum benefitted from buying time. These results also held when we controlled for an alternative set of covariates where we replaced household income with log income and added an age-squared variable (*SI Appendix*, Tables S6–S23b). These results provide initial evidence for a robust link between buying time and life satisfaction across diverse samples.

Significance

Despite rising incomes, people around the world are feeling increasingly pressed for time, undermining well-being. We show that the time famine of modern life can be reduced by using money to buy time. Surveys of large, diverse samples from four countries reveal that spending money on time-saving services is linked to greater life satisfaction. To establish causality, we show that working adults report greater happiness after spending money on a time-saving purchase than on a material purchase. This research reveals a previously unexamined route from wealth to well-being: spending money to buy free time.

Table 1. Demographic characteristics of survey respondents in studies 1–6

Sample	US Mechanical Turk	US representative	Denmark adults	Canadian adults	Netherlands representative	Netherlands millionaires	US Qualtrics
n	366	1,260	467	326	1,232	818	1,802
Median (range), SWL	6.00 (0–10)	7.00 (0–10)	8.00 (2–10)	7.50 (1.5–10)	8.00 (1–10)	8.00 (1–10)	7.00 (0–10)
% Buying time (1 = yes)	15.8	22.0	23.0	26.6	21.2	60.3	50.0*
Median amount spent/mo, USD†	61–80	201–300	114.6	75–150	149.30	213.29	80–99
% Female	—	47	39	—	48	16	60
Median age, y	30	43	51–60	36	51	68	35–44
Median, household income or wealth, USD	30–35K	75–85K	57K	56–74K	11K (mean = 160K)	879K (mean = 2.4M)	60–75K
Median (range) no. children living at home	1 (1–6)	1 (0–6+)	—	0 (0–3)	0 (0–3)	0 (0–11)	1 (1–4+)
Median (range) no. hours worked at main job each week	40 (0–100)	40 (1–90)	—	40 (0–100)	37 (0–40+)	—	40 (0–120)
% Married or partnership	51	66	62	55	53	76	68

All money reported in USD. We used a currency converter tool (OANDA) to estimate the amount in USD based on March 2017 exchange rates. Thus, the USD values for the Denmark and The Netherlands samples are estimates that are subject to historical fluctuations.
*This study used a broader definition.
†This represents median money spent for respondents who buy time.

Based on the buffering hypothesis, we predicted that buying time would protect people from the negative impact of time stress on life satisfaction. To examine this hypothesis, we entered time-saving purchases, time stress, and a Purchase × Time Stress interaction into a regression predicting life satisfaction. Across samples, there was a significant interaction between time-saving purchases and time stress, $Z = 3.85$, $P < 0.001$, 95% CI (0.06, 0.20). Deconstructing this interaction, time stress was associated with lower life satisfaction among respondents who did not spend money on time-saving purchases ($n = 1,504$), $B = -0.18$, $Z = 8.93$, $P < 0.001$, 95% CI (−0.22, −0.14). In contrast, for respondents who spent money on time-saving purchases ($n = 804$), the negative effect of time pressure on life satisfaction was relatively weak, $B = -0.03$, $Z = 1.46$, $P = 0.144$, 95% CI (−0.08, 0.01). These results suggest that using money to buy time indeed buffers people from the negative effects of time stress on well-being.

Presenting all respondents with identical spending questions allowed us to document comparable results across diverse samples. However, a limitation of this approach is that our results may depend on the wording of this specific question. To overcome this limitation, we presented a new sample of working adults in the United States ($n = 1,802$) with a broader definition of time-saving purchases to encompass any way in which respondents could spend money that would provide more free time (*SI Appendix*). Although the results above suggest that total income does not drive our results, it is possible that the decision to spend money on time-saving purchases might reflect, in part, respondents' level of discretionary income. As a result, we also

assessed respondents' spending on groceries as an index of nondurable spending (17) and we assessed respondents' spending on material and experiential purchases (18). If respondents who spend money on time-saving purchases are happier only because they have more discretionary income, then controlling for these other spending indicators should eliminate the beneficial effect of time-saving purchases.

Faced with our broader definition of time-saving purchases, 50% of respondents reported spending money in this way each month (mean$_{amount}$ = $80–$99 USD for respondents who reported buying time). In this study, the majority of respondents reported spending money to buy themselves out of cooking, shopping, and household maintenance.

Next, we tested our main hypotheses, which we preregistered through the Open Science Framework (OSF; https://osf.io/fvpg2/). Consistent with our previous findings, respondents who spent money on time-saving purchases reported greater life satisfaction, $\beta = 0.24$, $P < 0.001$. These results were unchanged, controlling for our predetermined set of covariates, $\beta = 0.23$, $P < 0.001$. These results also held controlling for how much money respondents spent on nondurable expenses (groceries), material goods, and experiential purchases, $\beta = 0.15$, $P < 0.001$.

In addition, we found evidence for our preregistered buffering hypothesis: entering time-saving purchases, time stress, and their interaction into a regression predicting life satisfaction revealed a significant Purchase × Time Stress interaction, $B = 0.22$, $P < 0.001$. Deconstructing this interaction, time stress was associated with lower life satisfaction among respondents who did not spend money on time-saving purchases ($n = 901$), $B = -0.17$, $P < 0.001$, 95% CI (−0.25, −0.10). For respondents who spent money on time-saving purchases ($n = 901$), the negative effect of time pressure on life satisfaction was not significant, $B = 0.05$, $P = 0.227$, 95% CI (−0.03, 0.12).

Across seven studies with over 6,000 respondents, spending money to buy time was linked to greater life satisfaction, and the typical, detrimental effect of time stress on life satisfaction was attenuated among individuals who used money to buy time. We suggest that this broad correlational link stems in part from the cumulative day-to-day benefits that are caused by the reductions in time stress that such purchases provide. To document this causal pathway, we conducted a 2-wk within-subjects experiment, examining whether spending money on time-saving services caused reductions in time pressure and improvements in daily mood.

Using a within-subjects design, we recruited working adults from Vancouver, Canada to spend two payments of $40 on two
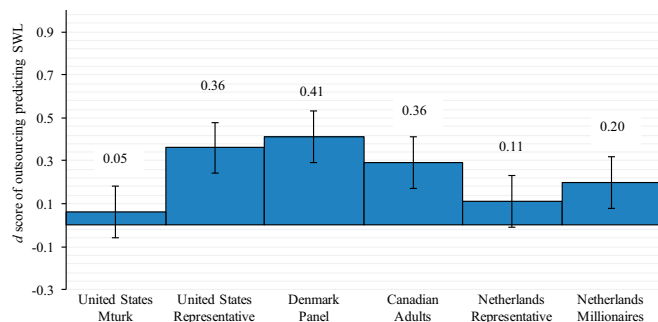
Fig. 1. The effect of time-saving purchases on life satisfaction across studies 1–6.

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consecutive weekends ($n = 60$). On one weekend, participants were randomly assigned to spend $40 on a purchase that would save them time. On the other weekend, to control for the experience of receiving and spending a windfall, participants were assigned to spend $40 on a material purchase. We chose this comparison because material purchases are unlikely to save time, which was confirmed by our manipulation checks (*SI Appendix, Additional Methodological Details & Results* for study 8). We counterbalanced the order of the spending weeks: results did not differ by order. After making each purchase, participants received a phone call at 5:00 PM and reported their feelings of positive affect, negative affect, and time stress on that day.

We preregistered our hypotheses through OSF (https://osf.io/4vcgp/). We hypothesized that people would report greater daily well-being after making a time-saving (vs. material) purchase, and that these benefits would be explained by reduced feelings of time-stress that day.

Consistent with our preregistered hypotheses, a paired-samples *t* test showed that participants reported greater end-of-day positive affect after making a time-saving purchase (mean = 4.00, SD = 0.64) than after making a material purchase (mean = 3.71, SD = 0.81), $t(59) = 2.57$, $P = 0.007$, 95% CI (0.10, 0.48), $d = 0.33$. After making a time-saving (vs. material) purchase, participants also reported lower levels of negative affect, $t(59) = -2.45$, $P = 0.009$, 95% CI (-0.45, -0.09), $d = 0.33$ and lower feelings of time stress, $t(59) = -2.76$, $P = 0.004$, 95% CI (-1.18, -0.29), $d = 0.36$ (Table 2). Moreover, these results could not be explained by other purchase characteristics, such as the extent to which the purchases were exceptional, useful, or high in status (*SI Appendix,* Table S26).

We also predicted that the beneficial effects of time-saving purchases on daily mood would be mediated by reduced feelings of time stress on that day. Our preregistered within-subjects mediational analyses (19) showed that the relationship between time-saving purchases and daily mood was indeed explained by reductions in perceived time stress (Fig. 2). That is, participants reported higher positive affect after making time-saving purchases, $B = 0.29$, SE = 0.11, $P = 0.013$, 95% CI (0.06, 0.52), and significantly lower feelings of time pressure after making time-saving purchases, $B = -0.74$, SE = 0.27, $P = 0.008$, 95% CI (-1.27, -0.20). After controlling for time stress, time-saving purchases were no longer a significant predictor of positive affect, $B = 0.18$, SE = 0.11, $P = 0.108$, 95% CI (-0.04, 0.41). Upon testing the significance of the indirect effect using bootstrap estimation with 10,000 samples, the indirect coefficient was significant, $B = 0.11$, SE = 0.06, 95% CI (0.02, 0.24). In sum, time-saving compared with material purchases increased positive affect by reducing feelings of time stress; the same pattern of results held for negative affect (*SI Appendix,* Figs. S2 and S3).

Discussion

Across several distinct samples, including adults from Canada, the United States, Denmark, The Netherlands, and a large sample of Dutch millionaires, buying time was linked to greater life satisfaction. These results held controlling for a wide range of demographics, as well as for the amount that respondents spent on groceries and material and experiential purchases each month. These results were not moderated by income, suggesting that people from various socioeconomic backgrounds benefit from making time-saving purchases. Furthermore, in a preregistered

Indirect Effect: 0.11(0.06) [0.02, 0.24]
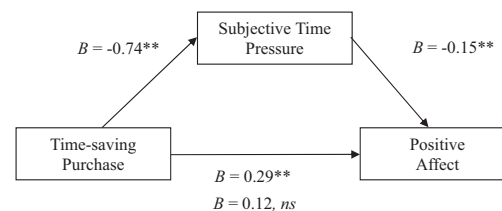
Note. All *B*'s represent unstandardized regression coefficients obtained through bootstrapping using 10,000 resamples. The range in brackets represents the 95% CI of the indirect effect.

†$p \leq .10$, *$p \leq .05$, **$p \leq .01$

Fig. 2. The effect of time-saving purchases on end-of-day positive affect through time pressure.

within-subjects experiment, making a time-saving purchase caused improvements in daily mood.

Why does buying time promote happiness? Our experiment provides the clearest window into this process, by demonstrating that people felt less end-of-day time pressure when they purchased time-saving services, which explained their improved mood that day. According to the broaden-and-build theory (20), improvements in daily mood should promote greater life satisfaction over time. Consistent with this idea, our correlational studies show that people who spend money on time-saving purchases report greater life satisfaction. Importantly, time pressure had little or no negative effect on life satisfaction for individuals who used money to buy time. Taken together, our findings suggest that using money to buy time may reduce feelings of time pressure on a given day and provide a cumulative benefit by serving as a buffer against the deleterious effects of time pressure on overall life satisfaction.

At first glance, it may seem surprising that there was no direct relationship between buying time and feelings of time pressure in our survey studies. Although we detected this link in our experimental study, this direct relationship should be difficult to observe in correlational designs: buying time should reduce time stress, but individuals with higher levels of preexisting time stress should also be more likely to buy time, potentially cancelling out the overall relationship between these variables. The identical pattern has been observed in research on social support: social support reduces feelings of stress, but individuals experiencing higher levels of stress are more likely to seek out social support (12). Furthermore, in correlational research, there has been substantial support for the buffering hypothesis: social support has been found to moderate the association between stress and well-being. Among individuals with relatively little social support, stress tends to show a negative association with well-being. Among those with higher levels of social support, stress tends to have a weak or zero association with well-being (12–14). Our research therefore provides evidence that a similar buffering process occurs in the context of support purchased through the market economy.

Buying time may serve as a buffer against the negative effects of time stress in part by enhancing perceived control. People often complain of being in a time bind not only because they are objectively busy, but also because they perceive a lack of control over their time (21, 22). Ironically, spending too much money on time-saving services could undermine perceptions of personal control, by leading people to infer that they are unable to handle any daily tasks, potentially reducing well-being. Consistent with this possibility, we found exploratory evidence that the beneficial relationship between buying time and life satisfaction may be curvilinear, reversing at the highest levels of spending on time-saving purchases (*SI Appendix,* Table S2).

Future research could also explore the boundaries of the relationship between buying time and life satisfaction across the income spectrum. Across studies, we found no consistent evidence

Table 2. Mean (SD) for end-of-day mood after time-saving and material purchases ($n = 60$ within-subjects study)

Affect measure	Time-saving	Material
End-of-day negative affect	1.38 (0.43)	1.65 (0.75)
End-of-day perceived time pressure	3.49 (1.64)	4.22 (1.72)

that the benefits of buying time are limited to relatively wealthy people. If anything, within our United States samples, we observed a stronger relationship between buying time and life satisfaction among less-affluent individuals (*SI Appendix*, Table S5). Our studies include relatively few people at the lowest rungs of the income spectrum, however, leaving open the supposition that the benefits of buying time would not emerge for individuals struggling to meet their own basic needs.

Despite the potential benefits of buying time, many respondents allocated no discretionary income to buying time, even when they could afford it: just under half of the 818 millionaires that we surveyed spent no money outsourcing disliked tasks. Our initial surveys used a narrow definition of buying time ("outsourcing disliked tasks"), but even when we broadened our definition in our preregistered survey study, half of our respondents still reported not using any money on "purchases that save time." Of course, some participants may have failed to accurately remember or construe how their recent purchases might have saved them time. Therefore, we asked an additional sample of 98 working adults how they would spend a windfall of $40 (using the identical prompt and the identical participant population from our experiment), and asked them to describe the intention of the purchase. Only 2.0% spontaneously reported that they would make a time-saving purchase (see *SI Appendix, Additional Results* for study 9).

These low rates may further vary as function of culture and gender. Within many cultures, women may feel obligated to complete household tasks themselves, working a "second-shift" (23) at home, even when they can afford to pay someone to help. In recent decades, women have made gains, such as improved access to education, but their life satisfaction has declined (24); increasing uptake of time-saving services may provide a pathway toward reducing the harmful effects of women's second-shift. To this end, some organizations have begun to reward employees with just such time-saving services. As part of a recent initiative, Stanford University conducted a small pilot study in which doctors were rewarded with vouchers for time-saving services. Doctors who received these vouchers reported better work–life balance (25) and retention rates increased, suggesting that organizations may benefit from rewarding employees with time. More broadly, in the face of an increasing time famine, organizations and policymakers could move beyond their focus on promoting financial affluence to promoting time affluence as well.

Materials and Methods

Studies 1–6. Is buying time linked to happiness? To provide an initial test of this question, we conducted six correlational studies with large and diverse samples, including Americans recruited from Amazon's Mechanical Turk (study 1), a representative sample of working Americans living in the United States (study 2), adults living in Denmark (study 3), adults living in Canada (study 4), a representative sample of adults living in The Netherlands (study 5), and a large sample of millionaires (study 6). Below we provide additional details about each study. See *SI Appendix*, Table S1 for more information about the measures used in each study. See *SI Appendix*, Table S2 for the regression results reported separately for each study. Across studies, unless otherwise noted, respondents rated their life satisfaction using the identical two items. First, respondents answered the question, "Taking all things together, how happy would you say you are?" on a scale from 0 = *Not at all* to 10 = *Extremely*. Next, respondents completed the Cantril Ladder. For this question, respondents were asked to report where they currently stand in life on a ladder spanning from the worst possible to the best possible life imaginable (0 = *Bottom Rung* to 10 = *Top Rung*). We selected these questions because they are brief measures that are used extensively in large-scale survey research (24). The datasets used in studies 4–6 included several items from a recently validated measure of time stress (4); participants rated their agreement with statements, such as "I feel pressed for time today" on a Likert scale from 1, *Strongly Disagree* to 7, *Strongly Agree*. To capture this construct in our confirmatory studies, we included the top-three highest loading items from a more frequently used measure, the time affluence subscale of the Material Affluence and Time Affluence scale (MATAS) (11). On the same seven-point scale, participants rated their agreement with statements such as "There have not been enough minutes in the day." See *SI Appendix*, Table S3 for the specific items used across studies.

Study 1. We first conducted an initial exploratory study assessing the relationship between buying time and SWL with Americans recruited from Amazon's Mechanical Turk (*n* = 366). Respondents completed the two life satisfaction items (see Table 1 for reliabilities). Respondents then completed the two time-saving purchase questions of interest, demographic items, and several tertiary measures (*SI Appendix*, Table S1).

Study 2. We examined the relationship between buying time and SWL in a representative sample of working Americans living in the United States through the GfK Knowledge Networks Panel. Over an 11-d fielding period, 1,275 respondents completed our survey. Fifteen respondents did not complete our key variables of interest; thus, our primary analyses are based on 1,260 respondents. Panel members respond to an average of two online surveys per month and receive small cash rewards and prizes for survey completion (www.gfk.com). GfK uses equal probability sampling to recruit potential panel members by mail and phone and provides respondents in noninternet households with free internet access. This allows GfK to recruit a statistically representative sample of the United States population. We selectively recruited GfK respondents who reported being working and who were 19 y of age or older at the time of completing the initial GfK demographic profile. Consequently, our respondents approximate a representative sample of working adults over 19 in the United States. It is worth noting that some respondents may not have had US citizenship, and that this study did not include younger or unemployed individuals. Respondents first reported their SWL. Respondents then completed the two buying-time questions and the key demographic covariates of interest (*SI Appendix*, Table S1). Respondents also completed measures outside the scope of the current investigation (see ref. 26 for more information).

Study 3. We then examined the relationship between buying time and SWL in a sample of Danish adults. These data were collected by the Happiness Research Institute in Copenhagen. In this survey, respondents first reported their SWL using items from studies 1 and 2. Next, respondents completed our buying-time questions, demographics, and other tertiary questions (*SI Appendix*, Table S1).

Study 4. We also examined the relationship between buying time and SWL among a sample of working adults from Vancouver, Canada. We recruited participants from public places, including train stations and public parks. Consistent with study 1, we targeted 300 participants and recruited more participants than planned because the research assistants worked set data-collection schedules. As discussed in text, in studies 4–6 we also included a measure of time stress. This allowed us to examine whether buying time helped to protect people from the impact of time stress on SWL. Respondents completed the identical SWL items from our previous studies. Next, respondents reported on their feelings of time stress (4). Respondents then completed the two buying-time questions of interest. Respondents also provided demographic information (*SI Appendix*, Table S1).

Study 5. Studies 5 and 6 were collected as part of a larger study examining philanthropy in The Netherlands (27). In this study, we used data from a nationally representative sample of Dutch adults. This sample was recruited via TNS NIPO, one of the leading survey agencies in The Netherlands (27).

In this study, respondents completed the one-item Cantril Ladder. Next, participants reported their feelings of time stress (4). Respondents then completed several measures that are outside the scope of the current investigation and completed the two key buying-time questions. At the end of the survey, respondents answered our key demographic questions of interest.

Study 6. We also recruited a sample of high net-worth Dutch adults relying on a database constructed by Elite Research based on public records (28). The methods and questions used in study 6 were identical to those used in study 5.

Study 7. After completing studies 1–6, we conducted a preregistered study examining the relationship between time-saving purchases and SWL (https://osf.io/9kc9g/). We recruited working Americans over the age of 19 y through Qualtrics, a professional survey company. Qualtrics oversampled to meet their internal standards for data quality. Because Qualtrics' internal standards were not part of our preregistered inclusion criteria, we used the full sample that met our preregistered inclusion criteria (*n* = 1,802). First, respondents completed the identical SWL items from studies 1–5 (α = 0.85). Respondents also completed three measures assessing time stress (α = 0.74). As a measure of discretionary income, respondents were asked to report how much money they spent on groceries each week. Respondents then reported whether they spent any money in a typical month on material purchases for themselves, on

experiences, and on time-saving purchases. We used the identical wording for the material and experiential questions from previously published research (18). We randomized the order of the material, experiential, and time-saving purchase questions. If respondents spent money in these categories in an average month, respondents were then asked how much money they spent in a typical month on each type of purchase. Finally, respondents completed our demographic questions-of-interest and completed questions for an unrelated study. The full survey items for this study are available through the OSF (https://osf.io/vr9pa/).

Study 8. We also examined whether buying time causally promoted happiness. To examine this question, we recruited a sample of working adults from Vancouver, Canada ($n = 60$). We preregistered our data-collection stopping rule, methods, and a priori predictions through the OSF (https://osf.io/ambdk/). During 1 wk of the study, participants were instructed to spend a $40 payment on a material purchase for themselves. During another week of the study, participants were instructed to spend a $40 payment on a purchase that would save them time. We counterbalanced the order of the spending weeks; results did not differ by order. After making each purchase, participants received a phone call at 5:00 PM, and they were asked to report on their feelings of positive affect, negative affect, and time-stress. As a manipulation check, we asked participants to report how much time they had saved by making each purchase. Participants also completed several questions about their purchases each week.

At 9:00 AM on their scheduled spending day, participants received an e-transfer from the research assistant in charge of the study. At 5:00 PM, a trained research assistant called the participant and asked them several questions about their positive and negative affect, their current feelings of time affluence, and their spending experience. We also asked participants to email their receipts to our study team to confirm that they had spent in a way consistent with their spending guidelines. Participants were not allowed to complete week 2 of the study if they did not correctly follow the week 1 instructions: eight participants spent incorrectly in week 1 and were excluded. Of these eight participants, six participants failed to spend any money on their scheduled spending day (four of the six participants were assigned to the time-saving purchase) and two participants spent incorrectly (one in the time-saving and one in the material purchase condition).

Sample size considerations. Because of budgetary constraints, we could only collect a maximum of 90 completed observations. This sample size would provide 95% power to detect a small effect ($d = 0.30$) of purchase type on well-being. Because of the high cost of this research ($80 per participant), we performed sequential analyses. This procedure is common in medical research and allows researchers to examine the data as it is being collected, without inflating type 1 errors. We performed a one-sided interim analysis after collecting 60 participants. Using this approach, we collected 60 participants and assessed whether the key analyses fell below our preregistered boundary conditions of 0.0465/1.6794. Our interim analyses met this predetermined threshold. We terminated data collection at $n = 60$, as per our preregistered stopping rule posted through

the OSF. Because our hypotheses were directional, we planned to use one-tailed tests. All results also remain significant using two-tailed tests.

Measures. In this study, we assessed subjective well-being by asking participants to complete the 12-item scale of positive and negative experience after making their purchase each week (material purchase week positive affect: $\alpha = 0.88$, material purchase week negative affect: $\alpha = 0.88$; time purchase week positive affect: $\alpha = 0.86$, time purchase week negative affect: $\alpha = 0.77$). To assess participants' feelings of time affluence each week, we asked participants to complete four items from the MATAS (material purchase week MATAS: $\alpha = 0.88$, time purchase Week MATAS: $\alpha = 0.87$). As a manipulation check, we asked participants to report how many minutes that their purchases saved. We also asked participants to report on whether they felt as if their purchase had cost or saved time using one-item scale ranging from $-3 =$ *Cost a lot of time overall* to $3 =$ *Saved a lot of time overall*. We then asked participants to report how they had spent any free time that resulted from making each purchase. It is possible that the time-saving and material purchases could differ in various ways. Thus, we asked participants to respond to a standard set of purchase characteristics from previously published research (18). Each week, participants were asked to report how exceptional, useful, helpful, fun, and high in social status each of the purchases were. Because time-saving purchases could result in participants feeling higher in social status themselves, participants were also asked to rate their subjective social status each week.

Study 9. We provided the experimental instructions to a new set of working adult participants ($n = 98$) who were recruited using the identical recruitment strategies as in study 8. We asked participants to report what they would purchase if they received a $40 windfall in the upcoming week. We also asked participants to report on the intention of this purchase and on the recipient of this purchase. Two of the authors used participants' responses to code whether each purchase could be defined as a material purchase, a time-saving purchase, an experiential purchase, or a prosocial purchase (each purchase could be classified as more than one type of purchase). For the full results of this study, see *SI Appendix, Additional Results*.

We obtained informed consent from all respondents before their participation. These studies were approved by the research ethics boards at the University of British Columbia and the Harvard Business School. All study data and study materials are available through the OSF (https://osf.io/vr9pa/).

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