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In 2011, *Time Magazine* rated the sharing economy as one of the top 10 ideas that would change the world. Today, the possibility of outsourcing just about anything from grocery shopping, to dog walking, to standing in line for the latest iPhone is only a few clicks away. Companies such as *TaskRabbit* and *Hello Alfred* enable customers to outsource nearly any household chore by connecting people who need tasks done with people who have time to do them. With the growing popularity of the sharing economy, it has never been easier for consumers to outsource their most dreaded tasks to others. Yet, despite the rise of the sharing economy, very little is known about when individuals decide to 'buy time.'

Given that people today feel increasingly pressed for time (Rheault, 2011), it is important to understand when individuals decide to spend money on time-saving purchases in their daily lives and to select time-saving rewards at work. Large-scale survey data suggests that working adults around the world feel like they have too many things to do and not enough time to do them (Hamermesh & Lee, 2007). In a 2016 Pew Survey, 60% of working parents in the US “always” felt rushed. In a recent Gallup survey, most working adults in the US—both with and without children—reported wishing that they had more time to spend with their friends and family (Saad, 2014). Employees who feel overwhelmed with the demands of work and life report lower happiness (Kasser & Brown, 2009) and are more prone to feelings of depression and anxiety (Roxburgh, 2004).

Benefits of buying time

Recent research provides evidence that time-saving services can promote happiness and reduce stress (Whillans, Dunn, Bekkers, Smeets & Norton, 2017). In surveys conducted with working adults from Canada, Denmark, the US, and the Netherlands ($N = 6,613$), respondents who spent money on time-saving purchases, such as by outsourcing their disliked tasks to

others, reported greater satisfaction with their lives (Whillans et al., 2017). These effects held across the income spectrum: even respondents with very little discretionary income reported greater well-being when they spent money on time-saving purchases. In a related experiment, participants reported greater positive mood after spending \$40 on a time-saving purchase (e.g., grocery delivery) as compared to after spending \$40 on a material purchase for themselves, in part because time-saving purchases protected people from the negative impact of time-stress.

Following from these findings, organizations have started to reward employees with time-saving services. As part of a recent initiative, Stanford University conducted a small pilot study where they rewarded busy doctors with vouchers for time-saving services such as grocery delivery and housecleaning (Fassiotto et al., 2018). Doctors who received vouchers for time-saving services reported greater work life balance, received more awards, and were less likely to quit as compared to matched controls. These results suggest that organizations might benefit from offering and then encouraging employees to redeem for time-saving rewards.

Despite the psychological and productivity benefits of time-saving services, people often fail to spend money on these services even when they can afford to do so. In a nationally representative sample of employed Americans living in the US ($N = 1,265$), only 17% of respondents spent money on time-saving services; yet, 99% of respondents could think of a disliked task that they wanted to outsource such as cooking, cleaning, or shopping (Whillans et al., 2017). An obvious explanation for these findings is that respondents could not afford to make these purchases. However, even among the over 800 millionaires surveyed as part of this research, only 52% reported spending any money to outsource their disliked tasks.

Similar patterns emerge in the workplace. When employees are provided with the choice between material goods and time-saving services, they often select material goods. In a recent

study conducted with 77 US companies that offered time-saving rewards to employees, only 3.2% of employees redeemed their reward points for these services, whereas 67% of employees redeemed their reward points for material goods (In this study, 18% of employees redeemed for experiences and 13% of employees donated their reward points to charity; Whillans, Dunn & Norton, 2018). Even though the reasons that prevent people from using time-saving services in daily life and from redeeming time-saving rewards at work are unknown, one possibility is that there are psychological barriers that prevent people from using these services.

Consistent with this proposition, recent research sheds light on psychological factors that might prevent people from spending money to save time (see Mogilner, Whillans & Norton, 2018 for a recent review). For example, one well-documented reason that people do not spend money on time-saving services is because of future time slack—people often fail to realize that they will be as busy in the future as they are in the present moment (Zauberman & Lynch, 2005; 2009). Following from these findings, people are more likely to make time-saving purchases when they are prompted to see their future as more similar to the busy present (Whillans, Dunn & Norton, 2018). These results point to the role of future time slack in helping to explain why people often fail to make time-saving purchases.

Guilt as an Unexplored Barrier to Buying Time

Building on this research, we propose a previously unexplored barrier to making time-saving purchases: feelings of guilt. Although no quantitative research has examined guilt as a barrier to buying time, qualitative research points to the role of guilt in making time-saving purchases such as couples' decisions about whether to outsource childcare (Epp & Velagaleti, 2014). Relatedly, we conducted a short survey of $N=153$ employed Americans. In this survey, respondents who were familiar with TaskRabbit and Amazon, and had both services

available, were asked to make a hypothetical choice between receiving an \$80 Amazon gift card or an \$80 TaskRabbit gift card from their employer. Replicating past research, nearly all respondents selected the Amazon Gift Card (99%). Most central to our argument, many respondents (52%) stated that the primary reason they chose the Amazon gift card was because they felt guilty about burdening a service provider with their household chores.

Following from these results, more broadly, we propose that time-saving purchases promote feelings of guilt because these purchases typically involve burdening other people with our own disliked tasks. Of course, the strength of this feature varies within purchase category: time-saving purchases vary in the extent to which they highlight the effort of the service provider. For example, housecleaning services often involve directly outsourcing to a specific other person, whereas purchasing pre-cooked meals less directly involves the effort of a specific other person. People themselves may also vary in the extent to which they see the effort of time-saving purchases as a benefit (vs. burden) to the service provider.

To begin to unpack these issues, we turned to the social support literature. Research in social psychology shows that receiving social support from close romantic partners is most beneficial when support is *invisible*. That is, people benefit most when their partner provides social support, but they themselves do not take notice. In a seminal study, individuals faced with a major stressor (e.g., increased workload) adjusted more successfully when their partners reported providing social support, but they themselves did not report receiving social support (Bolger, Zuckerman & Kessler, 2000). Furthermore, experimental research shows that supportive behaviors are most effective when these behaviors are accomplished without the recipients' awareness (Bolger & Amarel, 2007). The receipt of visible social support can create feelings of indebtedness, and most critically to our argument, can increase feelings of

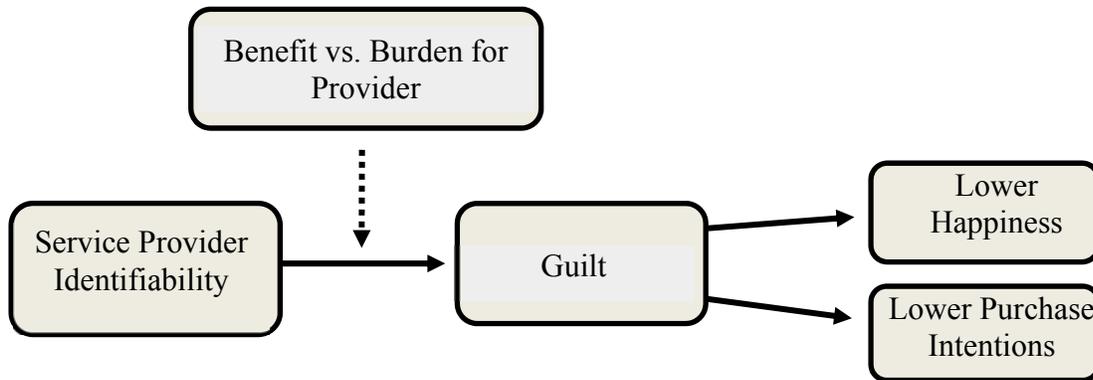
guilt (Bolger & Amarel, 2007; Gleason, Iida, Bolger, & Shrout, 2003).

Further indirect evidence for the idea that people might fail to buy time because they feel guilty about burdening the service provider comes from research on the identifiable victim effect. This research shows that people experience greater emotional distress when they are faced with the suffering of a specific, identifiable person vs. the suffering of a broad group (Kogut & Ritov, 2005a; Small & Loewenstein, 2003). People exhibit greater concern about a single individual in need of medical help than about an unidentified group of people in need of help. Extrapolating from these findings, we propose that people may feel elevated discomfort about buying their way out of disliked tasks when doing so entails assigning the task to an identifiable service provider. These feelings of discomfort should emerge to the extent that individuals believe that they are inflicting suffering on this identifiable individual. For example, people may experience more discomfort from purchasing a housecleaning service vs. a pre-cooked meal that only involves reheating the meal—both purchases might save approximately the same amount of time, but only the housecleaning service involves delegating a disliked task to a specific, identifiable person.

The experience of discomfort that people may experience when outsourcing disliked tasks to others is likely to manifest as guilt. Feelings of guilt are a painful affective experience that encompass remorse, self-blame, and regret (Mosher, 1980). People who feel guilt are often reacting to a specific situation where they feel personally responsible for negative outcomes inflicted on others (Tangney et al., 1996). Because people feel heightened emotional distress when faced with identifiable targets (Small & Loewenstein, 2003) and experience guilt when asking other people for assistance in daily life (Bolger & Amarel, 2007), we predicted that the feelings of guilt that arise when faced with making time-saving purchases that involve specific, identifiable service providers would suppress the happiness people experience from buying time. We also predicted that the guilt that arises from considering time-saving purchases that involve

identifiable service providers would undermine individuals' willingness to spend money on these services. Finally, we proposed that viewing time-saving services as a benefit (vs. burden) to the service provider would mitigate feelings of guilt (Figure 1).

Figure 1. Conceptual Model Linking Effort-visibility to Greater Feelings of Guilt



Overview of Studies

To examine the role of guilt in predicting individuals' happiness and their intentions to make time-saving purchases, we conducted two large-scale survey studies (Study 1a and 1b). In these studies, we examined whether time-saving purchases that involved a specific, identifiable service provider were associated with greater feelings of guilt, undermining the happiness that individuals expected to receive from time-saving purchases and their intentions to spend money on these purchases ($N = 1,150$). We also examined whether believing time-saving services were a benefit (vs. burden) to the service provider reduced these feelings of guilt.

To rule out any potential confounds that might result from the spontaneous recollection of time-saving purchases, we designed a novel lab paradigm to examine the causal role of identifiability on feelings of guilt. We used this lab paradigm to examine whether knowing that a task is being completed by a specific individual would provoke feelings of guilt, undermining

individuals' willingness to spend discretionary income to have more free time (Study 2).

To provide causal evidence that perceptions of the benefit (vs. burden) of time-saving purchases for the service provider would mitigate feelings of guilt, we conducted an additional experiment (Study 3). In Study 3, we adapted ads from the website of a sharing economy company, *Hello Alfred*, which offers time-saving services for people to purchase at home and employees to redeem at work. We randomly assigned some participants to view advertisements that focused on the benefits of the purchase for the service provider. Other participants viewed advertisements that focused on the benefits of the purchase for the consumer. Following from the results of our correlational and experimental studies, we predicted that ads highlighting the benefits of the purchase for the service provider would mitigate feelings of guilt.

To examine the relationship between guilt, happiness, and intentions to buy time, we triangulated across multiple methodologies. We utilized large-scale survey data, developed a new lab paradigm, and conducted an experiment with a diverse sample of working adults. The detailed demographic characteristics of participants from each study are presented in Table 1. Across studies, we follow the standards proposed by Simmons, Nelson, and Simonsohn (2011): we reported all exclusions, every measure given, and the stopping rule for each study.

Overview of Studies 1a&b

In Study 1a, we conducted a brief survey to examine whether service provider identifiability was associated with greater feelings of guilt. We then examined whether these feelings of guilt were associated with lower anticipated happiness and lower intentions to spend money to outsource disliked tasks. In Study 1b, we sought to replicate the results of Study 1a using a larger, representative sample of employed Americans living in the US.

Participants

In Study 1a, we targeted a sample of approximately 300 respondents. This decision

was based on research suggesting that correlations stabilize at this sample size (Schonbrodt & Perugini, 2013). This sample size also ensures adequate statistical power to detect small to medium effects (Fraley & Vazire, 2014). Given the practical implications of this research for individuals and companies, we were uninterested in detecting effects representing less than a small to medium effect. In Study 1a, we succeeded in recruiting 309 working adults over the age of 19 through the professional survey company Qualtrics (51% female; Md_{age} =35-44 years old). See Table 2a for the correlation table of all variables assessed in Study 1a.

Measures

Outsourcing. To help respondents think about spending money on a time-saving purchase, we asked respondents to write down a task that they disliked doing and that they would like to buy themselves out of. Respondents replied to the following question: “If you could buy your way out of completing one task that you dislike doing, what task would this be (e.g., household chores, shopping)?” (Whillans et al., 2017). Next, we asked respondents to describe in 1-2 sentences how they would arrange to buy themselves out of this task.

Mood. Respondents reported how much guilt they felt when thinking about buying themselves out of this task (0 = *Not Guilty*, 100=*Guilty*). Respondents also reported how happy they felt when thinking about buying themselves out of this task (0 = *Not Happy*, 100 = *Happy*). We adapted these measures from previous studies using single-item measures to assess in-the-moment mood (e.g., Anik et al., 2013; Killingsworth & Gilbert, 2008).

Service Provider Identifiability. We asked respondents to report whether they thought about the specific person who would complete this task on their behalf. Respondents indicated whether “they thought about the person(people) who would have to complete this task on their behalf” or whether “they did not think about the person(people) who would have to complete

this task on their behalf.” This measure allowed us to determine whether respondents spontaneously considered a time-saving purchase that involved outsourcing to a specific other person (identifiable purchase) or whether respondents did not spontaneously consider a purchase that involved outsourcing to a specific other person (unidentifiable purchase). It is worth noting we asked this question at the end of the survey, to ensure that eliciting people’s responses did not contaminate the mood and intentions questions asked as part of this survey.

Buying Time Intentions. To capture intentions to buy time, respondents reported their agreement with three items assessing willingness to spend money to buy themselves out of this task on a scale from -5 = *Strongly Disagree*, 0 = *Neither Agree or Disagree*, 5 = *Strongly Agree*. E.g., “I plan to buy myself out of this task in the near future” ($\alpha = 0.96$; Grant, 2008).

Burden vs. Benefit. Respondents who thought about an identifiable (vs. unidentifiable) service provider were asked about the perceived benefits (vs. burden) they were causing this person. Respondents were asked “to what extent did you think that you would be burdening vs. benefiting this person(people)?” from -50 = *Burdening*, 0 = *Neither*, +50 = *Benefitting*.

Covariates. Respondents reported their age, gender, experience with buying time (i.e., whether they spent money to buy time), whether they were married, how many of their children were currently living with them, as well as their annual income. We selected these covariates based on previous research examining time-use and well-being (e.g., Hershfield, Mogilner, Barnea, 2016; Mogilner, 2010).

Moderators. In this study, we also examined whether any of our results were moderated by relevant individual differences including working class background, gender, and protestant work ethic. We did not observe consistent, reliable moderating effects of these demographic characteristics across studies. To promote readability, these additional analyses from Studies

1a-Study 3 are reported in the Supplemental Online Material (SOM).

Results Overview

We first examined whether respondents who spontaneously considered the specific other person who would have to complete the disliked task on their behalf reported greater anticipated guilt when thinking about buying themselves out of their disliked task than those who did not. We then examined whether higher feelings of guilt undermined respondents' anticipated happiness and purchase intentions.

Main Effects

Identifiable Service Provider. In this study, 68% of respondents considered a buying time opportunity that involved a specific other person; whereas 32% of respondents considered a buying time opportunity that did not involve a specific other person. People who reported making purchases from an identifiable service provider wanted to make purchases such as “hiring a maid service,” “hiring someone to clean the windows,” and “hiring a professional landscaper.” People who reported on purchases in the absence of identifying a specific service provider wanted to make purchases such as “paying to outsource my grocery shopping,” and “hiring a lawn mowing service.” Descriptively, the purchases that people considered when thinking about identifiable vs. unidentifiable service providers were similar in content; however, the critical difference was that respondents explicitly reported that they thought about the specific other person who would have to complete the disliked task on their behalf.

Guilt. Consistent with our theorizing, respondents who thought about the other person who would have to complete the disliked task on their behalf felt greater guilt when thinking about buying themselves out of the task ($M = 34.63$, $SD = 30.93$) as compared to

respondents who did not think about the person who would have to complete the task on their behalf ($M = 21.03$, $SD = 28.19$), $t(206.07) = 3.83$, $p < .001$, 95%CI [6.59, 20.61].

Reporting these results in regression, respondents who thought about the person who would have to complete the disliked task on their behalf reported greater guilt as compared to respondents who did not think about the person who would have to complete the disliked task on their behalf, $B = 13.60$ (3.68), $\beta = 0.21$, $p < .001$, 95%CI of B [6.36, 20.84]. These results held controlling for our predetermined set of covariates (age, gender, whether respondents spent money on time-saving purchases in a typical month, marital status, number of kids living at home, and personal income), $B = 11.87$ (3.82), $\beta = 0.18$, $p < .001$, 95%CI of B [4.35, 13.38].

Happiness. Next, consistent with our proposed conceptual framework (Figure 1), we examined whether there was a significant indirect effect, such that to the extent that identifiable purchases influenced feelings of guilt, these purchases undermined respondents' anticipated happiness. Consistent with this hypothesis, respondents who considered purchases completed by identifiable service providers experienced greater feelings of guilt, which in turn undermined respondents' anticipated happiness from buying themselves out of their disliked task, *indirect effect* = -3.30 (1.17), 95%CI [-6.20, -1.45]. These results held controlling for our pre-determined set of covariates, *indirect effect* = -3.07 (1.21), 95%CI [-5.72, -1.02].

Intentions. We then examined whether there was a significant indirect effect, such that to the extent that identifiable purchases influenced feelings of guilt, these purchases undermined purchase intentions. Consistent with this hypothesis, respondents who considered services completed by identifiable providers experienced greater guilt, which in turn undermined respondents' intentions to buy themselves out of this disliked task in the near future, *indirect*

effect = -0.23 (0.11), 95%CI [-0.50, -0.07]. Again, these results held controlling for our predetermined set of covariates, *indirect effect* = -0.22 (0.10), 95%CI [-0.49, -0.08].

Outsourcing as a Benefit vs. Burden. We restricted our analyses to people who spontaneously considered identifiable time-saving purchases ($N = 211$). We then examined whether respondents who viewed outsourcing their task as a benefit (vs. burden) to the service provider would report lower feelings of guilt, greater anticipated happiness, and greater intentions to buy time. Consistent with these hypotheses, respondents who reported that outsourcing the task was a benefit (vs. burden) for the service provider felt less guilt $r(211) = -0.19, p = .006$, greater anticipated happiness, $r(210) = 0.32, p < .001$, and greater intentions to spend money to outsource their disliked task in the near future, $r(211) = 0.15, p = .035$. Conducting indirect effect analyses, respondents who reported that outsourcing was a benefit (vs. burden) to the service provider reported lower feelings of guilt, which in turn was associated with greater anticipated happiness, *indirect effect* = 0.04 (0.03), 95%CI [0.01, 0.12] and greater intentions to spend money to outsource their disliked task in the near future, *indirect effect* = 0.04 (0.02), 95%CI [0.02, 0.10]. These results held controlling for covariates.

Study 1b Participants and Procedure

In Study 1b, we conducted a pre-registered replication of Study 1a by recruiting a nationally representative sample of employed Americans living in the US ($N = 805$) through the survey company Qualtrics (47.6% women; see Table 1 for demographics). Participants completed the identical items from Study 1a, including individual difference measures (gender, social class, and protestant work ethic; see SOM). See Table 2b for a correlation table of all variables examined. Following from the results of Study 1a, we pre-registered three central

hypotheses. The pre-registration is available through the OSF (<https://osf.io/eyfb4/>).¹

We predicted that respondents who spontaneously reported time-saving purchases that involved the effort of a specific and identifiable service provider would report greater feelings of guilt when thinking about buying themselves out of their disliked task. We predicted that these greater feelings of guilt would in turn undermine anticipated happiness from the purchase and intentions to make a time-saving purchase.

To account for potential individual differences in respondents' previous experience with outsourcing, we pre-registered controlling for whether respondents reported that their parents typically spent money to outsource their disliked tasks while they were growing up, and for respondents' recent experiences with buying time. We conducted all analyses below controlling for our pre-registered set of covariates (age, gender, number of kids living at home, marital status, personal income, and outsourcing experience). We also pre-registered hypotheses about moderators (gender, social class, and protestant work ethic; see SOM).

Results

Identifiable Service Provider. In this study, 64% of respondents spontaneously considered a buying time opportunity that involved a specific person; 36% of respondents spontaneously considered a buying time opportunity that did not involve a specific person.

Guilt. As predicted, respondents who thought about the specific person who would complete the task on their behalf reported greater feelings of guilt ($M = 40.83$, $SD = 32.81$) as compared to people who did not think about the specific person who would complete the task on their behalf ($M = 28.24$, $SD = 29.49$), $t(686.16) = 5.71$, $p < .001$, 95%CI [8.26, 16.92].

¹ In response to previous suggestions to clarify our terminology, in text we refer to time saving purchases that involve outsourcing to a specific, identifiable individual as “identifiable” purchases. In the pre-registration, we refer to these purchases as “effort-visible.”

Reporting these results in regression, respondents who thought about the specific person who would complete the disliked task on their behalf reported greater feelings of guilt when thinking about buying time as compared to respondents who did not think about the specific person who would have to complete the task on their behalf, $B = 12.59 (2.07)$, $\beta = 0.19$, $p < .001$, 95%CI of $B [8.94, 17.06]$. These results held controlling for the pre-registered covariates described above, $B = 9.11 (2.30)$, $\beta = 0.14$, $p < .001$, 95%CI of $B [4.60, 13.62]$.

Happiness. Consistent with our pre-registered analytic plan, we examined whether feelings of guilt that arise from identifiable time-saving purchases in turn undermine the anticipated happiness that respondents expect to receive when buying time. Consistent with this prediction, respondents reported greater feelings of guilt when they thought about outsourcing to a specific person, which in turn undermined respondents' anticipated happiness, *indirect effect* = $-1.40(0.40)$, 95%CI $[-2.32, -0.74]$. These results held controlling for our pre-registered set of covariates, *indirect effect* = $-1.13 (0.38)$, 95%CI $[-2.04, -0.51]$.

Intentions. Consistent with our pre-registered analytic plan, we examined whether feelings of guilt that arise from identifiable time-saving purchases in turn undermine respondents' intentions to buy themselves out of their disliked tasks. Consistent with this prediction, respondents reported greater feelings of guilt when they thought about outsourcing to a specific person, which in turn undermined their intentions to buy themselves out of this disliked task, *indirect effect* = $-0.11 (0.05)$, 95%CI $[-0.22, -0.02]$. These results held controlling for pre-registered covariates, *indirect effect* = $-0.07 (0.04)$, 95%CI $[-0.15, -0.01]$.

Benefit vs. Burden. As per our pre-registered analyses plan, we also examined whether respondents who thought about a time-saving purchase that involved outsourcing to a specific person would report lower feelings of guilt if they viewed outsourcing the task as a benefit (vs.

a burden) to the service provider. Consistent with Study 1a, respondents who reported that outsourcing the task was a benefit (vs. burden) for the service provider reported lower feelings of guilt, $r(537) = -0.11, p = .010$, greater anticipated happiness, $r(537) = 0.29, p < .001$, and greater intentions to outsource their disliked task in the near future, $r(537) = 0.20, p < .001$. Respondents who reported that outsourcing was a benefit (vs. a burden) to the service provider reported lower feelings of guilt, which in turn predicted greater anticipated happiness, *indirect effect* = 0.05(0.01), 95%CI [0.02, 0.10]. These results held controlling for our pre-registered covariates, *indirect effect* = 0.02(0.01), 95%CI [0.01, 0.04]. Respondents who reported that outsourcing was a benefit (vs. a burden) to the service provider reported lower feelings of guilt, which in turn, predicted greater intentions to outsource the disliked task, *indirect effect* = 0.02(0.01), 95%CI [0.04, 0.01]. These results held controlling for our key covariates of interest, *indirect effect* = 0.01(0.01), 95%CI [0.002, 0.01].

Discussion of Studies 1a&b

Across Studies 1a and 1b, we examined the role of guilt in predicting respondents' anticipated happiness and their intentions to spend money on time-saving purchases. Across studies, respondents who spontaneously thought about the specific person who would have to complete the task on their behalf (identifiable purchase) reported significantly higher feelings of guilt as compared to respondents who did not spontaneously consider the person or people who would have to complete the task on their behalf (unidentifiable purchase). Across studies, greater feelings of guilt undermined respondents' anticipated happiness. Feelings of guilt also undermined respondents' intentions to spend money to outsource their disliked tasks in future.

Critically, the results of these studies could not be explained by previous experiences with spending money to outsource disliked tasks or by demographic factors such as income. We did

not find reliable evidence that these results were moderated by individual differences such as gender, social status, or protestant work ethic (see SOM). In Study 1b, we found initial evidence that women reported lower intentions to spend money to outsource their disliked tasks, in part because they believed these tasks would be more of a burden (vs. benefit) for the service provider (results reported in the SOM). However, we did not replicate these findings in our subsequent studies, therefore these results should be interpreted with caution. In contrast to our predictions, people of higher social status (vs. lower social status) felt greater guilt when thinking about outsourcing a disliked task. Once again however, these results did not replicate in subsequent studies and should be interpreted with caution (results reported in SOM).

As proposed in the Introduction, across Studies 1a and 1b, respondents' feelings of guilt were moderated by how much the respondent felt as if they were benefitting (vs. burdening) the service provider. These results are consistent with research on social support (Bolger & Amarel, 2007) and with research on the identifiable victim effect (Kogut & Ritov, 2005a). Overall, the results of Study 1a and 1b suggest that people spontaneously think about the involvement of other people when making time-saving purchases. Although we found some evidence that the perceptions of others' involvement positively predicted purchase intentions (Figures 2 & 3), these perceptions also had a cascade of psychologically detrimental effects, including greater feelings of guilt, lower anticipated happiness, and lower intentions to buy time.

Of course, because of the correlational nature of these data, it is not possible to rule out alternative explanations. People who think about purchases made by identifiable service providers might think about tasks that are more unpleasant or that they are more able to complete themselves, which could help to explain why people who recalled purchases that involve specific, identifiable service providers experienced greater feelings of guilt. In Study 2,

to rule out potential confounds, we developed a lab paradigm to explore the causal relationship between identifiable time-saving purchases, feelings of guilt, and purchase decisions.

Development of a Buying Time Paradigm

In developing this paradigm, our goal was to mirror real-world dilemmas where people must first decide whether to spend discretionary income to have more free time. Similar lab paradigms have been developed to study the psychological consequences of resource scarcity (Shah, Mullainathan, & Shafir, 2012) and the fundamental tendency for people to earn more than they can consume (Hsee, Zhang, Cai, & Zhang, 2013).

In the first part of this online paradigm, participants are asked to complete an e-task in which they are asked to copy letter strings containing the letter “e” into a new browser window (see also Greenberg, 1977). This task is meant to mimic the boring, mundane chores that chip away at free time in daily life. Participants are provided with monetary compensation for completing this initial e-task that they are not expecting to receive at the outset of the study, providing participants with income that they can spend at their discretion.

Participants are then faced with a choice: they can continue to complete the boring “e-task” for another 30 minutes, or they can pay their earned income to buy themselves out of this task (leaving them with 30 minutes of free time). By administering this study online instead of in the lab, participants can have 30 minutes of time to spend at their own discretion, mirroring the real-world situation of spending money to have more free time. In a pilot study that we conducted with college students at a large research focused institution ($N = 60$), participants were approximately equally as likely to keep the cash (54%) as they were to choose the time-off (46%), $\chi^2(1, 59) = 0.76, p = 0.383$. Critically, students who chose the free-time reported higher levels of happiness at the end of the 30 minutes ($M = 77.07, SD = 18.40$) as compared to

students who chose to complete the task and keep the \$5 ($M = 56.33$, $SD = 19.52$), $F(1, 58) = 17.61$, $p < .001$. These data suggest that this paradigm mirrors the results that other researchers have observed in the real world: people feel happier when they choose the free time as compared to when they keep the cash, but they often decide not to spend money in a way that enables them to have more free time (Whillans et al., 2017). This paradigm also allows us to flexibly adjust the amount of money that people are paid for the e-task, which is a characteristic of this paradigm that we exploit in Study 2, which is described in detail below.

STUDY 2

Participants

Three hundred and fifty students from a large public university participated in this experiment in exchange for course credit (74% female, $M = 20.24$, $SD = 2.50$). We pre-registered this study through the OSF (<https://osf.io/h2n4t/>).

Paradigm

In this study, we wanted to ensure that the decision of whether to keep the cash or to outsource were equally desirable. Thus, we conducted a pilot study to ensure that the decision to keep the cash was perceived by participants as equally pleasing as the decision to exchange the cash for 30 minutes of free time. In this pilot study ($N = 106$), we asked students to complete five minutes of the counting e's task. We then asked students to report the minimum payment that they would be satisfied receiving to continue completing the e-task for the next 30 minutes. On average, participants reported that they would like to receive approx. \$7.00 to continue completing the e-task ($M = \$6.35$, $SD = \$3.20$). Based on these results, participants received \$7 to ensure that the cash option was equally as satisfying as the free time for most participants. This paradigm thus allowed us to explore whether guilt makes people less likely to spend money to save time when the service provider was identifiable (vs. not).

Protocol

All participants earned \$7 to complete the initial e-task for 5 minutes. Participants were then provided with the opportunity to trade the \$7 for 30 minutes of free time. In the unidentifiable purchase condition, students were presented with the choice to receive 30 minutes of free time or to receive \$7 for continuing the e-task. They could “exchange the cash for 30 minutes of free time” or “keep the cash and complete the counting e’s task for the next 30 minutes.” In the identifiable purchase condition, students were presented with the choice to receive 30 minutes of free-time only if they outsourced the e-task to another student who would complete the task on their behalf. Specifically, students were presented with the choice to “receive 30 minutes of free time by having another student complete the e-task on your behalf” or to “keep the cash and complete the counting e’s task for the next 30 minutes.”

Measures

Immediately before making the decision about whether to keep the cash or to give up the cash to have 30 minutes of free time, students reported how guilty and how happy they felt about exchanging the cash for 30 minutes of free time. Consistent with Study 2, participants reported their responses on a scale from 0-100.²

Pre-Registered Predictions

In Study 2, our key dependent variable was the choice that students made to outsource the e-task or to keep the \$7 and continue to complete the e-task themselves. We predicted that students assigned to the identifiable purchase condition would be less likely to outsource the disliked task. We also predicted that students who were assigned to the identifiable purchase

² On an exploratory basis, participants also reported how much schadenfreude (pleasure from others’ misfortune) they experienced. We report the results on this measure in the SOM.

condition would feel greater feelings of guilt as compared to students who were randomly assigned to the unidentifiable purchase condition. Consistent with the results of our correlational studies, we predicted that students who were randomly assigned to the identifiable purchase condition would experience greater feelings of guilt, in turn undermining their willingness to buy themselves out of their disliked task.

Results

Percentage Who Outsourced. In Study 2, 60.3% of students decided to keep doing the task, whereas 39.7% of students exchanged their \$7 for 30 minutes of free-time.

Direct Effect on Guilt. Consistent with our pre-registered predictions, participants who were randomly assigned to identifiable purchase condition reported that choosing the free time would cause them significantly greater feelings of guilt ($M = 38.90$, $SD = 30.52$) as compared to participants who were randomly assigned to the unidentifiable purchase condition ($M = 29.74$, $SD = 30.58$), $t(348) = 2.73$, $p = .007$, 95%CI [2.56, 15.76].

Direct Effect on Choice. Consistent with our pre-registered predictions, participants who were randomly assigned to the identifiable purchase condition were significantly less likely to exchange their payment for 30-minutes of free time (31.9%) as compared to participants in the unidentifiable purchase condition (44.6%), $X^2(1, 348) = 5.61$, $p = .018$.

Indirect Effect on Choice. Consistent with our pre-registered predictions, participants who were assigned to the identifiable (vs. unidentifiable) purchase condition reported higher feelings of guilt, which in turn undermined their willingness to exchange their \$7 payment for 30 minutes of free time, *indirect effect* = -0.16 (0.07), 95%CI [-0.33, -0.04].

Direct Effect on Happiness. Participants assigned to the identifiable purchase condition

reported that choosing the free time would cause them to feel significantly lower feelings of happiness ($M = 38.91$, $SD = 25.75$) as compared to participants who were assigned to the unidentifiable purchase condition ($M = 51.51$, $SD = 27.21$), $t(322) = 4.13$, $p < .001$, 95%CI [-18.60, -6.59].

Study 2 Discussion

In Study 2, we used a novel lab paradigm to examine whether outsourcing to an identifiable service provider increased guilt and undermined participants' willingness to buy time. As predicted, identifiable time-saving purchases resulted in greater guilt as compared to unidentifiable time-saving purchases. In turn, these feelings of guilt undermined respondents' willingness to give up discretionary income to have more free time. In Studies 1-3, we observed a consistent pattern: time-saving purchases that involved a specific, identifiable service provider increased feelings of guilt. These enhanced feelings of guilt undermined respondents' anticipated happiness as well as their decision to spend money to buy time.

If guilt is the critical factor in the causal model that we proposed in Figure 1, we should be able to manipulate feelings of guilt by focusing on the benefits vs. burden of time-saving purchases for the service provider. This hypothesis is consistent with the results that we observed in Studies 1a and 1b, where respondents who perceived time-saving purchases as a benefit (vs. burden) to the service provider reported lower feelings of guilt. To provide causal evidence for this claim, we conducted a study highlighting the benefits of task completion for the service provider (Study 3). In Study 3, we assigned participants to view advertisements from a popular US sharing economy company that focused on the benefits of the company for the service provider or the consumer. We predicted that participants who were assigned to view advertisements that focused on the benefits to the service-provider (vs. the consumer)

would experience lower guilt, greater happiness, and greater intentions to use the service.

STUDY 3

Overview

A diverse sample of three-hundred and ninety participants from Boston, MA completed three unrelated studies for a \$10 payment (49% female; $M_{\text{age}}=28.00$). Participants were randomly assigned to view one of two ads for a popular outsourcing company, *Hello Alfred*.

Participants were randomly assigned to the consumer-benefits condition or to the provider-benefits condition. In the consumer-benefits condition, participants read an ad from *Hello Alfred* that focused on the benefits of using the service for the consumer. In the provider-benefits condition, participants read an ad from *Hello Alfred* that focused on the benefits of using the service for the service provider. As a manipulation check, after viewing this ad, participants were asked whether they thought that they were benefitting or burdening the service provider. Participants were then asked how guilty and how happy they would feel using this service, as well as their intentions to use this service in the near future.

Appeals

In this study, we examined two appeals that were already in use by *Hello Alfred*. We selected these appeals because they clearly highlighted (1) the benefits of the service to the service provider, or (2) the benefits of the service to the consumer. These appeals depicted a photo of the consumer or a service provider, and included a brief description of the benefits of the advertisements for each group (See Table 3). We constrained the ethnicity of the targets featured in the ads and we gender matched the targets and participants to minimize variability because our studies were not adequately powered to test for these differences.

With a separate sample of participants that we recruited from Amazon's Mechanical Turk ($N = 385$; 52% female), we pre-tested these appeals to ensure that they did not differ on

any key dimension that could impact our results. We pre-tested these appeals for differences in how high in social status the consumers/providers appeared. We also pre-tested these appeals for differences in basic message characteristics, including how positive and negative the ads were (Lang & Yegiyan, 2008), how easy the ads were to process (Lee & Aaker, 2004; White & Peloza, 2009), and how involved and attentive participants felt when reading the ads (Wheeler, Petty & Bizer, 2005). The ads that highlighted the benefits to the service provider and the ads that highlighted the benefits to the consumer did not differ on any of these dimensions (Tables 4a and 4b). Thus, the appeals used in Study 3 did not differ on characteristics (such as positivity, fluency, or clarity) that could have accounted for our results.

Measures

Anticipated Mood. After reading the ads for *Hello Alfred*, participants completed the two mood questions from Studies 1a and 1b. Participants reported how much guilt they felt when thinking about using the service (0 = *Not Guilty*, 100 = *Guilty*) and they reported how happy they felt when thinking about using the service (0 = *Not Happy*, 100 = *Happy*).

Buying Time Intentions. To capture consumer intentions, participants reported their agreement with three-items assessing willingness to spend money to use this service in this near future from -5 = *Strongly Disagree*, 0 = *Neither Agree or Disagree*, 5 = *Strongly Agree*. E.g., “I plan to use this service in the near future” ($\alpha = 0.98$; Grant, 2008).

Lottery Entry. Participants were told that “at the conclusion of this study, your ID will be entered into a drawing. If you win this drawing you can choose one of two prizes: a \$100 voucher for *Hello Alfred* or \$50 cash.” We examined participants’ decision of whether they would like to “receive the \$50 cash prize” or whether they would like to “receive the \$100 voucher for *Hello Alfred*” as a behavioral measure assessing interest in using the service. Given

that cash is typically perceived as more valuable when compared to non-cash rewards (Jeffrey, 2009), we doubled the value of the time-saving voucher as compared to the cash.

Results

Manipulation Check. Participants who were randomly assigned to view the advertisement that emphasized the benefits to the service provider reported that the purchase was more likely to benefit the service provider ($M = 17.96$, $SD = 23.71$) as compared to participants who were randomly assigned to view the ads that emphasized the benefits to the consumer ($M = 10.36$, $SD = 29.80$), $t(389) = 2.79$, $p = .006$, 95%CI [2.25, 12.96]. These results suggest that the manipulation successfully encouraged participants to think about the benefits of using the service for the service provider (vs. to consider the burden of the service).

Guilt. As predicted, participants who were randomly assigned to view the ad that emphasized the benefits to the service provider reported significantly lower feelings of guilt when thinking about using the service ($M = 25.04$, $SD = 27.38$) as compared to participants who were randomly assigned to view the advertisement that emphasized the benefits to the consumer ($M = 32.21$, $SD = 30.05$), $t(390) = 6.06$, $p = .014$, 95%CI [-12.88, -1.44].

Happiness. Consistent with the results of Study 1a and 1b, to the extent that participants in the provider-benefits condition reported lower levels of guilt as compared to participants in the consumer benefits condition, participants reported greater anticipated happiness with using the service, *indirect effect* = 1.88 (0.86), 95%CI [-0.48, 3.90].

Intentions. Consistent with the results of Study 1a and 1b, to the extent that participants in the provider-benefits condition reported lower levels of guilt as compared to participants in the consumer benefits condition, participants also reported greater intentions to use the service in the near future, *indirect effect* = 0.24 (0.10), 95%CI [0.06, 0.45].

Purchase Behavior. Because only 3% of respondents chose the voucher vs. the cash prize in the lottery, we did not analyze this outcome measure; chi-square analyses require an expected value of at least 5 per cell/condition to yield valid results (MacDonald, 2014)

General Discussion

This research provides the first empirical evidence that feelings of guilt can undermine individuals' willingness to use time-saving services. Across two large-scale surveys, including a nationally representative sample of working adults, respondents who reported that they thought about the person who would complete a disliked task on their behalf reported greater feelings of guilt, in turn undermining their anticipated happiness and time-saving purchase intentions. In an experiment using a novel lab paradigm, merely telling participants that another person would complete the task on their behalf increased guilt and undermined participants' willingness to spend money to have free time. In another experiment, we found a simple method of mitigating the negative impact of guilt on happiness and purchase intentions by highlighting the benefits of the time-saving purchase for the service provider.

This research adds to a growing body of research documenting the benefits and barriers of spending money in ways that promote happiness (Dunn, Aknin & Norton, 2008; Whillans et al., 2017). Critically, this research points to an unexamined barrier that can prevent people from utilizing time-saving services: feelings of guilt. It is worth noting that these findings contrast with recent research showing that operational transparency—disclosing information about company's practices, policies, and decision-making processes—can promote customer satisfaction (Buell & Norton, 2011). Thus, the current research adds nuance to the idea that operational transparency always enhances customer satisfaction. When the effort that is expended on a customers' behalf involves a specific other person (e.g., a housecleaner or

childcare provider), companies might want to consider downplaying the effort that this person or group of people is expending or highlight the benefits of using the service for this person or group of people to mitigate feelings of guilt.

Although the findings documented here diverge from research on operational transparency, these findings are consistent with research in social psychology showing that people who receive social support from their romantic partners benefit most when this social support goes unnoticed (Bolger, Zuckerman & Kessler, 2000). The current research therefore suggests that a central idea from the social support literature—invisible social support—can be used to understand the psychology of support purchased through the market economy. In doing so, these findings provide a theoretical contribution to the literature by connecting the seemingly disparate research on social support in close relationships with emerging research on the benefits of social support that is purchased through the sharing economy.

Drawing on these novel connections, research should further examine when there might be divergent effects of the support that is received through close relationships and the support that is purchased through the market economy. Previous social support research suggests that people feel as if they are burdening the support provider, which in turn can promote greater feelings of guilt (Bolger & Amarel, 2007). In the current research, we find evidence that this typical pattern can be reversed in the context of the market economy. Across studies, when individuals believed that their transaction had benefits for the service provider, they no longer felt guilt about paying others to complete disliked tasks on their behalf.

Taking this insight a step further, researchers could examine how these effects unfold over time. In the social support literature, the more often people receive visible social support from their partners, the worse they typically feel (Bolger, Zuckerman & Kessler, 2000). In the

context of support purchased through the market economy, the reverse might be true:

Repeated interactions with a service provider could foster feelings of closeness (Sandstrom & Dunn, 2014) or a heightened recognition of the benefits of the task for the service provider (e.g., in terms of financial resources or feelings of purpose; Grant, 2008). More research is needed to further document the similarities and differences between the psychology of receiving social support via close others vs. through the market economy.

Our findings support the idea that individuals are sensitive to the treatment of service providers employed by the sharing economy. When sharing economy companies treat their employees well, companies are likely to benefit from advertising the benefits of the service for their employees. In contrast, when sharing economy companies do not treat their employees well, these companies are likely to drive away business. To examine these ideas in a real-world context, we partnered with a US-based sharing economy company. This company provides employees with opportunities for advancement and a competitive hourly rate. In a recent advertising campaign, this company randomly assigned users to view a web page that highlighted the benefits of using their service for the service provider, or to view a webpage that highlighted the benefits of using their service for the consumer. In this experiment, more consumers clicked the advertisement when the company highlighted the benefits of using the service for the provider (3.90%) as compared to when the company highlighted the benefits of using the service for the consumer (2.63%). This naturalistic field experiment provides additional evidence that companies offering service providers good working conditions and competitive wages are likely to benefit from showcasing these facts to their consumers.

More broadly, these findings suggest that individuals are responsive to the welfare of service providers employed by sharing economy companies. While some service providers,

such as our collaborator, have prioritized the well-being of their employees, other sharing economy companies have failed to prioritize the well-being of their workers (HBR, 2017). Our results suggest that companies should think carefully about the benefits that they provide their employees. By offering benefits to service providers and highlighting these benefits, sharing economy companies could promote the well-being of employees and everyday consumers.

Our findings linking feelings of guilt to reduced buying time intentions correspond with research showing that feelings of guilt can lead people to take on more tasks in the workplace (Flynn & Schaumberg, 2012). This research finds that taking on more tasks at work can have benefits for workplace engagement. In the context of home life, however, forgoing the chance to pay to delegate tasks could enhance stress and intensify family conflict (Whillans, Pow, & Norton, 2018). Although the current research focused on the negative consequences of guilt for individuals' happiness and willingness to buy time, future research should examine whether feelings of guilt about delegating disliked tasks may prevent couples and families from paying to outsource household chores and undermine family functioning and workplace productivity.

In our research, a critical source of guilt is the perceived burden placed on the service provider. These findings are broadly consistent with research on the identifiable victim effect showing people are more emotionally responsive to the hardship of others when they are presented with the hardship of a specific individual (e.g., Dickert & Slovic, 2009; Cryder & Loewenstein, 2003). However, there are likely several other causes of guilt, including a predisposition for guilt-proneness (Flynn & Schaumberg, 2012), perceived moral obligation to complete one's own chores, or the perception that buying time is a luxury expense. Purchase characteristics—such as perceived intimacy—could influence guilt (see Hochschild 2012 for a similar argument). Cultural acceptability could also play a moderating role, such that if it is

more socially acceptable to buy time than time-saving services would not evoke guilt and would be more likely to promote happiness (see Bellezza, Neeru & Keinan, 2016 for a related argument). Future work should further delineate which of these personality and situational factors are the most important contributors to feelings of guilt.

It is worth noting that enhanced feelings of guilt in response to services completed by identified (vs. unidentified) individuals may exist for a justified reason. In another study that we conducted ($N=322$), respondents who spent money to outsource a disliked task to an identified service provider enjoyed their free-time less than respondents who spent money to outsource a disliked task to an unidentified service provider (See SOM of the current manuscript for results). These findings suggest that guilt may correctly steer consumers away from making time-saving services that involve outsourcing disliked tasks to other people.

Given that the popularity of the sharing economy is on the rise, understanding when the benefits of time-saving purchases are likely to emerge is increasingly important. In 2015, the Pew Research Centre found that seven-in-ten Americans had used some type of online or shared economy service. With US families increasingly likely to live apart, the tasks that were previously completed by family members are now being completed by members outside of the family (Oishi, 2010). It will therefore be of increasing consequence to understand when the services acquired through the market economy are likely to promote vs. undermine happiness.

Moreover, removing barriers to making time-saving purchases could offer benefits not only to customers, but also to managers and organizations. In the US, an increasing number of employees report feeling overwhelmed, overworked, and so exhausted that they are prone to making mistakes and doing lower quality work (Bond, Galinsky & Swanberg, 2017). By encouraging employees to redeem time-saving rewards in the workplace or to make time-

saving purchases on a regular basis, organizations could potentially help improve employee well-being, increase workplace productivity, and reduce turn-over (Fassiotto, et al., 2018).

These findings make conceptual and practical contributions to the literature. On a conceptual level, these findings suggest that psychological principles explaining the psychology of receiving and providing social support can shed light on the psychology of support purchased in the market economy. More specifically, these findings suggest that guilt from outsourcing one's task undermine happiness and intentions to buy time, explaining one potential explanation for the finding that people often fail to make time-saving purchases at home and at work. Practically, this research points to simple interventions that may help organizations strategically encourage employees to make time-saving purchases.

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Table 1. Demographic Characteristics Across Studies

	Study				
	1a	1b	2	3	4
<i>N</i>	309	840	322	350	390
% who considered 'identifiable' purchases (1=Yes)	68%	64%	--	--	--
% who gave up cash to have free time	--	--	--	39.7%	--
% female	51%	48%	78%	74%	49%
Md, age	35-44	45-54	19.00	20.00	25-34
Md, personal income	\$50K-\$74K	\$40K-\$49K	--	--	\$50K-\$59K
Md (range) number of children living at home	1 (0-6+)	1 (0-6+)	--	--	0 (0-6+)
Md (range) number of work hours/week	31-40 hours/week	31-40 hours/week	--	--	11-20 hours/week
% Married or Marriage-like	62.2%	44.3%	--	--	18.9%
Md, Highest Education of Mother (Parent SES)	Some college	--	BA	BA	--
Md, Highest Education of Father (Parent SES)	Some college	--	MA	MA	--

Note. HH=Household, Md = median. BA=Completed a Bachelor's Degree. MA=Completed a Master's Degree

Table 2a. Correlation table of the variables of Study 1a.

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)
1) Identifiable Purchases (1=Yes)													
2) Anticipated Guilt	0.21**												
3) Anticipated Happiness	-0.04	-0.29**											
4) Intentions to Buy Time	0.16**	-0.11*	0.23**										
5) Female (1=Male)	0.05	0.002	-0.09	0.08									
6) Age	-0.11*	-0.07	0.007	-0.15**	-0.06								
7) Personal Income	-0.03	0.05	0.07	0.05	0.07	0.13*							
8) Number of Kids at Home	0.02	0.11*	0.13*	0.09 ⁺	-0.05	0.03	0.21**						
9) # of Hours Worked	-0.10 ⁺	0.001	-0.03	-0.17**	0.001	0.03	0.22**	0.08					
10) % Married	0.08	0.16**	-0.01	-0.04	0.03	0.11*	0.23**	0.36**	0.08				
11) Parents SES	0.14*	0.16**	0.08	0.24**	0.04	-0.19**	0.32**	0.03	-0.08	-0.07			
12) Changes in Wealth	-0.09	0.06	0.03	0.03	0.02	-0.07	0.35**	0.15**	0.22**	0.14*	-0.07		
13) Bought time/month	0.19**	0.07	0.09	0.39**	0.14*	-0.16**	0.09 ⁺	0.19**	-0.14*	0.02	0.17**	0.05	
15) Protestant Work Ethic	0.10 ⁺	0.13*	0.06	0.15**	0.16**	-0.02**	0.03	0.11*	0.07	0.19**	0.03	0.07	0.06

Note. ⁺ $p \leq 0.10$, * $p \leq 0.05$; ** $p \leq 0.01$

Table 2b. Correlation table of the variables of Study 1b.

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)
1) Identifiable Purchases (1=Yes)	0.18**													
2) Anticipated Guilt														
3) Anticipated Happiness	0.03	-0.15**												
4) Intentions to Buy Time	0.28**	0.06	0.29**											
5) Female (1=Male)	0.02	0.03	-0.05	0.20**										
6) Age	-0.13**	-0.10**	0.02	-0.13**	0.01									
7) Personal Income	0.05	0.13**	0.003	0.21**	0.28**	0.12**								
8) Number of Kids at Home	0.12**	0.18**	0.08*	0.23**	0.16**	0.06	0.35**							
9) # of Hours Worked	-0.01	0.01	0.03	0.02	0.02	-0.04	0.29**	0.08*						
10) % Married	0.06 ⁺	0.11**	-0.004	0.08*	0.13**	0.08*	0.38**	0.39**	0.12**					
11) Parents SES	0.09*	0.14**	-0.03	0.14**	0.18**	-0.16**	0.39**	0.14**	0.09**	0.12**				
12) Changes in Wealth	-0.03	-0.02	-0.02	0.13**	0.11**	0.12**	0.39**	0.06	0.17**	0.19**	-0.02			
13) Bought time/month	0.18**	0.10**	0.02	0.35**	0.11**	-0.13**	0.21**	0.21**	0.04	0.05	0.20**	0.06		
14) Parents Buy Time	0.26**	0.18**	0.05	0.24**	0.13**	-0.17	0.18**	0.21**	-0.07 ⁺	0.10**	0.34**	-0.13**	0.28**	
15) Protestant Work Ethic	0.16**	0.25**	0.11**	0.33**	0.16**	-0.10**	0.22**	0.22**	0.02	0.05	0.14**	0.09**	0.17**	0.20**

Note. ⁺ $p \leq 0.10$, * $p \leq 0.05$; ** $p \leq 0.01$

Table 3. Pilot test confirming that the two messages did not differ in ways that could explain the results

	Customer Benefits	Provider Benefits	Statistics
Message Positivity	5.75 (1.06)	5.85 (1.00)	$t(385)=0.95, p=0.345$
Message Negativity	1.77 (1.30)	1.56 (1.09)	$t(385)=1.77, p=0.078$
Message Easy to Process	6.09 (1.05)	5.91 (1.11)	$t(381)=1.66, p=0.098$
Message Easy to Understand	6.05 (1.21)	5.93 (1.21)	$t(382)=0.97, p=0.334$
Message Easy to Comprehend	6.15 (1.07)	6.02 (1.08)	$t(383)=1.14, p=0.255$
Message Made Me Feel Involved	5.23 (1.54)	5.16 (1.59)	$t(383)=0.42, p=0.677$
Skimmed the message carefully	6.33 (0.92)	6.10 (1.30)	$t(347.91)=2.00, p=0.046$
Paid a lot or a little attention when reading	6.37 (0.86)	6.23 (1.03)	$t(385)=1.52, p=0.131$

Note. All messages are 1=Not at all, 7=Extremely. When applying the Bonferroni correction for multiple comparisons the conditions do not significantly differ from one another (updated p-value 0.00625).

Table 4a. Advertisements used that focus on service provider benefits vs. consumer benefits (female)

What We Do

Time shouldn't be a luxury

"We built Alfred to create time for people to do what they love."

Marcela
MARCELA S.

Jessica
JESSICA B.

Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:

- Clean Their Apartment
- Go Grocery Shopping
- Pickup Dry Cleaning
- Ship Your Packages

Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.



"Whenever I get positive feedback from our clients, I know that the work we do really matters."

- Alfred Home Manager

What We Do

Time shouldn't be a luxury

"We built Alfred to create time for people to do what they love."

Marcela
MARCELA S.

Jessica
JESSICA B.

Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:

- Clean Their Apartment
- Go Grocery Shopping
- Pickup Dry Cleaning
- Ship Your Packages

Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.



"There is a sense of peace and calm when you walk into your home and everything is put away."

- Alfred Client

Table 4b. Advertisements used that focus on customer vs. provider benefits (male)

What We Do

Time shouldn't be a luxury

"We built Alfred to create time for people to do what they love."

Marcela
MARCELA S.

Jessica
JESSICA B.

Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:

- Clean Their Apartment
- Go Grocery Shopping
- Pickup Dry Cleaning
- Ship Your Packages

Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.



"By working for Alfred, I am learning a lot about the hospitality industry. I am grateful for the chance to work for an employer with flexible hours, good benefits, and training opportunities."

- Alfred Home Manager

What We Do

Time shouldn't be a luxury

"We built Alfred to create time for people to do what they love."

Marcela
MARCELA S.

Jessica
JESSICA B.

Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:

- Clean Their Apartment
- Go Grocery Shopping
- Pickup Dry Cleaning
- Ship Your Packages

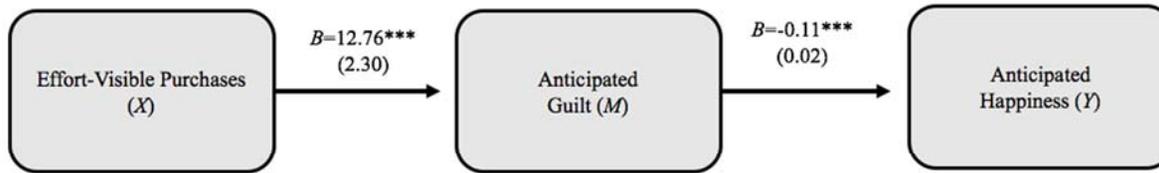
Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.



"I've used Alfred for a year. It has freed up my weekends. Rather than spending Saturday running errands, I go to brunch with friends, sleep-in, or go to the gym."

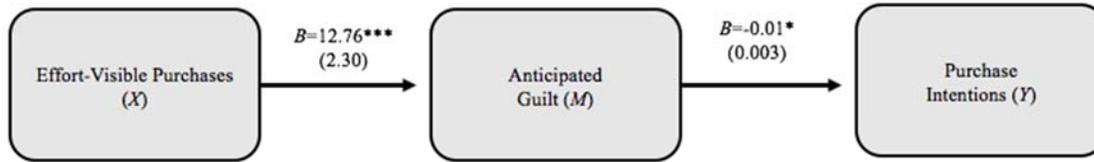
- Alfred Client

Figure 2. Indirect Effect Model Linking Effort-Visible Purchases to Lower Happiness.



Direct Effect of Effort-Visible Purchases on Anticipated Happiness: *Effect*=2.33(1.38), *t*(887)=1.38, *p*=0.17, 95%[-0.97, 5.63]
Indirect Effect of Effort-Visible Purchases on Anticipated Happiness: *Effect*=-1.40(0.41), 95%[-2.40, -0.75]

Figure 3. Indirect Effect Model Linking Effort-Visible Purchases to Lower Happiness.



Direct Effect of Effort-Visible Purchases on Purchase Intentions: *Effect*=2.61(0.24), *t*(887)=11.05, *p*<0.001, 95%[2.14, 3.07]
Indirect Effect of Effort-Visible Purchases on Purchase Intentions: *Effect*=-0.11(0.05), 95%[-0.22, -0.02]

Table S1a. Pre-registered moderation hypotheses across studies

Study	Gender	SES Background	PWE
Study 1a: Correlational Study No pre-registration	No pre-registration	No pre-registration	No pre-registration
Study 1b: Correlational Study https://osf.io/gtb8e/	Women will experience more guilt, less predicted happiness, and lower intentions to buy time	People from lower SES backgrounds will experience more guilt, less predicted happiness, and lower intentions to buy time	People who score higher in PWE will experience more guilt, less predicted happiness, and lower intentions to buy time
Study 2: Lab Study 2 (“Real Money”) https://osf.io/h2n4t/	No pre-registered gender hypotheses	People from lower SES backgrounds will report more guilt and will be less likely to buy time	Not measured
Study 3: Benefits Study No pre-registration	No pre-registration	Not measured	Not measured
Study 4 (Mentioned in Discussion Section only) https://osf.io/aen2g/	No pre-registered gender hypotheses	No pre-registered SES hypotheses	Not measured

Table S1b. Overview of whether the pre-registered hypotheses were supported

Study	Gender	SES Background	PWE
Study 1a: Correlational Study No pre-registration	<u>Exploratory:</u> No effect	<u>Exploratory:</u> Higher SES felt more guilt than lower SES. They also reported greater purchase intentions.	<u>Exploratory:</u> People higher in PWE experienced more guilt. They also reported greater purchase intentions.
Study 1b: Correlational Study https://osf.io/gtb8e/	<u>Partially supported:</u> Women reported lower intentions to buy time. Women felt buying time was a burden (vs. benefit).	<u>Not supported:</u> Higher SES felt more guilt than lower SES. They also reported greater purchase intentions.	<u>Partially supported:</u> People higher in PWE experienced more guilt. They also reported greater purchase intentions.
Study 2: Lab Study 2 (“Real Money”) https://osf.io/h2n4t/	<u>Exploratory:</u> No effect	<u>Partially supported:</u> Lower SES students in the identifiable condition reported higher feelings of guilt.	Not measured
Study 3: Benefits Study No pre-registration	<u>Exploratory:</u> No effect	Not measured	Not measured
Study 4 (Mentioned only in Discussion Section) https://osf.io/aen2g/	<u>Exploratory:</u> No effect	<u>Exploratory:</u> Higher SES students in the identifiable condition reported lower feelings of guilt	Not measured

ADDITIONAL ANALYSES OVERVIEW

In addition to examining the consequences of identifiable purchases for guilt, happiness, and purchase intentions, we examined whether there are individual differences in who experiences guilt when spending money to outsource their disliked tasks. Specifically, we examined whether women, people from working-class backgrounds, and people who score higher in protestant work ethic, were more likely to experience guilt when buying time.

Working Class Background

People from working-class backgrounds might experience greater guilt when thinking about paying someone else to do a task that they could otherwise do themselves (even if they are more pressed for time than money in the present). This hypothesis stems from research showing that people from lower (vs. higher) working class backgrounds experience greater guilt when faced with decisions that are perceived as self-indulgent, such as attending college vs. working full-time to support their family (Johnson, 2001).

Gender

Women might also experience more guilt when faced with the decision to outsource disliked tasks because women are often tasked with more of the chores at home (e.g., Lanchance-Grzela & Bouchard, 2010). Thus, women might be more likely to think about outsourcing disliked tasks as a personal failing that signals their inability to keep up with their daily responsibilities, in turn promoting higher feelings of guilt (see also: Bird, 1999).

Protestant Work Ethic

People who score higher on protestant work ethic (PWE) might experience greater feelings of guilt when faced with the opportunity to outsource their disliked tasks because they are more likely to believe that hard-work signals competence than people who score lower on

PWE (e.g., Furnham, 1982; Furnham, 1984; Greenberg, 1977).

STUDY 1A ADDITIONAL ANALYSES

Gender

We examined whether women felt greater guilt when considering outsourcing their disliked tasks to others. Specifically, we examined whether women (vs. men) would report greater feelings of guilt, less happiness, and lower intentions to buy time as compared to men. Collapsing across identifiable and unidentifiable time-saving purchases, women did not report greater guilt as compared to men when thinking about outsourcing a disliked task ($M = 30.25$, $SD = 33.71$ vs. $M = 30.39$, $SD = 28.56$), $t(307) = 0.041$, $p = .967$, 95%CI [-6.74, 7.03].

Women reported marginally greater anticipated happiness compared to men when thinking about outsourcing a disliked task ($M = 77.36$, $SD = 25.41$ vs. $M = 72.42$, $SD = 27.44$), $t(305) = 1.64$, $p = .102$, 95%CI [-10.88, 0.99]. However, women also reported non-significantly lower intentions to spend money to outsource the disliked task as compared to men ($M = -0.81$, $SD = 3.44$ vs. $M = -0.28$, $SD = 3.41$), $t(307) = 1.37$, $p = .172$, 95%CI [-0.23, 1.30]. Women were not significantly more likely to report that the outsourcing was a burden vs. benefit for the service provider ($M = 19.52$, $SD = 23.55$ vs. $M = 16.33$, $SD = 22.20$), $t(209) = 1.01$, $p = .312$, 95%CI [-9.40, 3.02]. These statistical results were marginally significant or non-significant and should therefore be interpreted with caution.

Social Class

We examined whether respondents from working class background would report greater feelings of guilt, less happiness, and lower intentions to buy time. People from higher social class backgrounds reported greater feelings of guilt, $r(290) = 0.19$, $p < .001$ as well as higher intentions to buy time, $r(290) = 0.24$, $p < .001$. On an exploratory basis, we then examined

whether these associations were attenuated after controlling for previous experience with outsourcing (whether you pay other people to complete disliked tasks on your behalf in a typical month). Controlling for this variable, the relationship between guilt and social class background was slightly attenuated, $r(285) = 0.16, p = .008$, as was the relationship between social class and intentions, $r(285) = 0.19, p = .001$. People higher in social status might feel guiltier when thinking about outsourcing a disliked task they have more experiencing outsourcing than people of lower social status. This experience might help to contribute to both the feeling of guilt people experience, but also people's likelihood of buying time in the future.

Protestant Work Ethic

People high in Protestant Work Ethic (PWE) might perceive buying time as “lazy.” We examined whether respondents who scored higher in PWE would report greater feelings of guilt, less happiness, and lower intentions to buy time. Respondents who scored higher in PWE reported greater guilt when thinking of buying themselves out of this disliked task, $r(309) = 0.15, p = .008$. Respondents who scored higher in PWE also reported non-significantly greater happiness when thinking about buying themselves out of this disliked task, $r(309) = 0.060, p = .297$ and greater intentions when thinking about buying themselves out of this disliked task, $r(309) = 0.15, p < .001$. There was a significant association between PWE and whether respondents felt outsourcing was a benefit, $r(211) = 0.17, p = .015$.

These results suggest that protestant work ethic might predict greater guilt but also greater willingness to spend money to outsource tasks to others (to the extent that it makes individuals feel deserving of the help that they could pay to acquire and is a benefit for the service provider). We observed similar patterns in Study 1b (see below).

STUDY 1B ADDITIONAL ANALYSES

Gender

As per our pre-registration, we examined whether women might feel greater feelings of guilt when considering outsourcing their disliked tasks to others. Specifically, we examined whether women (vs. men) would report greater feelings of guilt, less happiness, and lower intentions to buy time as compared to men. Collapsing across identifiable and unidentifiable time-saving purchases, women did not report greater guilt as compared to men when thinking about outsourcing a disliked task ($M = 35.22$, $SD = 31.47$ vs. $M = 37.17$, $SD = 32.77$), $t(836) = 0.873$, $p = .383$, 95%CI [-2.42, 6.31]. Furthermore, women did not report greater anticipated happiness as compared to men when thinking about outsourcing a disliked task ($M = 79.02$, $SD = 21.96$ vs. $M = 76.82$, $SD = 23.80$), $t(836) = 1.39$, $p = .166$, 95%CI [-5.31, 0.91]. However, women did report lower intentions to spend money to outsource the disliked task as compared to men ($M = 5.09$, $SD = 3.23$ vs. $M = 6.48$, $SD = 3.46$), $t(836) = 5.99$, $p < .001$, 95%CI [0.93, 1.84].

Women were also more likely to report that the outsourcing was a burden vs. benefit for the service provider ($M = 17.50$, $SD = 25.17$ vs. $M = 22.21$, $SD = 25.42$, $SD = 25.41$), $t(533) = 2.15$, $p = .032$, 95%CI [0.41, 9.02]. On a completely exploratory basis, we then examined whether women thinking that outsourcing was more of a burden explained why women (vs. men) showed lower intentions to outsource their disliked task. Consistent with this hypothesis, there was a significant indirect effect, *indirect effect* = 0.11, (0.06), 95%CI [0.02, 0.26]. Women were significantly more likely to think that outsourcing the disliked task was a burden vs. a benefit to the service provider, which in turn undermined their intentions to buy time. These results provide initial evidence that women might be less likely to outsource their disliked tasks, especially when making identifiable time-saving purchases because they

are more likely to think that outsourcing is a burden (vs. benefit) to the service provider.

Social Class

As per our pre-registration, we examined whether respondents from social class backgrounds would report greater feelings of guilt, less happiness, and lower intentions to buy time. People from higher social class backgrounds reported greater feelings of guilt, $r(840) = 0.21, p < .001$ as well as higher intentions to buy time, $r(840) = 0.32, p < .001$. On an exploratory basis, we then examined whether these associations were attenuated after controlling for our two key variables that signal previous experience with outsourcing (how often you have paid another person/people to complete disliked tasks on your behalf and whether your parents spent money on time-saving purchases while you were growing up).

Upon controlling for these variables, the relationship between social class and feelings of guilt was attenuated, $r(835) = 0.14, p < .001$, as was the relationship between social class and intentions, $r(835) = 0.23, p < .001$. These results suggest that people who are higher in social status might experience greater guilt when thinking about outsourcing a disliked task in part because they have more experience outsourcing than people of lower social status, which contributes both to the feeling of guilt but also people's likelihood of buying time in the future. Interestingly, we also found evidence that people of higher social status were more likely to report that they were benefitting vs. burdening the service provider, $r(535) = 0.14, p = .002$.

Protestant Work Ethic

As per our pre-registration, we examined whether respondents who scored higher in PWE would report greater feelings of guilt, less happiness, and lower intentions to buy time. Respondents who scored higher in PWE reported greater feelings of guilt about thinking of buying themselves out of this disliked task, $r(840) = 0.25, p < .001$. Respondents who scored

higher in PWE also reported greater happiness when thinking about buying themselves out of this disliked task, $r(840) = 0.113$, $p = .001$ and greater intentions to buy themselves out of this disliked task, $r(840) = 0.33$, $p < .001$. These results suggest that PWE might predict greater guilt but also greater willingness to spend money to outsource tasks to others (to the extent that it makes individuals feel deserving of the help that they pay to acquire).

SUMMARY OF STUDY 1A AND 1B ADDITIONAL ANALYSES

Gender

Across Studies 1a and 1b, we found initial evidence that women reported lower intentions to spend money on time-saving purchases as compared to men, in part because they thought that they would be a burden (vs. benefit) for the person who would have to complete the disliked task on their behalf (Study 1b). Given that these studies were not specifically designed to test these predictions, and because these results were not consistent across studies, more research is needed to explore when women (vs. men) are less likely to buy time.

Social Class

We saw consistent evidence that people from higher social class backgrounds reported greater guilt when thinking about outsourcing their disliked tasks to others (Studies 1a and 1b) in part because wealthier people had more experience outsourcing.

PWE

We also observed consistent evidence that people who were higher in protestant work ethic felt greater feelings of guilt when thinking about spending money to outsource a task that they could otherwise complete themselves (Study 1a and 1b). However, people who scored higher in PWE were also more likely to intend to buy time. Thus, more research is needed to understand these divergent results.

STUDY 2 ADDITIONAL ANALYSES

Working Class Background

In Study 2, participants completed a 1-item measure assessing their parents' highest level of education. We used this measure to examine whether individual differences in whether participants were from a working-class background predicted the guilt that people felt when using money to buy time.

Social Class & Guilt

Students with parents from higher social class backgrounds reported lower feelings of anticipated guilt when thinking about outsourcing their disliked task, $r(350) = -0.09, p = .117$. This result was entirely explained by participants in the unidentifiable purchase condition. In the unidentifiable purchase condition, participants from higher social class backgrounds felt lower guilt when thinking about giving up the \$7 to have the free time, $r(203) = -0.201, p = .004$. In the identifiable purchase condition, there was no association between social class background and anticipated guilt, $r(131) = 0.094, p = .283$.

Social Class & Happiness

Collapsing across condition, social class background did not significantly predict anticipated happiness, $ps \gg 0.598$.

Social Class & Schadenfreude

Social class background did not significantly influence whether respondents reported greater schadenfreude, $r(291) = -0.049, p = .402$, and there was no association between social class background and schadenfreude in either the identifiable condition, $r(291) = -0.05, p = .594$ or unidentifiable condition $r(291) = -0.07, p = .358$.

STUDY 2 DISCUSSION

In the identifiable purchase condition, there was no relationship between guilt and SES background. It is possible that the students in the unidentifiable purchase condition felt guilty about not taking the cash, particularly because the cash was unexpected and of a relatively high amount for a study (\$7 for 30 minutes). In contrast, it is possible that thinking about delegating the task to a specific other person might have helped participants rationalize this decision (some other student will be able to complete the task and receive the \$7). More research is needed to understand when SES shapes how much guilt people experience when outsourcing disliked tasks. Note that we do not test for gender differences in Study 2 given the low number of men studied. We did not include these exploratory demographic measures in Study 3.

STUDY 4

MENTIONED IN DISCUSSION ONLY

Overview

Three-hundred and twenty-two students from a large public university participated in exchange for course credit (78% female, $Md = 19.10$, $SD = 2.60$). We pre-registered this study through the OSF <https://osf.io/aen2g/>.^{3,4}

Protocol

In this study, we recruited students to participate in a 45-minute online study. In this experiment, students were provided with the opportunity to earn “lab dollars” by completing the “e-task” described in the manuscript. Students were then provided with the opportunity to trade these “lab dollars” for a 30-minute windfall of free-time or to keep the lab dollars that

³ We initially pre-registered collecting data from $N = 210$ participants. Because we had an uneven condition assignment after reaching this stopping point, we continued data collection until the end of the academic semester, resulting in $N = 322$ completed participants.

⁴ In Studies 2 and 3, we pre-registered one-tailed statistical tests. To ensure consistency with the results reported in Studies 1a and 1b, we report all analyses using two-tailed tests. All results reported from this study are consistent regardless of whether we use one or two-tailed tests.

they had earned and proceed with the task for the remaining 30-minutes of the experiment.

In this version of our paradigm, we paid students with “lab dollars” to ensure that most students would choose the free-time. Previous research suggests that people place a similar psychological value on non-cash rewards (i.e., points) as they do with cash (Hsee, 2003). Thus, participants in this study were still earning and spending currency; however, they were not incentivized to keep the lab dollars because these lab dollars had no monetary value outside of this experiment. This decision ensured that nearly all our participants would trade-in the lab dollars for free time, allowing us to explore whether guilt undermined the benefits of buying time. In an additional pilot study that we conducted ($N = 60$), 85% of participants chose to exchange their lab dollars for 30 minutes of free time. This modified paradigm was successful at encouraging people to choose the free time as opposed to keeping the lab dollars.

Participants were first asked to make the decision about whether to keep the lab dollars or to trade these lab dollars for a windfall of free time. Only participants who made the decision to give up lab dollars to have more free time were randomly assigned to either the identifiable service provider or unidentifiable service provider conditions, thereby preserving random assignment. In the identifiable condition, participants were told that they would receive the 30 minutes of free time because another student would complete the e-task on their behalf. These participants were asked to send a text message to this student with a unique code that allowed this student to complete the e-task on their behalf. This instruction ensured that participants knew that they would be delegating this task to another student. This protocol did not involve deception. Student researchers received the text messages and were instructed to complete a component of the e-task on behalf of the participant. In the unidentifiable condition, participants were told that the task would be completed on their behalf but they received the

free time with no mention of delegating the e-task to another student.

Measures

End-of-study-mood. After 30 minutes had elapsed, participants reported how happy they felt “right now,” and how happy they felt during the last 30 minutes on a scale from 0 = *Not Happy* to 100 = *Happy*. Because these two happiness items were highly correlated ($r = 0.75, p < .001$), we combined participants’ responses on these two items to create an overall happiness composite. Participants also reported how much guilt they felt during the last 30 minutes on a scale from 0 = *Not Guilty* to 100 = *Guilty*.

Benefit vs. Burden. Within the identifiable service provider condition, participants were asked to report whether they felt like they were burdening vs. helping the other student on a scale from 0 = *Burdening other student* to 100 = *Helping other student*.

Individual Differences. Participants completed a 1-item measure assessing their parents’ highest level of education. Although family socioeconomic status (SES) can be measured in a variety of ways, the decision to use education was made based on research showing that students’ self-reports of parents’ education tends to be a more reliable indicator of family SES as compared to students’ reports of their parents’ income or occupational status (Kayser & Summers, 1973). We used this measure to examine whether individual differences in whether participants were from a working-class background predicted the guilt that people felt when using money to buy time. See SOM for the results of these measures across studies.

Pre-Registered Predictions

Based on our survey results, we predicted that participants who were randomly assigned to the identifiable condition would report greater feelings of guilt during the last 30 minutes as compared to students who were randomly assigned to the unidentifiable condition.

Consistent with our conceptual model (Figure 1), we also predicted that feelings of guilt would in turn undermine the happiness that students experienced during their free time. We also predicted that students who viewed delegating the disliked task to another student as a benefit (vs. burden) would experience lower feelings of guilt, in turn increasing the happiness that students gained from their free time. We pre-registered these confirmatory hypotheses through the OSF.

Results

Guilt. As predicted, participants who were randomly assigned to the identifiable condition reported greater feelings of guilt during the 30-minutes of free time ($M = 34.40$, $SD = 30.45$) as compared to participants who were randomly assigned to the unidentifiable condition ($M = 24.01$, $SD = 27.49$), $F(1, 321) = 10.21$, $p = .002$.

Indirect Effects on Happiness. As predicted, to the extent that participants felt higher levels of guilt in the identifiable condition vs. the unidentifiable condition, participants in turn experienced less happiness over the course of their 30 minutes of free time, *indirect effect* = -1.07 (0.52), 95%CI [-2.46, -0.31]. These results provide causal evidence that identifiable time-saving purchases can enhance feelings of guilt, which in turn can undermine the happiness benefits that individuals receive from spending discretionary income to have more free time.

Outsourcing as a Benefit/Burden. Within the identifiable condition, we then examined whether participants who viewed outsourcing the task to another person as a benefit (vs. burden), would report lower feelings of guilt during their free time. As predicted, participants who were randomly assigned to the identifiable service provider condition, and who viewed outsourcing the task to another student as a benefit (vs. burden), reported lower feelings of guilt during the previous 30 minutes, $r(176) = -0.28$, $p < .001$. Consistent with Studies 1a and

1b, participants who viewed outsourcing the task to another student as a benefit (vs. burden) reported lower feelings of guilt, which in turn increased the amount of happiness that participants experienced during their 30 minutes of free time, *indirect effect* = 0.03 (0.02), 95%CI [0.01, 0.08]. Viewing outsourcing to another person as a benefit (vs. burden) lowered feelings of guilt and in turn helped participants gain greater happiness from their free time.

STUDY 4 DISCUSSION

In this additional study, we used our lab paradigm to examine whether outsourcing disliked tasks to another person increased feelings of guilt and undermined the benefits of buying time. In this study, identifiable purchases resulted in greater guilt as compared to unidentifiable purchases. Consistent with the results of Study 1a and 1b, the feelings of guilt that students experienced in the identifiable purchase condition undermined the happiness that students gained from their free time. Overall, in this pre-registered experiment with over 300 participants, we provide additional causal evidence that identifiable time-saving purchases enhance feelings of guilt and in turn, undermine the happiness benefits of buying time.

STUDY 4 ADDITIONAL ANALYSES

Working Class Background

As discussed above, in this study, participants also completed a 1-item measure assessing their parents' highest level of education. We used this measure to examine whether individual differences in whether participants were from a working-class background predicted the guilt that people felt when using money to buy time.

Social Class & Guilt

Students with parents from higher social class backgrounds reported lower feelings of guilt after outsourcing their disliked task, $r(321) = -0.12$, $p = .029$. Breaking down this result

by condition, this result was explained by participants in the identifiable purchase condition. In the identifiable purchase condition, participants from higher SES backgrounds felt significantly lower guilt during the last 30 minutes, $r(172) = -0.21, p = .007$. In contrast, in the unidentifiable purchase condition, there was no association between social class background to predict guilt, $r(149) = -0.006, p = .941$. Looking only at the identifiable purchase condition, participants from higher social class backgrounds felt lower guilt, and in turn experienced greater happiness with their free time, *indirect effect* = 0.47 (0.30), 95%CI [0.05, 1.30].

Social Class & Benefit vs. Burden

Social class background did not significantly influence respondents' perceptions of whether they were benefitting or burdening the other student who would have to complete the task on their behalf $p = .836$.

ADDITIONAL ANALYSES DISCUSSION

Given that these results were obtained in an experimental context, these data provide the strongest evidence that social class can moderate the experience of guilt. When randomly assigned to obtain free time by outsourcing disliked tasks to another person, participants from lower SES backgrounds reported significantly higher feelings of guilt during their free time—suggesting that individuals from lower (vs. higher) social classes, when confronted with the decision to have to outsource (such as being told to outsource by a manager at work), might experience greater guilt and report lower levels of happiness from an outsourcing experience.