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Abstract

Spending money on time-saving services can improve happiness and reduce stress. Yet many people do not spend money to save time even when they can afford to do so, potentially because they feel guilty about paying other people to complete disliked tasks on their behalf. Consistent with this proposition, we find evidence that individuals are most likely to experience guilt when outsourcing to a salient service provider. Across two large-scale surveys of working adults, including a nationally representative sample of employed Americans (Study 1a & 1b, $N = 1,140$), individuals reported greater guilt when they thought about outsourcing to a salient (vs. non-salient) service provider. Using a novel lab paradigm, participants felt greater guilt when the service provider was salient, which in turn undermined their willingness to buy time (Study 2, $N = 350$). In Study 3, these effects were mitigated by emphasizing the benefits of task completion for the service provider ($N = 390$). This research points to the potential of simple interventions to help organizations encourage individuals to make time-saving purchases.

Keywords: Time; Money; Happiness; Identifiable Victim Effect; Social Support

In 2011, *Time Magazine* rated the sharing economy as one of the top 10 ideas that would change the world (Walsh, 2011). 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 dreaded tasks to others. Despite the rise of the sharing economy, little is known about factors that predict whether individuals decide to 'buy time.'

This question is increasingly important in light of the fact that most working adults feel increasingly pressed for time. Large-scale survey data suggests that 80% of working adults in the US feel “time poor”—like they have too many things to do and not enough time to do them (Whillans, 2019). Employees who feel overwhelmed with the demands of work and life report lower happiness, are less productive, and more prone to depression and anxiety (Rao & Indla, 2010, Roxburgh, 2004, Shockley, Smith & Knudson, 2017)). Public health researchers have even highlighted time poverty as one of the most important emerging social trends underlying rising rates of obesity (Banwell, Hinde, Dixon & Sibthorpe, 2005).

Benefits of buying time

As a potential solution to rising rates of time poverty, research provides evidence that time-saving services can reduce time stress and promote happiness (Whillans, Dunn, Smeets, Bekkers & 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 services, such as by outsourcing disliked tasks to others, reported greater life satisfaction and positive mood (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 on happiness (Whillans et al., 2017).

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 services (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 both offering and encouraging employees to redeem for time-saving rewards.

Despite the psychological and productivity benefits of time-saving services, people often fail to spend their money on time-saving 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. Yet, even among the over 800 millionaires surveyed as part of this research, only 52% reported spending any money to outsource their disliked tasks to others.

Similar patterns emerge in the workplace. When employees are provided with the choice between material goods and time-saving services, employees often select material goods or gift cards. In a recent study conducted with 77 US companies that offered time-saving rewards to

employees, only 3.2% of employees redeemed reward points for these services, whereas 67% of employees redeemed 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). These findings point to the possibility that psychological barriers prevent individuals from selecting time-saving services in their daily life.

Consistent with this proposition, recent research sheds light on the psychological factors that might prevent people from spending money on time-saving services (see Lee-Yoon & Whillans, 2018; Mogilner, Whillans & Norton, 2018 for related reviews). For example, one well-documented reason that people do not spend money on time-saving purchases is because they often fail to realize that they will be as busy in the future as they are in the present moment ('future time slack'; Zauberan & Lynch, 2005; Zauberan, Kim, Malkoc, & Bettman, 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 explaining why people often fail to make time-saving purchases.

Guilt as an Unexplored Barrier to Buying Time

Building on this research, we examine another potential barrier to making time-saving purchases: feelings of guilt. Initial qualitative research supports the role of guilt in major outsourcing decisions, such as couples' decisions about whether or not to outsource childcare (Epp & Velagaleti, 2014). Relatedly, we recently conducted a short study with $N=153$ employed Americans. In this study, respondents who were familiar with TaskRabbit and Amazon, and had both services available to them, were asked to make a hypothetical choice between receiving an \$80 Amazon gift card or a TaskRabbit gift card from their employer.

Replicating previous research, nearly all of our respondents selected the Amazon Gift Card (99%). Most central to our argument, a majority of respondents (52%) stated that the primary reason that they chose the Amazon gift card was because they felt guilty about burdening a service provider with their household chores. This data is openly available on OSF (<https://osf.io/vp2kx/>).

Following from these results, we propose that time-saving purchases are most likely to promote feelings of guilt when these purchases involve burdening other people with our daily tasks. Of course, the strength of this feature varies within purchase category: in the real world, 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 another person, whereas purchasing pre-cooked meals less directly involves the effort of another 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 faced with the suffering of an identifiable person vs. a broad group (Kogut & Ritov, 2005; 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.

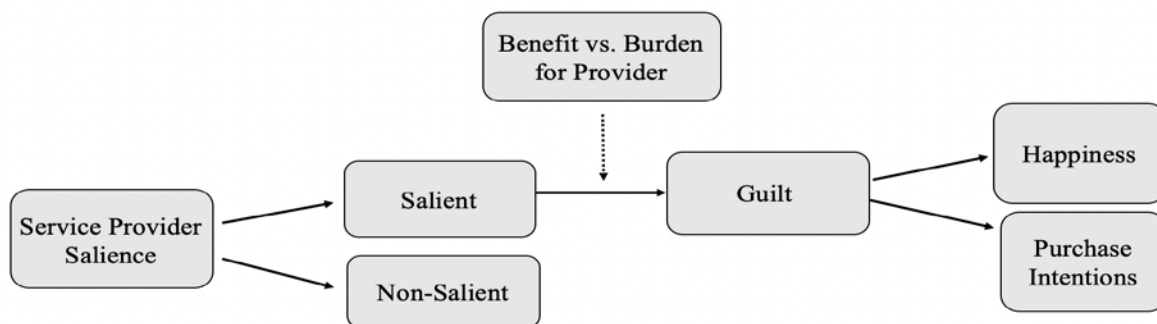
Extrapolating from these findings, we propose that people may feel elevated discomfort about buying their way out of daily tasks when doing so entails thinking about service providers. These feelings of discomfort should emerge more to the extent that individuals believe they are inflicting suffering on someone else. 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 about the same amount of time, but only the housecleaning involves thinking about delegating a daily unpleasant task to a salient other person.

The experience of discomfort that people may experience when outsourcing disliked tasks to others is likely to manifest as feelings of 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, Miller, Flicker & Barlow, 1996). People feel heightened emotional distress when faced with identifiable targets (Small & Loewenstein, 2003). People also experience guilt when asking other people for assistance in daily life (Bolger & Amarel, 2007). Building on these findings, we predicted that the feelings of guilt that arise when faced with making time-saving purchases that involve salient service providers could undermine individuals' willingness to spend money on these purchases. We also predicted that the guilt that

arises from considering time-saving purchases involving salient service providers could suppress the happiness that people experience from buying time (Figure 1). Across studies, we define salience as whether the individual thought about outsourcing to a service provider (or did not).

Although our hypotheses are grounded in the social support literature, there may be critical differences between receiving support through the market economy vs. from close social relationships. In market contexts, support providers receive payment for their assistance, which could be perceived as a benefit (rather than a burden) to the service provider. These perceived benefits could, in turn, mitigate feelings of guilt—even when the service provider is salient. This theorizing results in two possible predictions. First, it is possible that when the service provider is salient, consumers could feel more guilt and report reduced intentions to buy time. Second, it is possible that when the service provider is salient, consumers might be reminded about the benefits of service provision (e.g., compensation), reducing their guilt and purchase intentions. We explore these possibilities in this paper by examining whether and how the salience of the service provider shapes consumers' feelings of guilt and their intentions to buy time (Figure 1)¹.

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



¹ We believe that guilt will have downstream effects for consumer satisfaction/happiness and purchase intentions. However, the direction of our effects is unclear. Increasing the salience of the service provider could reduce guilt (via perceived benefits to the service provider), thereby increasing anticipated consumer satisfaction and purchase intentions. In contrast, increasing the salience of the service provider could increase guilt (via perceived burden to the service provider), thereby decreasing anticipated consumer satisfaction and purchase intentions. Our studies therefore provide a test of these competing possibilities.

Overview of Studies

To examine the role of guilt in predicting happiness and 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 salient service provider were associated with greater guilt, undermining individuals intentions to spend money on these purchases and the happiness that individuals expected to receive ($N = 1,150$). For people who thought about a service provider (vs. did not), we examined whether believing time-saving services were a benefit (vs. burden) to the provider lowered 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 service provider salience on feelings of guilt. We used this lab paradigm to examine whether knowing that a task is being completed by another individual would provoke feelings of guilt, undermining 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 for 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 ads 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 methods. We utilized large-scale survey data, developed a new lab paradigm, and conducted an experiment with a diverse sample of working adults. The detailed 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, every condition tested, and the stopping rule for each study.

Table 1. Demographic Characteristics Across Studies

	Study			
	1a	1b	2	3
<i>N</i>	309	805	322	390
% who considered ‘salient’ purchases (1=Yes)	68%	64%	--	--
% who gave up cash to have free time	--	--	--	--
% female	51%	48%	74%	49%
Md, age	35-44	45-54	20.24	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	--
Md, Highest Education of Father (Parent SES)	Some college	--	MA	--

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

In light of recent calls for Open Science, we undertook several measures to maximize the transparency and replicability of our studies. First, we conducted a well-powered replication study (Study 1b) that confirmed the correlational results of Study 1a. Second, we pre-registered our hypothesis for Study 1b and Study 2 on the Open Science Framework (OSF), and provided a detailed account of all the procedures and measures as well as supplementary materials in SOM. Lastly, we also made our datasets and syntax available on OSF for replication

[\(https://osf.io/rqjq9/\)](https://osf.io/rqjq9/).

Overview of Studies 1a&b

In Study 1a, we conducted a brief survey to examine whether service provider salience was associated with greater feelings of guilt. We then examined whether feelings of guilt were associated with lower intentions to spend money to outsource disliked tasks and lower anticipated happiness from these purchases. 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 organizations, we were uninterested in detecting effects that represented 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; $M_{age} = 35$ -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, Aknin, Norton, Dunn, & Quoidbach, 2013; Killingsworth & Gilbert, 2008).

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

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	.13)
1) Salient Service Provider (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 (PWE)	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. + $p \leq 0.10$, * $p \leq 0.05$; ** $p \leq 0.01$

Service Provider Salience. We then asked respondents to report whether they thought about the 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 another person (i.e., a salient service provider) or whether respondents did not spontaneously consider a purchase that involved outsourcing to another person (i.e., a non-salient service provider).

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 a salient (vs. non-salient) service provider were also 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; Whillans, Weidman & Dunn, 2016; Whillans et al., 2017).

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 other person who would have to complete the disliked task on their behalf reported greater anticipated guilt. We then examined whether higher feelings of guilt undermined respondents' purchase intentions and their anticipated happiness with buying themselves out of a disliked task.

Main Effects

Salient Service Provider. In this study, 68% of respondents spontaneously considered a buying time opportunity that involved a salient service provider; whereas 32% of respondents considered a buying time opportunity that did not. People who reported making purchases from a salient service provider reported wanting 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 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 service providers vs. not were similar in content; yet, the critical difference was that respondents explicitly reported that they thought about the service provider(s) who would have to complete the disliked task on their behalf.

Guilt. Consistent with our theorizing, respondents who reported thinking about a salient service provider 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 a salient

service provider ($M = 21.03$, $SD = 28.19$), $t(206.07) = 3.83$, $p < .001$, 95% CI [6.59, 20.61].

Reporting these results in regression, respondents who thought about a service provider who would have to complete the disliked task on their behalf reported greater guilt as compared to respondents who did not, $B = 13.60$ (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), $B = 11.97$ (3.80), $\beta = 0.18$, $p = .002$, 95% CI of B [4.50, 19.44].

Happiness. We then examined whether the extent to which service provider salience influenced feelings of guilt and undermined anticipated happiness. First, we examined whether there was a direct effect of service provider salience on happiness. There was no direct effect, *direct effect* = -2.03 (3.26), $\beta = -0.04$, $p = .533$, 95% CI [-8.44, 4.37]. Most importantly, we then examined our conceptual model by examining whether the extent to which individuals experienced guilt when thinking about salient service providers undermined their anticipated happiness. Consistent with this hypothesis, there was a significant *indirect effect* = -3.30 (1.14), 95% CI [-5.82, -1.28]. Thus, respondents who thought about the service provider and who experienced greater feelings of guilt, reported experiencing lower anticipated happiness from buying themselves out of a disliked task. These results held controlling for our predetermined set of covariates, *indirect effect* = -3.18 (1.20), 95% CI [-5.68, -1.02].

Intentions. We also examined whether service provider salience influenced intentions via guilt. First, we examined whether there was a direct effect of service provider salience on purchase intentions. In this study, there was a positive direct effect of service provider salience on purchase intentions, *direct effect* = 1.19 (0.41), $\beta = 0.16$, $p = .004$, 95% CI [0.37, 2.00],

suggesting that, on average, service provider salience increased purchase intentions. Most importantly, we then examined our conceptual model by examining whether people who experienced greater guilt were less likely to intend to make time-saving purchases in the near future. Consistent with this hypothesis, there was a significant *indirect effect*, -0.23 (0.11), 95%CI [-0.47, -0.05]. Respondents who thought about a salient service provider, and who experienced greater feelings of guilt, were less likely to intend to buy themselves out of a disliked task in the near future. These results held controlling for our predetermined set of covariates, *indirect effect* = -0.23 (0.10), 95%CI [-0.45, -0.05].

Outsourcing as a Benefit vs. Burden. We then restricted our analyses to people who spontaneously considered a salient service provider ($N=211$). With this restricted sample, we 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, 0.10] and greater intentions to spend money to outsource their disliked task in the near future, *indirect effect* = 0.02 (0.01), 95%CI [0.002, 0.04]. 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/gtb8e/>), along with the data and materials.² We predicted that respondents who spontaneously reported time-saving purchases that involved a salient service provider would report greater guilt when thinking about buying themselves out of a disliked task. We predicted that these greater feelings of guilt would in turn undermine anticipated happiness and intentions to make a time-saving purchase.

To account for potential individual differences in respondents' previous experiences with outsourcing, we pre-registered that we would control for whether respondents reported that their parents typically spent money to outsource disliked tasks while they were growing up, and for respondents' recent experiences with buying time. We conducted all of the 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

² In response to previous suggestions to clarify our terminology, in text we refer to time saving purchases that involve outsourcing to another individual as “service-provider salient” purchases. In the pre-registration, we refer to these purchases as “effort-visible.”

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

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) Salient Service Provider (1=Yes)														
2) Anticipated Guilt	0.18**													
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. ⁺ $p \leq 0.10$, * $p \leq 0.05$; ** $p \leq 0.01$

Guilt. As predicted in our pre-registration, respondents who thought about a service provider who would complete the task on their behalf reported greater feelings of guilt ($M = 41.98$, $SD = 32.67$) as compared to people who did not ($M = 28.98$, $SD = 30.29$), $t(814.15) = 6.42$, $p < .001$, 95%CI [9.03, 16.98]. Reporting these results in regression, respondents who thought about the service provider 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, $B = 13.00$ (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, $B = 8.80$ (2.28), $\beta = 0.13$, $p < .001$, 95%CI of B [4.33, 13.26].

Happiness. We then examined whether the extent to which service provider salience influenced feelings of guilt, and in turn undermined anticipated happiness. Consistent with Study 1a, there was no direct effect of service provider salience on happiness, *direct effect* = 0.65 (1.52), 95% CI [-2.33, 3.62]. Next, we examined our conceptual model, by examining whether the extent to which individuals experienced guilt undermined anticipated happiness. Consistent with this hypothesis, there was a significant *indirect effect* = -1.62 (0.38), 95% CI [-2.44, -0.92]. Respondents who thought about the service provider and who experienced greater feelings of guilt, reported lower anticipated happiness from buying themselves out of a disliked task. These results held for covariates, *indirect effect* = -1.08 (0.37), 95%CI [-1.87, -0.43].

Intentions. We then examined whether the extent to which service provider salience influenced feelings of guilt, undermined purchase intentions. Consistent with Study 1a, there was a positive direct effect of service provider salience on purchase intentions, *direct effect* = 1.87 (0.22), $\beta = 0.26$, $p < .001$, 95% CI [1.45, 2.30], suggesting that, on average, thinking about the service provider was linked to greater purchase intentions.

Next, we examined our conceptual model by examining whether the extent to which individuals experienced guilt undermined purchase intentions. Consistent with our hypothesis, there was a significant *indirect effect* = -0.10 (0.05), 95% [-0.20, -0.01]. Respondents who experienced greater feelings of guilt from thinking about the service provider expressed lower intentions to buy themselves out of a disliked task in future as compared to those who experienced less guilt from thinking about the service provider. These results held controlling for our predetermined set of covariates, *indirect effect* = -0.06 (0.04), 95% CI [-0.14, -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 salient service provider would report lower 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, $r(655) = -0.11, p = .004$, greater anticipated happiness, $r(655) = 0.29, p < .001$, and greater intentions to outsource their disliked task in the near future, $r(649) = 0.19, p < .001$.

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* = 0.02(0.01), 95%CI [0.002, 0.03]. These results held controlling for our predetermined covariates, *indirect effect* = 0.02(0.01), 95%CI [0.002, 0.03]. Respondents who reported that outsourcing was a benefit (vs. a burden) to the service provider reported lower feelings of guilt, which in turn, also predicted greater intentions to outsource the disliked task, *indirect effect* = 0.02 (0.005), 95%CI [0.01, 0.03]. Again, these results held controlling for our predetermined set of covariates, *indirect effect* = 0.01 (0.01), 95%CI [0.004, 0.02].

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 both studies, respondents who spontaneously thought about the person who would have to complete the task on their behalf (salient service provider) 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 (non-salient service provider). Across studies, greater feelings of guilt undermined respondents' anticipated happiness. Guilt also undermined respondents' intentions to spend money to outsource their disliked tasks in future. However, we did not see a significant direct effect of guilt on outsourcing intentions, suggesting that there are critical moderators underlying these effects. Taken together, Studies 1a and 1b provide convincing initial evidence to support our theoretical framework, showing that there is a strong inter-relationship between salience, perceived benefits, guilt, and anticipated happiness.

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).

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 the identifiable victim effect (Kogut & Ritov, 2005). Moreover, these results may explain the lack of direct effect of guilt on outsourcing intentions that we observed across Studies 1a and 1b. Not everyone who thinks about outsourcing to another other person experiences guilt when doing so, as some people think about the opportunity to outsource as a benefit vs. burden.

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, 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 salient 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 salient service providers experienced greater feelings of guilt. In Study 2, to rule out these possible confounds, we developed a lab paradigm to explore the causal relationship between service provider salience, time-saving purchases, and guilt. We examined whether thinking about a salient service provider (vs. not) increased guilt and decreased people's intentions to buy time.

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.

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 in order 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 the results of this pilot study, we were able to set our reward amount to \$7 to ensure that the cash option was equally as satisfying as the free time option for most participants on average.

Protocol

All participants were recruited online and 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, where they could presumably do anything they wanted since the study was administered online. In the non-salient service provider 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 salient service provider 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.”

As a result, Study 2 provides a further test of the implications of whether the service provider was salient or not. In the salient service provider condition, participants were asked to think about the ‘student who would complete the task on their behalf.’ In the control condition, participants were not asked to think about the person who would complete the task on their

behalf; they were simply told that the task would be completed. Because participants in the experimental condition were clearly thinking about the service provider, whereas participants in the control condition were not, this study provides a strong test of the question of whether service provider ‘salience’ shapes time-saving purchase intentions and feelings of guilt.

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 1b, participants reported their responses on a scale from 0-100.³

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 salient service provider condition would be less likely to outsource the disliked task. We also predicted that students who were assigned to the salient service provider condition would feel greater feelings of guilt as compared to students who were randomly assigned to the non-salient service provider condition. Consistent with the results of our correlational studies, we predicted that students who were randomly assigned to the salient service provider condition would experience greater guilt, undermining their willingness to choose free time.

Results

Main Effects

³ 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.

Percentage Who Outsourced. In Study 2, 60% of students decided to keep doing the task, whereas 40% of students exchanged their \$7 for 30 minutes of free-time.

Guilt. Consistent with our pre-registered predictions, participants who were randomly assigned to salient service provider 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 non-salient service provider condition ($M = 29.74$, $SD = 30.58$), $t(348) = 2.73$, $p = .007$, 95% CI [2.56, 15.76].

Choice. Next, we examined whether there was a direct effect of service provider salience on participants' choice to outsource. In this study, there was a direct effect, where service provider salience influenced participants' decision to outsource, $B = -0.54$ ($SE = 0.23$), $Wald = 5.57$, $p = .018$, 95% [0.37, 0.91], meaning that service provider salience alone undermined willingness to outsource. In a chi-square analysis, 44.6% of participants assigned to the control condition outsourced their disliked task. In the service-provider salience condition, 31.9% outsourced the task. Most importantly, and consistent with our pre-registered analyses, we examined whether there was an indirect effect of service provider salience on choice to outsource. We found a significant *indirect effect*, -0.16 (0.07), 95% CI [-0.31, -0.04]. To the extent that participants assigned to the salient (vs. non-salient) service provider condition reported higher feelings of guilt, they were also less likely to exchange their \$7 payment for 30 minutes of free time.

Direct Effect on Happiness. On an exploratory basis, we examined whether condition assignment shaped anticipated happiness. Participants assigned to the salient service provider condition reported that choosing the free time would cause them to feel significantly lower happiness ($M = 38.91$, $SD = 25.75$) as compared to participants who were assigned to the salient service provider condition ($M = 51.51$, $SD = 27.21$), $t(322) =$

4.13, $p < .001$, 95%CI [-18.60, -6.59]. In this study, there was no significant indirect effect of service provider salience on happiness via guilt, *indirect effect* = -.27 (0.35), 95% CI [-1.10, 0.37], meaning that service providers salience was a direct predictor of lower anticipated happiness, regardless of how much guilt participants' experienced.

Study 2 Discussion

In Study 2, we used a novel lab paradigm to examine whether outsourcing to a salient service provider increased guilt and undermined participants' willingness to buy time. As predicted in our pre-registered analyses, service provider salient time-saving purchases resulted in greater guilt as compared to non-salient purchases. In turn, these feelings of guilt undermined respondents' willingness to give up discretionary income to have more free time. In Studies 1a-2, we observed a consistent pattern: time-saving purchases involving a salient service provider increased feelings of guilt. These feelings of guilt in turn undermined respondents' anticipated happiness and their intentions 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. 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 assigned to view advertisements that focused on the benefits to the service-provider (vs. consumer) would experience lower guilt, greater happiness, and greater intentions to use the service. In testing this question, we provide a

valuable test of a practical intervention strategy implied by our theoretical model. If consumers feel guilty when thinking about the person or people who will be completing their tasks, then emphasizing the benefits of task-completion for the service provider(s) should mitigate these feelings of guilt. If true, this framing strategy could be a useful intervention that sharing economies could use to reduce consumers' guilt and improve their satisfaction.

STUDY 3

Overview

A diverse sample of three-hundred and ninety participants from Boston, MA completed three unrelated studies for a \$10 payment (48% female; $M_{age}=28.00$). Participants were randomly assigned to view one of two ads for a popular outsourcing company, *Hello Alfred*. This company offers variety of services, including in-home services like dry-cleaning, grocery shopping, and home cleaning. These tasks are certainly disliked by people — in a nationally representative sample of Americans ($N=1,265$) – 80% of respondents reported thinking about outsourcing household cleaning tasks (Whillans et al., 2017).

Participants were randomly assigned to the consumer-benefits condition or 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. In particular, 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).

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).

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.

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



<p>What We Do</p> <p style="text-align: center;">Time shouldn't be a luxury "We built Alfred to create time for people to do what they love."</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="display: flex; justify-content: space-around; font-size: small;"> MARCELA S. JESSICA B. </p> <p>Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:</p> <ul style="list-style-type: none"> • Clean Their Apartment • Go Grocery Shopping • Pickup Dry Cleaning • Ship Your Packages <p>Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.</p>	<p>What We Do</p> <p style="text-align: center;">Time shouldn't be a luxury "We built Alfred to create time for people to do what they love."</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="display: flex; justify-content: space-around; font-size: small;"> MARCELA S. JESSICA B. </p> <p>Hello Alfred marries powerful technology with excellent service to keep your home running smoothly. Members use us to:</p> <ul style="list-style-type: none"> • Clean Their Apartment • Go Grocery Shopping • Pickup Dry Cleaning • Ship Your Packages <p>Dedicated and trusted Alfred Home Managers coordinate and take care of time-consuming tasks so you can focus on what you love.</p>
 <p>"Whenever I get positive feedback from our clients, I know that the work we do really matters." - Alfred Home Manager</p>	 <p>"There is a sense of peace and calm when you walk into your home and everything is put away." - Alfred Client</p>

Table 4b. Advertisements used that focus on customer vs. service 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 S. 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 S. 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

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 draw. If you win this draw 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 ($M = 18.26$, $SD = 25.26$) as compared to participants who were randomly assigned to view the ads that emphasized the benefits to the consumer ($M = 11.23$, $SD = 28.37$), $t(386.89) = 2.60$, $p = .010$, 95%CI [1.71, 12.34]. 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 ($M = 24.64$, $SD = 27.32$) as compared to participants who were randomly assigned to view the advertisement that emphasized the benefits to the consumer ($M = 31.55$, $SD = 29.93$), $t(393) = 2.40$, $p = .017$, 95%CI [-12.58, -1.23].

Happiness. In this study, there was no main effect of condition assignment on anticipated happiness, $t(394) = 0.86$, $p = .392$, 95%CI [-2.88, 7.35]. However, consistent with the results of Study 1a and 1b, to the extent participants in the service provider-benefits condition reported lower guilt, they also reported greater anticipated happiness with using the

service, *indirect effect* = 1.82 (0.84), 95%CI [-0.32, 3.65].⁴

Intentions. In this study, there was no direct effect of condition assignment on intentions to make a time-saving purchase in the near future, $t(394) = 0.614$, 95% [-0.79, 0.47]. However, consistent with Study 1a and 1b, to the extent that participants in the provider-benefits condition reported lower levels of guilt, participants also reported greater intentions to use the service in the near future, *indirect effect* = 0.22 (0.10), 95% [0.03, 0.41].

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). Therefore, this study should not be considered to be a behavior test of our hypothesis.

General Discussion

This research provides the first empirical evidence that feelings of guilt can undermine individuals' willingness to make time-saving purchases. Across two large-scale surveys, including a nationally representative sample of working adults, respondents who reported thinking about the person who would complete a disliked task on their behalf reported greater feelings of guilt, in turn undermining their anticipated happiness and their purchase intentions (Studies 1a and 1b). In an experiment using a novel lab paradigm, simply telling participants that another person would complete the task on their behalf increased guilt and undermined participants' willingness to spend money to have additional free time (Study 2). On an exploratory basis, we also examined in Study 2 whether thinking about a salient service

⁴ On an exploratory basis, we examined whether there was an interaction between condition assignment and gender to predict guilt. This interaction was not significant, $F(1, 394) = 2.60$, $p = .108$, suggesting that whether the service providers were male or female, participants reported greater guilt when viewing consumer vs. service provider benefit focused messages.

provider decreased happiness via guilt. Inconsistent with Studies 1a and 1b, we did not see a significant indirect effect of service provider salience on happiness. However, this suggests that service provider salience could be in and of itself a strong predictor for happiness even in the absence of guilt, when outsourcing unwanted tasks for free time. In another experiment, we found a simple method of mitigating the negative impact of guilt on happiness and purchase intentions: 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 (Whillans et al., 2017; Dunn, Whillans, Aknin & Norton, 2019). Critically, this research points to an unexamined barrier that can prevent people from utilizing time-saving services: feelings of guilt that arise from outsourcing to a salient service provider. It is worth noting that these findings contrast with research showing that operational transparency—disclosing information about company’s practices, policies, and decision-making processes—promote customer satisfaction (Buell & Norton, 2011). In doing so, this research adds nuance to the idea that operational transparency does not always enhance customer satisfaction. When the effort that is expended on a customers’ behalf involves another person (e.g., a housecleaner), 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 consumers’ 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 the 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, further research should 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 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 and trust (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.

Future research could also borrow insights from the social support literature to examine *when* time-saving purchases might be the most likely to promote happiness. For

example, making a time-saving purchase could be considered a form of problem-focused coping—a way of dealing with stress that focuses on altering the stressful situation directly rather than regulating negative emotions associated with the stressful situation (Folkman & Lazarus, 1980; 1985). According to the Goodness-of-Fit Hypothesis, problem-focused coping should be most effective under conditions where the stressful situation is appraised as controllable as compared to when the stressful situation is appraised as uncontrollable. In contrast, the Goodness-of-Fit Hypothesis posits that coping responses that attempt to regulate emotions arising from the stressful situation should be more effective when the situation is appraised as uncontrollable as compared to when it is appraised as controllable (Folkman, Schaefer, & Lazarus, 1979; Forsythe & Compas, 1987; Park, Folkman, & Bostrom, 2001).

In line with the Goodness-of-Fit Hypothesis, there might be critical differences for when time-saving purchases are likely to promote greater well-being as compared to other common purchases, such as material or experiential purchases. Time-saving purchases might be most likely to promote well-being when individuals are dealing with controllable stressors, such as having too many tasks at home to complete and not enough time to do them. In contrast, experiential purchases, such as going out to a movie or to a show, might be most likely to be effective when couples are dealing with non-controllable stressors, such as an illness of a friend or a loved one. Continuing to draw connections between research on social support and research on the sharing economy will be a productive avenue for future research.

Our findings also support the idea that individuals are sensitive to the treatment of the 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 campaign, this company randomly assigned users to view a web page that highlighted the benefits of using their service for the service provider or a webpage that highlighted the benefits of using their service for the consumer. In this experiment, more consumers clicked the ad when the company highlighted the benefits of using the service for the provider (3.90%) compared to when the company highlighted the benefits of using the service for the consumer (2.63%). This field experiment provides evidence that companies offering service providers competitive wages could benefit from showcasing these facts to their consumers.

Despite this promising experiment, the current research provides limited behavioral evidence in support of our core hypotheses. Although we have preliminary results showing that promoting the benefits of task provision for the service provider (vs. consumer) increases purchase intentions, we are not able to observe whether these intentions result in actual purchase decisions outside of a laboratory context. Thus, further research should investigate the influence of service provider saliency on actual purchase behavior and emphasizing how highlighting the benefits for the service provider can shape consumption decisions over time.

Another limitation of the current paper is that we only tested the moderating role of perceived benefits (vs. burdens) among individuals already thinking about service provider(s). It is possible that similar results could emerge among consumers who generally perceive time-saving services as beneficial (vs. harmful) to society. Future studies should therefore examine how consumers' general perceptions of time-saving purchases (in the absence of thinking about a salient service provider) shapes guilt, satisfaction, and consumption intentions. A

related limitation is that we do not have a study that provides a direct comparison between people who thought about the benefit vs. burdens for the service provider and the benefit vs. burdens of time-saving services more broadly. Conducting a 2 (benefit vs. burden) x 2 (salient vs. non-salient service provider) would allow researchers to formally test this distinction.

More broadly, our findings, and the results from Study 3, suggest that individuals are responsive to the welfare of service providers employed by sharing economy companies. While some service providers, such as our collaborator, prioritize the well-being of employees, other sharing economy companies fail to prioritize the well-being of their workers (Gino, 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 to consumers, sharing economy companies could promote the well-being of employees, consumers, and increase the number of individuals who use their services, increasing profit.

Although the scope of our paper focused on individual service providers and guilt, future research should also examine why people don't spontaneously think about the benefits of time-saving services for consumers. Exploring why people fail to think about service provider benefits could allow researchers to identify the specific interventions that would help consumers recognize the benefits (to the extent they exist). For example, if people are simply mispredicting that the task will be unenjoyable to another person, companies could implement ads that highlight to consumers that many service providers enjoy their work. Therefore, investigating when and why people think about the benefit or burden of service providers could lead to the development of effective advertisements, increasing people's intentions to buy time.

Our findings that link 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 et al., 2017). 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, we find that a critical source of guilt is the perceived burden placed on the service provider. These findings are consistent with research on the identifiable victim effect showing people are more emotionally responsive to the hardship of others when they know details about them (e.g., Dickert & Slovic, 2009; Cryder, Loewenstein, & Scheines, 2013). However, there are likely several other causes of guilt, including a pre-disposition for guilt-proneness (Flynn & Schaumberg, 2012), perceived moral obligation to complete one's own household chores, or the perception that buying time is a luxury expense. Purchase characteristics—such as perceived intimacy—could also 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 then time-saving services would not evoke guilt and would be more likely to promote happiness. Future research 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 salient individuals (vs. not) may exist for a justified reason. In another study that we conducted ($N=322$), respondents who spent money to outsource a disliked task to a salient service provider enjoyed their free-time less than respondents who spent money to outsource a disliked

task to a salient service provider (See SOM of the current manuscript for results). These findings suggest that guilt may act as a catalyst, guiding consumers to avoid time-saving services that involve outsourcing tasks to other people as to not fail to enjoy their leisure.

Outsourcing a disliked task might also feel self-indulgent or signal personal inadequacy. This possibility is in line with our examination on protestant work ethic (PWE). People who score higher on protestant work ethic 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 (e.g., Furnham, 1982; Furnham, 1984; Greenberg, 1977). Consistent with this reasoning, we found that respondents who scored higher in PWE reported greater feelings of guilt about thinking of buying themselves out of this disliked task. However, those who scored higher in PWE were also more likely to buy time; therefore, these divergent findings require additional research to disentangle (SOM). Since PWE was a significant predictor of guilt and intentions to buy time, we controlled for PWE in all of our analyses and confirmed that all of our reported results remained significant. We then moved onto exploring the moderating effect of PWE on the relationships between service provider salience and guilt, happiness, and intentions. We did not find PWE to be a significant moderator for any of these relationships. See SOM for results.

Overall, these results provide evidence that service provider salience predicts guilt above and beyond alternative constructs (i.e., PWE) that could otherwise explain when and how individuals experience guilt, lower anticipated satisfaction from buying time, and reduced intentions to buy time. However, there could still be other potential explanations for this phenomenon that are outside the scope of our current work. For example, people who under-recognize the value of time may feel guilty from making time saving purchases because they

feel as if time-saving purchases are a waste of money (see Pfeffer & DeVoe, 2009 for a similar argument). Moreover, people's broader beliefs about the benefit vs. burdens of sharing economy companies could be an alternative source of guilt—particularly if consumers feel that these sharing economy companies are unethical or treat their workers unfairly (see Study 2; Akinola, Martin, & Philips, 2018 for a similar argument). Future research should explore these additional pathways linking salient identification of service providers with enhanced feelings of guilt, lower anticipated happiness, and consumer intentions.

It is worth noting that we sought to prioritize ecological validity. As a result, the benefits that were highlighted across ads in Study 3 differed across versions. Some of the ads featured benefits that highlighted the pleasant nature of providing the services (e.g., service providers acquiring meaning from having a happy client), while other ads highlighted the positive impact for the provider's skills (e.g., service providers acquiring skills from helping clients). While we were interested in the broader question of whether highlighting the benefits (regardless of what these benefits were) would shape how consumers felt about the services, future research should explore which types of benefits are most effective. For example, previous research has shown that prosocial benefits (like highlighting how the service has a positive impact for people's family) might be more effective than self-focused benefits (like highlighting how the service might have a positive impact in terms of developing one's skills; Tost & Grant, 2009). Future research should explore these and related possibilities.

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, 1997). 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 helping to explain why people fail to make time-saving purchases at home and at work. Practically, this research points to simple interventions that might help organizations increase the well-being and productivity of their workforce by encouraging employees to make time-saving purchases, such as by emphasizing the benefit of these purchases for the service providers.

Data Accessibility Statement

The data and materials that show these findings are openly available on OSF at:

<https://osf.io/rqjq9/>.

Competing Interest

The authors have no competing interests to declare.

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