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Abstract

Conflicts over chores are one of the primary reasons that couples divorce: both men and women become frustrated working a "second shift" at home. Recent research offers a potential solution to this source of marital conflict: time-saving purchases, such as hiring a housecleaner, can improve personal happiness. Yet, nothing is known about whether and how time-saving purchases promote relationship satisfaction. Across seven studies assessing co-habitating working adults in committed relationships (*N*=3,206), we find evidence that buying time promotes relationship satisfaction. These benefits occur because buying time protects couples from the negative impact of relationship stress, and enables couples to spend more quality time together. We also document a boundary condition of these effects: Time-saving purchases are most likely to promote relationship satisfaction when couples face controllable (vs. uncontrollable) stressors in their everyday lives. Taken together, this research points to a relatively simple solution to a critical source of marital conflict: spend money to buy time.

Key Words: Time; Money; Couples; Social Support; Relationship Satisfaction; Marriage

People today report being too busy to talk with their friends, family, and even their romantic partners. In the US, a survey of more than thirty thousand workers revealed that 90% of respondents reported moderate to high levels of role overload, meaning they were trying to do too many things at once to meet the demands of work and life (Duxbury, Higgins & Schroeder, 2009). This busyness comes at a social cost—most individuals that were surveyed in this research reported that they did not spend enough time with their spouses. What are the strategies that individuals and couples can employ to reduce time stress and promote happiness?

One way that people can lower the demands of daily life is to spend money to save time. In a recent set of studies, people who spent money to save time—such as by outsourcing disliked tasks to others—reported greater life satisfaction (Whillans et al., 2017). The benefits of time-saving purchases held across the income spectrum—both lower and higher income individuals benefitted from spending money on time-saving purchases. In an experiment conducted on this topic, individuals reported greater positive mood and lower negative mood after spending $40 on a time-saving purchase (e.g., housecleaning or grocery delivery) than after spending $40 on a material purchase for themselves. The benefits of buying time emerged in part because time-saving purchases protected consumers from the negative impact of time-stress. These results point to the idea that buying time can promote well-being. Building on this research, we sought to examine whether and how buying time might also promote relationship satisfaction.

Why Buying Time Promotes Relationship Satisfaction

A persistent source of frustration in romantic relationships stems from household chores. In one nationally representative study of new divorcees in the US, 25% of respondents cited "disagreements about housework" as the number one reason for their divorce; a close third after "infidelity" (40%) and "drifting apart" (35%). Technology offers a path towards more productive

relationships. Companies such as *TaskRabbit* have made it increasingly possible for consumers to outsource nearly any household chore. Recent research suggests that time-saving purchases, such as hiring a housecleaner, can improve individual happiness and reduce stress (Whillans et al., 2017). However, nothing is known about whether, when, and why making time-saving purchases together with our loved ones might promote relationship satisfaction.

More broadly, financial matters are highly influential in the success of relationships (Amato & Rogers, 1997; Conger, Rueter & Elder, 1999, Dew & Wilcox, 2011; Stanley, Markman & Whitton, 2002). Focusing on materialistic values can be associated with increased anxiety, depression, and even physical health symptoms for individuals in long-term committed relationships (Nickerson, Schwarz, Diener & Kahneman, 2003; Park, Ward & Gainey, 2017). These findings point to the possibility that spending money in ways that will save time could be a profitable pathway from spending to happiness within romantic relationships. Thus, the first goal of this paper is to examine whether time-saving purchases promote relationship satisfaction.

When Buying Time Might Promote Relationship Satisfaction

In addition to examining whether time-saving purchases promote relationship satisfaction, we also sought to examine *when* and *why* buying time may promote satisfaction. To begin to answer this question, we turned to the social support literature. In light of this literature, time-saving purchases could be considered a form of problem-focused coping—a way of dealing with stressful events that focuses on altering the stressful situation directly rather than regulating the negative emotions associated with the stressful event (Folkman & Lazarus, 1980; 1985). According to the Goodness of Fit Hypothesis, problem-focused coping should be the 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, this theory posits that coping responses that attempt to regulate emotions that arise from stressful situations should be more effective when the situations are appraised as uncontrollable as compared to when the situations are appraised as controllable (Folkman, Schaefer, & Lazarus, 1979; Forsythe & Compas, 1987; Park, Folkman, & Bostrom, 2001).

Consistent with the Goodness-of-Fit Hypothesis, there are likely critical differences in when time-saving purchases should be most likely to promote relationship satisfaction. For example, time-saving purchases should be most likely to enhance satisfaction when couples are faced with controllable stressors, such as having too many tasks at home to complete and not enough time to do them. In contrast, other purchases commonly made by couples, like experiential purchases—such as going out for dinner—should be most likely to promote relationship satisfaction when couples are dealing with non-controllable stressors, such as the illness of a friend or a loved one. Thus, in the second section of this paper, we explore *when* time-saving purchases might be most likely to promote well-being: when couples are faced with controllable (vs. uncontrollable stressors). In doing so, this research draws novel connections between the social support literature and recent research examining the benefits of buying time (Hershfield, Mogilner & Barnea, 2016; Mogilner, Whillans & Norton, 2018; Whillans, Weidman, & Dunn, 2016; Whillans et al., 2017; Whillans, 2017).

Overview

In the current research, we examine whether, why, and when time-saving purchases promote relationship satisfaction. First, we provide evidence that buying time promotes relationship satisfaction because time-saving purchases enable couples to spend more quality time together and because these purchases protect couples from the negative impact of relationship stress on overall relationship satisfaction (Studies 1a&b). In Study 2, we recruit

romantic dyads and show that time-saving purchases promote relationship satisfaction because these purchases enable partners to spend more quality time together. Next, we provide causal evidence. Using a well-validated recollection paradigm (Chan & Mogilner, 2017; VanBoven & Gilovich, 2003), we find that time-saving (vs. material purchases) enable respondents to spend more quality time together with their partner, in turn increasing greater post-purchase relationship satisfaction (Study 3a&b). We then use this paradigm to explore *when* time-saving purchases increase relationship satisfaction, showing that buying time promotes satisfaction when couples are faced with controllable (vs. uncontrollable) stressors (Studies 4a&b).

In this manuscript, we report data from seven studies that employ both correlational and experimental designs (*N*=3,206). Demographic characteristics are presented in Table 1. In this manuscript, we follow the reporting standards proposed by Simmons, Nelson & Simonsohn (2011): we report all exclusions, every central measure given, and the stopping rule for each study. We pre-registered Studies 3b and 4b through the Open Science Framework.

Time Saving Purchases

Across studies, we implemented the identical measure of buying time from previously published research (Whillans et al., 2017): Respondents were asked to complete the following question: "In a typical month, do you and your partner spend any money on time-saving purchases? Specifically, do you and your partner spend any money with the primary intention of acquiring free time: a purchase that allows you and your partner to have more time? For example, do you and your partner spend money to take a taxi instead of the bus, to purchase household services (e.g., lawn-mowing, laundry, or housecleaning services), to use online services (online accounting software and research services), or to purchase more expensive groceries from a grocery story?" Consistent with previous research, we focused our analyses on

whether couples spent any money to buy time (vs. amount spent; see: Herschfield, Barnea & Mogilner, 2016; Whillans, Weidman & Dunn, 2016; Whillans et al., 2017). We report the results on amount spent for Studies 1a&b and Study 2 in the Supplemental Information (SI).

Table 1. Demographic Characteristics Across Studies

	Study						
	1a	1b	2	3a	3b	4a	4b
N	424	624	193	289	600	473	603
% buying time (1=yes)	26.4%	45.0%	36.0%	--	--	--	--
% female	51.0%	54.7%	--	53.3%	53.9%	51.0%	56.9%
Md, age	25-34 years	35-44 years	35-44 years	35-44 years	35-44 years	35-44 years	25-34 years
Md, family annual income	$60K-$74K	$75K-$99K	$75-$99K	$60K-$69K	$60K-$69K	$60K-$69K	$60K-$69K
Md (range) # of children	0 (0-6+)	1 (0-6+)	1 (0-6+)	1 (0-6+)	1 (0-6+)	1 (0-6+)	1 (0-6+)
Md # of work hours/wk	40+ hours	40+ hours	40+ hours	40+ hours	40+ hours	40+ hours	40+ hours
Md # of work hours/wk (partner)	40+ hours	40+ hours	40+ hours	--	--	--	

Study 1a

Overview

In Study 1a, we examined the association between time-saving purchases and relationship satisfaction. Specifically, we tested whether respondents in a committed relationship would report greater relationship satisfaction if they made time-saving purchases together with their partner. We also assessed whether these results held controlling for demographic variables such as age, gender, marital status, number of kids living at home, household income, and whether respondents reported spending any money on material and experiential purchases each month. Consistent with previous research (Whillans et al., 2017), we also examined whether time-saving purchases increased relationship satisfaction by protecting couples from the negative impact of stress on relationship satisfaction. Lastly, we examined whether time-saving purchases promoted relationship satisfaction by enabling partners to spend more quality time with one another.

Participants and Procedure

In Study 1a, we recruited respondents from Amazon's Mechanical Turk (51% female), who completed our short survey in exchange for $0.80 USD. We targeted *N*=400 participants (200 males and 200 females) and we slightly over-recruited, resulting in a final sample of *N*=424. Respondents were eligible to complete the study if they were employed full-time, married or in a marriage-like relationship, and if they lived together with their partner (who also had to be employed outside the home at least 20 hours/week). To encourage honest reporting of demographic characteristics, we told respondents that there were no right or wrong answers, and that depending on how they answered the eligibility survey, they might view different survey items. All ineligible respondents completed another, unrelated study.

Participants first completed several measures of relationship satisfaction (described below). Participants then reported how much overall relationship conflict that they typically experienced, how much relationship conflict that they experienced over their finances, and how much conflict that they personally experienced between work and family life. Respondents also reported how much quality time they spent together with their partner in a typical month, and whether they spent any money on time-saving purchases in a typical month. Finally, respondents completed several demographic questions (e.g., gender, household income, age). On an exploratory basis, respondents also completed several questions about the specific details of the time-saving purchases that they made (e.g., how much time these purchases saved and whether these purchases primarily benefited their partner vs. themselves). Given the inconsistency of these data, to promote readability, we report the results of these exploratory measures in the SI.

Measures

Relationship Satisfaction. Participants first completed a 4-item measure of overall relationship satisfaction, reporting their relationship satisfaction on a scale from *1=Extremely Dissatisfied* to *7=Extremely Satisfied* (E.g., "How satisfied are you with your marriage or marriage-like relationship?"; $\alpha = 0.92$; Chumm et al., 1983). Next, respondents completed a 14-item measure of relationship commitment, reporting their relationship commitment on a scale from *1=Not at all* to *7=Extremely* (E.g., "I feel committed to maintaining my relationship with my partner"; $\alpha = 0.95$, Rusbult et al., 1998). Respondents then completed a 6-item measure of their partners' commitment in their relationship on a scale from *1=Not at all* to *7=Extremely* (E.g., "I feel like my partner is very involved in our relationship; $\alpha = 0.95$, Gable & Poore, 2008). Finally, respondents completed a five-item measure assessing how much they appreciated their partner on a scale from *1=Not at all* to *7=Extremely* (E.g., "I feel very lucky to have my

partner in my life," α = 0.98; Gable & Poore, 2009). All of these items held together (α = 0.98) and formed a one-factor solution explaining 67% of the variance in these items. As a data reduction strategy, we combined these measures to form an overall satisfaction composite.

Relationship Conflict. After reporting on their relationship satisfaction, respondents completed three measures designed to assess three common forms of relationship conflict: overall relationship disagreement, financial conflict, and conflict between work and family life. First, respondents completed a 4-item measure assessing overall relationship conflict. Respondents reported the extent to which they agreed with items such as "How often do you and your partner quarrel?" on a scale from *1=Never* to *6=All the time* (α =0.92; Spanier, 1976). Next, respondents completed a 6-item measure assessing how often they fought with their partner about finances. Respondents reported the extent to which they agreed with items such as "How often do you have financial disagreements with your partner?" on a scale from *1=Never* to *6=All the time* (α = 0.89; Busby et al., 1995). Lastly, respondents completed an 8-item measure assessing conflict between work and family life. Respondents reported the extent to which they agreed with items such as "The demands of my work interfere with my home and family life" on a scale from *1=Strongly Disagree* to *7=Strongly Agree* (α = 0.93; Netermeyer, Boles & McMurrian, 1996). See Table 2 for a correlation table between all variables examined.

Time-Use & Quality Time. We also assessed two potential mediators: the number of chores that partners completed and the amount of quality time that couples spent together. To measure the number of chores that respondents completed, we asked respondents to indicate which household tasks that they had completed in the last week from a comprehensive list (e.g., groceries, cooking, dishes, lawnmowing). We then asked respondents to indicate how much time they spent completing each of these activities in the last week. We averaged respondents'

answers to these measures to form a proxy of how many hours respondents spent completing chores in the past 7 days. As a measure of time spent with one's partner, we asked respondents to complete a 1-item measure: "How much quality time do you spend with your partner in a typical month" on a scale from 1=*Very little/None* to *7 = A great deal*.

Discretionary Income & Demographics. The decision to spend money on time-saving purchases might reflect, in part, respondents' level of discretionary income. Thus, as a measure of nondurable spending, we assessed respondents' spending on material and experiential purchases (e.g., Headey, Muffels & Wooden, 2004; VanBoven & Gilovich, 2003; Whillans et al., 2017). We also controlled for the identical covariates from related research as follows: respondents' age, the number of children living at home, total annual household income, gender, and the number of hours respondents' typically worked at their job each week (Mogilner, Chance & Norton, 2012; Whillans, Weidman & Dunn, 2016).

Other Measures. Because we collected these data as part of a larger study examining time-use, chores, and relationship satisfaction, participants completed several measures tangential to the present hypothesis (see SI for other measures completed as part of this study).

Table 2. Correlation Table of All Variables Assessed in Study 1a.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Time Saving (1=Yes)												
2. Rel. Satisfaction	0.09*											
3. Relationship Conflict	0.01	-0.49**										
4. Financial Conflict	0.08+	-0.38**	0.31**									
5. Work Life Conflict	0.08+	-0.17**	-0.02	0.24**								
6. Number of Chores	-0.11*	0.15**	0.12**	-0.09+	0.03							
7. Age	-0.05	-0.03	0.06	-0.07	0.10*	0.08+						
8. Gender (1=female)	-0.08+	-0.13**	-0.04	0.11*	-0.004	0.09*	0.09+					
9. # of Kids at Home	-0.10*	-0.03	0.01	0.11*	-0.05	0.11*	0.25**	0.11*				
10. HH Income	0.04	0.16**	0.22**	-0.20**	-0.06	0.13**	0.23**	-0.03	0.11*			
11. FTE (1=Yes)	-0.05	0.04	0.01	-0.09*	-0.04	0.06	-0.02	-0.09+	-0.13*	0.12*		
12. Experiences (1=Yes)	-0.004	0.20**	0.27**	-0.17**	0.07	0.09+	0.09+	-0.07	-0.13**	0.33**	0.07	
13. Material (1=Yes)	-0.12*	0.21**	0.27**	-0.13**	0.05	0.18**	0.18**	0.13*	0.04	0.20**	0.09+	0.43**

Results

 Relationship Satisfaction. In Study 1a, 26.4% of respondents spent money on time-saving purchases with their partner in a typical month. Consistent with our hypothesis, respondents who spent money on time-saving purchases reported higher relationship satisfaction (*M*=5.96, *SD*=0.94) as compared to respondents who did not spend money on time-saving purchases (*M*=5.71, *SD*=1.23), *t*(253.36)=2.19, *p*=0.029, 95%CI [0.03, 0.47], *d*=0.23.

 Reporting these results in regression, time saving purchases were a marginally significant predictor of overall relationship satisfaction, *β*=0.09, *B*=0.25(0.13), *p*=0.053; these results were statistically consistent upon controlling for age, gender, number of children living at home, full-time employment, annual household income, and whether couples made experiential or material purchases each month, *β*=0.10, *B*=0.26(0.13), *p*=0.042. See Table 3 for the final regression model including covariates. Couples who spent money on time-saving purchases also reported greater financial conflict and greater conflict between work and life demands (Table 2). The association between time-saving purchases and relationship satisfaction was stronger controlling for the financial and work-life conflict measures; without other covariates: *β*=0.11, *B*=0.28 (0.12), *p*=0.019; with all other covariates, *β*=0.11, *B*=0.29 (0.11), *p*=0.015. These results suggest that conflict partially suppressed the association between time-saving purchases and relationship satisfaction; a point we will return to in Study 1b.

Table 3. Time saving purchases are associated with higher relationship satisfaction

	β	B	SE	P value for predictor	F value for model	P value for model	R^2
Time Saving	0.10	0.26	0.13	0.042			
Age	-0.09	-0.10	0.06	0.090			
Gender (1=Female)	-0.14	-0.32	0.11	0.004			
Number of Kids Living at Home	0.01	0.01	0.05	0.869			
Household Income	0.10	0.04	0.02	0.053			
Hours/Week (1=40+ hours)	-0.01	-0.02	0.12	0.894			
Experiential Purchases (1=Yes)	0.08	0.20	0.13	0.142			
Material Purchases (1=Yes)	0.21	0.59	0.15	<0.001			
					$F(8, 416) = 6.10$	<0.001	0.11

Do Time Saving Purchases Protect Couples from Relationship Conflict?

Following from previous research (Whillans et al., 2017), we examined whether time-saving purchases were associated with greater relationship satisfaction because making these purchases protected partners from the negative impact of various conflicts on relationship satisfaction. To test these predictions, we conducted three separate regression models. In these models, we entered time-saving purchase (1=*yes*), a centered conflict measure (overall, financial, or work-life conflict), and a time-saving purchase X conflict interaction term into a regression model to predict relationship satisfaction. We report these results below.

Overall Relationship Conflict. First, we examined overall relationship conflict. There was a significant interaction between time-saving purchases and relationship conflict to predict relationship satisfaction, β=0.23, B=0.46 (0.10), p<0.001. This result held controlling for the covariates listed in Table 3, β=0.22, B=0.44 (0.10), p<0.001. Decomposing this interaction, among respondents who reported that they spent money on time-saving purchases with their partner in a typical month (N=111), there was a small, negative association between relationship conflict and relationship satisfaction, β=-0.21, B=-0.18 (0.07), p=0.023. However, for respondents who did not spend any money on time-saving purchases with their partner in a typical month (N=311), there was a strong, negative association between relationship conflict and relationship satisfaction, β=-0.58, B=-0.64 (0.05), p<0.001. Thus, time-saving purchases protected couples from the negative impact of relationship conflict on relationship satisfaction.

Financial Conflict. The interaction between time-saving purchases and financial conflict to predict relationship satisfaction was not significant, β=0.07, B=0.15 (0.12), p=0.224.

Work Life Conflict. The interaction between time-saving purchases and work-life conflict was not significant (β=-0.01, B=-0.01, p=0.957).

Do Time Saving Purchases Help Couples Spend More Time Together?

Chores. As evidenced in Table 2, couples who spent money on time-saving purchases completed fewer chores. Consequently, we examined whether a reduction in chores helped to explain why time-saving purchases promoted relationship satisfaction. Using the Preacher & Hayes Process Macro with 10,000 bootstrapped samples to test for mediation, this reduction in the amount of chores completed did not explain why time-saving purchases promoted greater relationship satisfaction, *Indirect Effect*=-0.03 (0.02), 95%CI [-0.01, 0.13].

Quality Time Together. As evidenced in Table 2, couples who spent money on time-saving purchases also spent more quality time together. Thus, we examined whether an increase in quality time spent together explained why time-saving purchases promoted relationship satisfaction. Consistent with this hypothesis, using the Preacher & Hayes Process Macro with 10,000 bootstrapped samples, there was a significant mediation, *Effect*=0.21(0.07), 95% [0.08, 0.35]. Respondents who spent money on time-saving purchases spent more quality time with their partners, *B*=0.51(0.15), *t*(423)=3.30, 95% [0.21, 0.81]. Respondents who spent more time together with their partners reported greater relationship satisfaction, *B*=0.41(0.04), *t*(423)=11.65, 95% [0.34, 0.48]. Finally, when including quality time spent with their partner in the model, time-saving purchases no longer predicted overall relationship satisfaction, *B*=0.04 (0.11), *t*(423)=0.36, *p*=0.721, 95% [-0.18, 0.26]. Thus, time-saving purchases promoted relationship satisfaction by increasing the amount of quality time that couples spent together.

Study 1a Discussion

In an initial Mturk study, respondents who spent money on time-saving purchases reported greater overall relationship satisfaction, in part because respondents were able to spend more quality time with their partners. In this study, we assessed whether time-saving purchases

promoted relationship satisfaction because these purchases helped to protect couples from the negative impact of various types of conflict on relationship satisfaction. We found limited evidence for this hypothesis: Respondents who spent money on time-saving purchases were less negatively impacted by relationship conflict. However, we did not observe this pattern of results for the financial conflict or work-life conflict measures. It is worth pointing out that our study was likely underpowered to detect interaction effects because only a small minority of respondents spent money on time-saving purchases in a typical month (26.4%; N=111). Consequently, to replicate the results that we observed in Study 1, and to increase our statistical power to detect potential interaction effects, we conducted a second study with a larger sample of respondents recruited through the professional survey company, Qualtrics.

Study 1b

Participants and Procedure.

In Study 1b, we targeted N=600 respondents (N=300 males and N=300 females) and Qualtrics slightly over-recruited above our pre-determined target (N=617). Consistent with the requirements of Study 1a, respondents were eligible for the study if they were employed full-time, married or in a marriage-like relationship, and reported living with their partner (who was also employed at least part-time outside the home). See Table 1 for the demographic characteristics of this sample. Respondents completed the identical relationship satisfaction, overall conflict, financial conflict, work-life conflict, quality time, chores, and demographic questions from Study 1a. Because this data collection was part of a larger study, respondents also completed measures unrelated to the current hypotheses. See SI for these additional measures. See Table 4 for a correlation table of the key variables measured in this study.

Results

      Buying Time. In this study, 44% of respondents spent money on time-saving purchases with their partner in a typical month. Consistent with the analytic strategy of Study 1a, we combined the relationship measures to create an index of relationship satisfaction (α=0.97).

      Relationship Satisfaction. Consistent with Study 1a, respondents who spent money on time-saving purchases with their partner in a typical month reported greater relationship satisfaction (*M*=5.96, *SD*=1.26) as compared to respondents who did not spend money on time-saving purchases (*M*=5.63, *SD*=1.35), *t*(616) = 3.10, *p*=0.002, 95%CI [0.12, 0.54], *d*=0.23.

      Reporting these results in regression, time-saving purchases were a significant predictor of relationship satisfaction, *β*=0.12, *B*=0.33 (0.11), *p*=0.002; these results were slightly attenuated when controlling for age, gender, number of children living at home, number of hours worked in a typical week, household income, and experiential and material purchases, *β*=0.10, *B*=0.25 (0.12), *p*=0.035. See Table 5 for the final regression model including covariates.

Table 4. Correlation table between all the variables in Study 1b.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Time Saving (1=Yes)												
2. Rel. Satisfaction	0.14**											
3. Relationship Conflict	0.19**	-0.19**										
4. Financial Conflict	0.10**	-0.24**	0.20**									
5. Work Life Conflict	0.44**	0.03	0.45**	0.17**								
6. Number of Chores	-0.18**	-0.07+	0.09*	0.03	0.17**							
7. Age	-0.21**	-0.12**	-0.16**	0.11**	-0.26**	0.09*						
8. Gender (1=female)	-0.27**	-0.14**	-0.04	0.06	-0.19**	0.15*	-0.01					
9. # of Kids at Home	0.01	-0.06	0.05	-0.02	0.03	0.10*	0.17**	-0.06				
10. HH Income	0.09*	0.02	-0.11**	0.03	0.02	0.09*	0.17**	-0.08*	0.07			
11. FTE (1=Yes)	-0.03	-0.05	-0.07+	0.04	-0.09*	0.06	0.06	-0.06	-0.01	0.02		
12. Experiences (1=Yes)	0.33**	0.07	0.07	0.01	0.14**	-0.03	-0.11**	-0.09*	-0.10*	0.12**	0.01	
13. Material (1=Yes)	0.06	-0.01	0.05	0.05	0.01	0.11**	-0.03	0.10*	0.08*	-0.005	0.03	0.37**

Table 5. Time saving purchases are associated with higher relationship satisfaction

	β	B	SE	P value for predictor	F value for model	P value for model	R^2
Time Saving	0.10	0.25	0.12	0.035			
Age	-0.08	-0.10	0.05	0.062			
Gender (1=Female)	-0.12	-0.31	0.11	0.007			
Number of Kids Living at Home	-0.05	-0.06	0.05	0.213			
Household Income	0.01	0.01	0.02	0.728			
Hours/Week (1=40+ hours)	-0.05	-0.13	0.11	0.227			
Experiential Purchases (1=Yes)	0.02	0.03	0.13	0.801			
Material Purchases (1=Yes)	0.01	0.04	0.16	0.794			
					$F(8, 604) = 3.48$	= 0.001	0.05

Consistent with the results of Study 1a, respondents who spent money on time-saving purchases disagreed more with their partner overall, and disagreed more about their finances (Table 4). In Study 1b, respondents who spent money on time-saving purchases also reported greater conflict between work and family life (Table 4). Once again, the association between time-saving purchases and relationship satisfaction was stronger upon controlling for these variables (without other covariates: β=0.16, B=0.42 (0.11), p<0.001; with all other covariates, β=0.12, B=0.33 (0.12), p=0.007). Overall conflict, financial disagreement, and work/life conflict therefore partially suppressed the association between time-saving purchases and relationship satisfaction. In addition to examining whether these variables suppressed this association, we also examined whether time-saving purchases *protected* respondents from the negative impact of various forms of conflict (overall, financial, and work/life) on relationship satisfaction.

Do Time Saving Purchases Protect Couples from Relationship Stressors?

Again, we tested whether time-saving purchases protected respondents from the negative impact of relationship conflict on relationship satisfaction. To test these predictions, we entered time-saving purchases (1=*yes*), a centered conflict variable, and a time-saving purchase X conflict interaction into a regression model to predict relationship satisfaction.

Overall Conflict. There was a significant interaction between time-saving purchases and overall relationship conflict to predict relationship satisfaction, β=0.17, B=0.27 (0.09), p=0.002. This result held controlling for the covariates listed in Table 5, β=0.15, B=0.39 (0.12), p=0.001. Decomposing this interaction, among respondents who reported that they spent money on time-saving purchases together with their partner in a typical month (*N*=278), there was a small, negative association between conflict and relationship satisfaction, β=-0.12, B=-0.12 (0.06), p=0.047. However, for respondents who did not spend money on time-saving purchases with

their partner in a typical month (N=344), there was a strong, negative association between work-life conflict and relationship satisfaction, β=-0.31, B=-0.39 (0.07), p<0.001. Thus, time-saving purchases protected couples from the negative impact of relationship conflict.

Financial Conflict. Next, we tested whether time-saving purchases protected respondents from the negative impact of financial conflict on relationship satisfaction. Once again, there was a significant interaction between time-saving purchases and financial conflict to predict relationship satisfaction, β=0.21, B=0.28 (0.08), p<0.001. This result held controlling for the covariates listed in Table 5, β=0.22, B=0.29 (0.08), p<0.001. Decomposing this interaction, among respondents who reported that they spent money on time-saving purchases together with their partner in a typical month (N=278), there was a moderate, negative association between conflict and relationship satisfaction, β=-0.16, B=-0.14 (0.05), p=0.006. However, for respondents who did not spend money on time-saving purchases with their partner in a typical month (N=344), there was a strong, negative association between financial conflict and relationship satisfaction, β=-0.36, B=-0.42 (0.06), p<0.001. Once again, time-saving purchases protected couples from the negative impact of financial conflict.

Work Life Conflict. Lastly, we tested whether time-saving purchases protected respondents from the negative impact of work-life conflict. In Study 1b, there was a significant interaction between time-saving purchases and work-life conflict to predict relationship satisfaction, β=0.12, B=0.14 (0.07), p<0.001. This result held controlling for the covariates listed in Table 5, β=0.11, B=0.28 (0.13), p=0.031. Decomposing this interaction, among respondents who reported that they spent money on time-saving purchases together with their partner in a typical month (N=278), there was no significant association between work-life conflict and relationship satisfaction, β=0.05, B=0.04 (0.05), p=0.371. For respondents who did not spend

money on time-saving purchases (*N*=342), there was a significant, negative association between work-life conflict and relationship satisfaction, *β*=-0.10, *B*=-0.09 (0.05), *p*=0.041. Time-saving purchases protected couples from the negative impact of work-life conflict.

Collectively, these analyses suggest that time-saving purchases promoted relationship satisfaction by protecting respondents from the negative impact of various relationship stressors (overall conflict, financial conflict, and work/life conflict) on relationship satisfaction. In addition to moderation analyses, we conducted mediation analyses to understand *why* time-saving purchases promoted greater relationship satisfaction. Consistent with Study 1a, we examined whether time-saving purchases promoted greater relationship satisfaction because these purchases enabled respondents to spend less time completing chores and/or because these purchases enabled respondents to spend more quality time with each other.

Do Time Saving Purchases Enable Couples to Spend More Time Together?

Number of Chores. We examined whether time-saving purchases promoted relationship satisfaction by reducing the number of chores that couples completed. Consistent with Study 1a, time-saving purchases did not promote relationship satisfaction through a reduction in the number of chores completed, *Indirect Effect*=0.02 (0.02), 95%CI [-0.02, 0.07].

Quality Time Together. We then examined whether time-saving purchases promoted relationship satisfaction because these purchases allowed couples to spend more quality time together. Consistent with Study 1a, there was a significant *Indirect Effect*=0.21(0.05), 95% [0.12, 0.33]. Respondents who spent money on time-saving purchases spent more quality time together with their partners, *B*=0.59(0.12), *t*(624)=4.91, 95% [0.36, 0.83]. Respondents who spent more quality time together with their partners reported greater relationship satisfaction, *B*=0.36 (0.03), *t*(624)=11.24, 95% [0.30, 0.42]. Furthermore, when including the amount of quality time that

respondents spent with their partners, time-saving purchases no longer predicted relationship satisfaction, B=0.16 (0.09), $t(624)$=1.65, p=0.0985, 95% [-0.03, 0.36].

Given that we had more statistical power in Study 1b to test for mediation and moderation effects, we also examined whether there was a conditional indirect effect, such that the positive effect on time-saving purchases on quality time together was a stronger predictor for people who experienced greater work-life conflict. To test this model, we used Preacher & Hayes Model 15 to test for a conditional indirect effect. In this model, making time-saving purchases was associated with more quality time spent with the partner, particularly for people scoring higher in work-life conflict, which in turn promoted greater relationship satisfaction, *Indirect Effect*=-0.04 (0.02), 95% [0.09, -0.02]. Time-saving purchases were therefore particularly beneficial for people experiencing greater work-life conflict in part because these purchases enabled partners to spend more time together.

Study 1b Discussion

Study 1b provides additional evidence that time-saving purchases promote greater overall relationship satisfaction by enabling respondents to spend more quality time with their partner (Studies 1a&b) and by protecting couples from various forms of relationship conflict, including overall conflict (Study 1a&b) as well as financial and work-life conflict (Study 1b).

Study 1a&b Meta-Analyzed

Relationship Satisfaction. To more accurately estimate the effect sizes observed in Studies 1a&b, we meta-analyzed the results of these studies (N=1,048). Following from the recommendations of Lipsey & Wilson (2001), individual standardized effect sizes from each study were weighted by the inverse of their variance and aggregated to arrive at a meta-analytic effect size for each of our key analyses of interest. In these analyses, respondents who spent

money on time-saving purchases with their partner reported greater overall relationship satisfaction, d=0.23 (0.07), Z=3.53, p<0.01, 95%[0.10, 0.36]. This effect held controlling for the covariates listed in Tables 3 & 5, B=0.26 (0.09), Z=2.89, p=0.004, 95%[0.08, 0.43]. These results provide evidence for a small, robust link between buying time and relationship satisfaction.

Relationship conflict (moderator). Across studies, there was a significant interaction between time saving purchases and relationship conflict, B=0.36 (0.07), Z=5.31, p<0.001, 95%CI [0.22, 0.49]. Decomposing this interaction, relationship conflict was associated with lower relationship satisfaction for respondents who did not spend money on time-saving purchases (N=655), B=-0.56 (0.04), Z=13.65, p<0.001, 95%[-0.64, -0.48]. For respondents who spent money on time-saving purchases (N=389), this relationship was attenuated, B=-0.15 (0.05), Z=3.19, p=0.001, 95%[-0.24, -0.06]. A Fisher r-to-z transformation confirmed that these beta-coefficients were significantly different from one another, Z=7.50, p<0.001. Buying time protected partners from the impact of relationship conflict on overall relationship satisfaction.

Financial conflict (moderator). Across studies, there was a significant interaction between time saving purchases and financial conflict, B=0.24 (0.07), Z=3.61, p<0.001, 95%CI [0.11, 0.37]. Decomposing this interaction, financial conflict was associated with lower relationship satisfaction for respondents who did not spend money on time-saving purchases (N=655), B=-0.47 (0.05), Z=10.24, p<0.001, 95%[-0.56, -0.38]. For respondents who spent money on time-saving purchases (N=389), this relationship was attenuated, B=-0.20 (0.04), Z=4.50, p=0.001, 95%[-0.28, -0.11]. A Fisher r-to-z transformation, confirmed that these beta-coefficients were significantly different from one another, Z=4.79, p<0.001. Buying time protected partners from the negative impact of financial conflict on relationship satisfaction.

Work-Life Conflict (moderator). Across studies, there was a significant interaction between time saving purchases and work-life conflict, B=0.19 (0.06), Z=3.22, p<0.001, 95%CI [0.07, 0.30]. Decomposing this interaction, work life conflict was associated with lower relationship satisfaction for respondents who did not spend money on time-saving purchases (N=655), B=-0.14 (0.04), Z=3.16, p<0.001, 95%[-0.22, -0.05]. For respondents who spent money on time-saving purchases (N=389), this relationship was attenuated, B=-0.01 (0.04), Z=0.51, p=0.610, 95%[-0.10, 0.06]. A Fisher r-to-z transformation confirmed that these beta-coefficients were significantly different from one another, Z=2.04, p=0.041. Buying time also protected partners from the negative impact of work-life conflict on relationship satisfaction.

Study 1a&b Discussion

In Studies 1a&b, respondents in committed cohabitating relationships who reported making time-saving purchases in a typical month reported greater relationship satisfaction as compared to those who did not make a time-saving purchase. These results held controlling for demographic variables that could otherwise explain these results, including age, gender, number of hours worked, income, number of children at home, and whether respondents made experiential and material purchases each month. Time-saving purchases were linked to greater relationship satisfaction in part because these purchases allowed respondents to spend more quality time with their partners and because these purchases protected respondents from the negative impact of various forms of conflict, including overall conflict, financial conflict, and work-life stressors. An important limitation of Studies 1a&b is we conducted these studies with only one member of the couple. We were therefore unable to examine whether time-saving purchases promoted the relationship satisfaction of both partners. Building on the results of Study1a&b, we sought to replicate our results by recruiting a sample of dyads. In Study 2, we

also examined whether our results held controlling for the amount of social support couples received and provided to their partners. It is important to control for social support because couples who make time-saving purchases might be better at providing and receiving support. If so, time-saving purchases should show no independent relationship with relationship satisfaction. Instead, this association should be explained by the support couples receive and provide. To rule out this possibility, in Study 2, we included validated measures of support receipt and provision.

Study 2

Participants and Procedure.

In Study 2, we targeted *N*=200 heterosexual couples and we were able to collect *N*=193 heterosexual couples through the professional survey company Qualtrics. Consistent with Studies 1a&b, respondents were eligible to complete the study if both partners were employed at least part time outside the home, were married or in a marriage-like relationship, and reported living together. Because data collection was costly, we simplified our relationship satisfaction measures by including only the 5-item overall satisfaction measure from Study 1a&b. See Table 1 for the sample demographics and Table 6 for the bivariate correlations among study variables.

Additional Measures

Social Support. In addition to completing the identical measures from Study 1a&b, both partners in this study also completed validated measures of social support. To assess social support in the intimate relationship, we used the Supportive Dyadic Coping subscales from the Dyadic Coping Inventory (FDCT-N; Bodenmann, 1997; Donato et al., 2009). This questionnaire is one of the most widely accepted scales for social support in intimate relationships, it has been found to be associated with relationship satisfaction across many studies, and it is relatively short

(Falconier, Jackson, Hilpert, & Bodenmann, 2015; Hilpert et al., 2016), enabling us to include our key items of interest in this more challenging data collection.

As assessments of the amount of support partners tended to provide and receive in their relationship, both partners completed the Supportive Dyadic Coping by Oneself and the Supportive Dyadic Coping by the Partner subscales. We obtained a score for "support provided" by averaging the 7 items from the Supportive Dyadic Coping by Oneself subscale (e.g., ""I show him/her my interest and understanding"/ "I take on things that he/she normally does to help him/her out"). We obtained a score for "support received" by averaging the 7 items from the Supportive Dyadic Coping by the Partner subscale (e.g., ", "My partner shows me his/her interest and understanding," "My partner takes on things that I normally do to help me out").

Analytic Approach

We conducted our analyses using a series of random intercept multilevel models in Hierarchical Linear Modelling Software (HLM v. 6.08; Raudenbush, Bryk, Cheong, & Congdon, 2004). In all models, individual-level variability was modelled at Level 1, couple-level variability was modelled at Level 2. Robust standard errors were used in estimation. All couple-level variables were reported by both members of the dyad, and although there were high levels of cross-partner agreement (see correlations in Table 6), we conducted a conservative test of our hypothesis by running three sets of models. In the first set of models, we averaged across partners' responses and included these composite variables in the model. In the second set of models, we included the female partners' reports of the couple-level variables. In the third set of models, we included the male partners' reports of the couple-level variables. We present the first set of analyses in the main text only, but the other two sets of models are included in our online supplemental file. Unless otherwise specified, all predictor variables were centered on the mean

for all participants (i.e., grand mean centered) to facilitate interpretability. Standardized effects were estimated by running each model with variables that were standardized using the mean and standard deviation of the entire sample.

Table 6. Correlations of all Study 2 variables.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Time Saving (1=Yes)	**0.54*****	0.18*	-0.09	0.09	0.17*	-0.10	0.18*	-0.05	-0.08	-0.26***	-0.03	0.22**	0.02	0.12	-0.10
2. Relationship Satisfaction	0.08	**0.74*****	0.42***	-0.17*	-0.09	0.05	0.39***	0.58***	0.43***	-0.02	-0.03	0.03	0.07	0.21**	0.07
3. Relationship Conflict	-0.10	0.38***	**0.69*****	-0.17*	-0.27***	0.14	0.18*	0.49***	0.34***	0.09	0.03	-0.07	-0.00	-0.06	0.09
4. Financial Conflict	0.17*	-0.19**	-0.33***	**0.51*****	0.48***	-0.06	0.01	-0.22**	-0.24**	-0.22**	-0.03	-0.06	-0.04	0.06	0.08
5. Work-Life Conflict	0.22**	-0.08	-0.30***	.42***	**0.57*****	-0.21**	-0.11	-0.34***	-0.31***	-0.24**	-0.01	-0.02	0.05	-0.09	-0.14
6. Number of Chores	0.06	0.09	0.08	-0.02	-0.12	**0.59*****	0.01	0.15*	0.16*	0.09	0.10	0.06	0.07	0.01	0.11
7. Quality Time	0.17*	0.40***	0.19**	0.01	-0.09	-0.02	**0.65*****	0.34*	0.32***	0.09	0.10	0.12	0.10	0.23**	0.12
8. Support Receipt	0.04	0.58***	0.51***	-.27***	-0.34***	0.16*	0.39***	**0.53*****	0.65***	0.22**	-0.02	0.05	0.07	0.08	0.14
9. Support Provision	-0.02	0.39***	0.44***	-.25***	-0.23**	0.09	0.20**	0.53***	**0.42*****	0.23**	-0.03	0.03	0.17*	0.12	0.13
10. Age	-0.21**	0.02	0.17*	-.15*	-0.24**	-0.07	0.00	0.26***	0.14	**0.83*****	0.16*	0.03	0.03	-0.08	-0.00
11. # of Kids Living at Home	-0.04	-0.05	-0.11	-0.01	0.04	0.11	-0.08	-0.03	-0.12	0.08	**0.90*****	0.03	-0.08	0.08	0.02
12. HH Income	0.13	0.07	0.04	-0.08	-0.08	0.02	0.04	0.04	0.02	0.08	0.01	**0.83*****	0.11	0.01	-0.10
13. FTE (1=Yes)	-0.03	0.02	-0.02	-0.02	0.06	0.16*	-0.15*	0.03	0.01	-0.02	0.07	-0.01	**0.26*****	-0.12	-0.02
14. Experiences (1=Yes)	0.18*	0.23**	0.02	-0.11	-0.02	0.16*	0.17*	0.13	0.12	-0.10	-0.00	0.04	-0.06	**0.55*****	0.40***
15. Material (1=Yes)	0.11	0.10	0.08	-0.11	-0.16*	0.28***	0.07	0.14	0.16*	-0.04	0.02	-0.02	0.01	0.34***	**0.62*****

Note. Correlations for the female partner reports are above the diagonal, correlations for the male partner reports are below the diagonal, and cross-partner correlations are presented on the diagonal. High scores on the relationship conflict measure reflect lower relationship conflict.

Table 7. Study 2: Time saving purchases are associated with higher relationship satisfaction

Fixed effects	*β*	*B*	*SE*	*p*
Couple-Level Variables				
Intercept	0.00	5.75	0.08	< 0.001
Time Saving (1=Yes0	0.13	0.39	0.16	0.016
Number of Kids Living at Home	-0.05	-0.04	0.04	0.405
Household Income	0.01	0.00	0.03	0.863
Experiential Purchases (1=Yes)	0.24	0.69	0.21	0.002
Material Purchases (1=Yes)	-0.01	-0.04	0.28	0.896
Individual-Level Variables				
Age	0.05	0.06	0.07	0.367
Hours/Week (1=40+ hours)	0.04	0.10	0.09	0.278
Variances			*Variance*	*p*
Intercept			1.07	< 0.001
Error			0.43	

Note: All couple-level variables calculated by averaged across partners' responses.

Results

   Buying Time. In this study, 29.5% of female partners and 32.6% of male partners

reported spending money on time-saving purchases with their partner in a typical month. There

was 84% cross-partner agreement on whether they made time-saving purchases, *Kappa* =

0.54(0.07), *p*<0.001. Because of the high level of cross-spouse agreement, we created a

composite variable by averaging partners' reports of whether they purchase time together and

this composite was treated as a couple-level variable in all analyses. Possible scores on this

variable were 0 (neither partner reported making time-saving purchases), 0.5 (one of the two

partners reported making time-saving purchases), and 1 (both partners reported making time-

saving purchases). We also conducted all analyses using 1) the female report of time-saving

purchases and 2) the male report of time-saving purchases and the results hold either way.

Are Couples Who Buy Time Happier than Couples Who Do Not?

   In our first model, we examined whether couples who bought time were more satisfied

with their relationship compared to those who did not buy time. Consistent with Studies 1a&b,

making time-saving purchases was significantly associated with relationship satisfaction, (couple

composite time-saving variable: β=0.17, *B*=0.53 (0.16), *p*=0.002; female report of time-saving:

β=0.19, *B*=0.51 (0.15), *p*=0.001; male report of time-saving: β=0.11, *B*=0.30 (0.17), *p*=0.073).

   In our second model, we examined the association between time-saving purchases and

relationship satisfaction when controlling for several demographic variables. In this model, each

person's own age and whether they were employed full-time were included in the model as

person-level (i.e., Level 1) control variables. This model also included the number of children

living in the home, household income, and experiential and material purchases that partners

made together as couple-level (i.e., Level 2) predictors. In this model, presented in Table 7, time-

saving purchases were significantly associated with higher levels of relationship satisfaction, β=0.10, B=0.39 (0.16), p=0.016. The other two models are included in our online supplemental file (Tables S3a and S3b). The female report of time-saving purchases was significantly associated with higher couple relationship satisfaction, β=0.18, B=0.49 (0.16), p=0.002. The male report of time-saving purchases was associated with higher couple relationship satisfaction, but this association was not statistically significant, β=0.07, B=0.18 (0.16), p=0.265.

What is the Role of Partner Support Mobilization?

Controlling for Support. Next, we examined the role of support within the relationship. First, we examined whether time-saving purchases were associated with relationship satisfaction when controlling for each person's own report of support receipt and support provision. In this model, each person's own report of support receipt and provision were entered into the model at Level 1, and time-saving was entered into the model at Level 2. We found that time-saving purchases was significantly associated with relationship satisfaction even when controlling for support receipt and provision (without covariates in Table 7: β=0.18, B=0.54 (0.13), p<.001; with covariates in Table 7: β=0.12, B=0.37 (0.12), p=0.003).

Time-Saving and partner support receipt: The presence of one makes up for a lack of the other. We also wanted to examine whether making time-saving purchases protects relationship satisfaction from a lack of support receipt from the partner. We examined a model in which each person's own perception of the amount of support they receive were entered as an individual-level predictor and time-saving purchases was entered as a couple-level variable. We also included a cross-level interaction between received support and time-saving purchases. Consistent with predictions, we found a significant interaction between support receipt and

making time-saving purchases (without covariates in Table 7: β=-0.28, B= -0.56 (0.20), p=0.005; with covariates in Table 7: β=0.06, B=-0.50 (0.20), p=0.013).

The nature of the interactive effect between time saving purchases and receiving partner support was that the presence of one compensated for a lack of the other. For couples in which neither partner reported making time-saving purchases, there was a positive association between receiving support from the partner and relationship satisfaction, β=0.51, B=1.02 (0.11), p<0.001. For couples in which one member of the dyad reported making time saving purchases, there was a relatively weaker positive association between receiving support and relationship satisfaction, β=0.37, B=0.74 (0.09), p<0.001. For couples in which both members of the dyad reported making time saving purchases, the association between receiving support and relationship satisfaction was even weaker, β=0.23, B=0.46 (0.15), p=0.005. Also, for individuals who reported receiving low levels of partner support at one standard deviation below the mean, there was a significant positive association between time saving purchases and relationship satisfaction, β=0.29, B=0.90 (0.12), p<0.001. For individuals who reported receiving high levels of support at one standard deviation above the mean, there was a weaker nonsignificant association between time saving purchases and relationship satisfaction, β=0.06, B=0.19 (0.14), p=0.145. These results suggest that time-saving purchases substitute for support and may be most beneficial for couples who receive lower levels of social support from their partner.

Do Time Saving Purchases Enable Couples to Spend More Time Together?

In addition to moderation analyses, we conducted mediation analyses to understand *why* time-saving purchases promoted greater relationship satisfaction. Consistent with Studies 1a&b, we examined whether time-saving purchases promoted greater relationship satisfaction because these purchases enabled respondents to spend less time completing chores and/or because these

purchases enabled respondents to spend more quality time with each other. We constructed confidence intervals of the indirect effects using the Monte Carlo Method for Assessing Mediation with 20,000 replications (MacKinnon, Lockwood, & Williams, 2004; Selig & Preacher, 2008). This method has previously been used to examine mediation in multilevel models (Bauer, Preacher, & Gil, 2006).

Number of Chores. Again, we examined whether time-saving purchases promoted relationship satisfaction by reducing the number of chores that couples completed. In this study, time-saving purchases were not significantly associated with less time spent completing chores, β=-0.06, B=-0.60 (0.76), p=0.433. Furthermore, we did not find evidence that making time-saving purchases promotes relationship satisfaction through a reduction in the number of chores completed, *unstandardized indirect effect*=-0.003, 95%CI [-0.03, 0.02], *standardized indirect effect*=-0.001, 95%CI [-0.01, 0.01]. Together the results of Study 1a-2 rule out the possibility that time-saving purchases promote relationship satisfaction through a reduction in chores.

Quality Time Together. We then examined whether time-saving purchases promoted relationship satisfaction because these purchases allowed couples to spend more quality time together. We found that couples who made time-saving purchases spent significantly more quality time together than couples who did not make time-saving purchases, β=0.22, B=0.79 (0.20), $p < 0.001$. Additionally, when controlling for time-saving purchases, individuals who spent more quality time with their partners tended to be more satisfied with their relationships, β=0.30, B=0.26 (0.05), $p < 0.001$. Consistent with Studies 1a&b, there was a significant indirect effect of time-saving purchases on relationship satisfaction through the amount of quality time partners spent together, *Unstandardized Indirect Effect*=0.21, 95% [0.09, 0.35], *Standardized Indirect Effect*= 0.07, 95% [0.03, 0.12]. However, when including the amount of quality time

that respondents spent with their partners, time-saving purchases was still associated with relationship satisfaction, β=0.10, B=0.32 (0.14), p=0.025, suggesting that quality time did not completely explain the relationship between time-saving purchases and relationship satisfaction.

Study 2 Discussion

In Study 2, a survey based study with 193 couples, similar patterns emerged as with Studies 1a&b. Couples who spent money on time-saving purchases reported greater relationship satisfaction, and this association was explained in part by the fact that couples who made time-saving purchases also spent more quality time together. In Study 2, making time-saving purchases promoted relationship satisfaction to the same extent as receiving social support from one's partner—suggesting that time-saving purchases are an independent and reliable predictor of relationship satisfaction for co-habitating partners. We also found evidence that time-saving purchases *made up* for the lack of social support from one's partner, such that couples who received less social support from their partner, were more satisfied with their relationship if they made time-saving purchases together with their partner in a typical month. Collectively, the findings of Study 2 provide additional evidence for the key associations observed across studies.

In Studies 1a-2, three studies with over 1,400 respondents, we found that spending money to buy time was linked to greater relationship satisfaction. Furthermore, the typical detrimental effects of various forms of conflict on relationship satisfaction was attenuated among couples who spent money on time-saving purchases (Study 1a&b). And, couples who spent money on time-saving purchases each month also spent more quality time together (Study 1a-2). Despite the consistency of the results that we observed across studies, several outstanding questions remain. From these initial studies, we cannot rule out the possibility that happier couples might be more interested in buying time because they *want* to spend more time with one another. It is

therefore necessary to provide causal evidence that time-saving purchases promote relationship satisfaction by increasing the amount of quality time couples spend together. In Studies 3a&b, we used a validated recollection paradigm to provide causal evidence that spending money on time-saving purchases promotes time spent together, promoting relationship satisfaction.

Study 3a&b

Overview. In Studies 3a&b, we utilized a well-validated recollection paradigm (VanBoven & Gilovich, 2003; Chen & Mogilner, 2017) to examine the causal impact of time-saving purchases on relationship satisfaction. In both studies, we recruited participants through Amazon's Mechanical Turk Marketplace. Participants qualified to complete our study if they reported being in a marriage or marriage-like relationship, if lived with their partner, and if they reported being employed at least part-time. In Studies 3a&b, participants first reported on their overall relationship satisfaction. Next, participants were randomly assigned to the *material-purchase condition* or the *time-saving purchase condition* (described below). Participants then completed post-purchase relationship satisfaction measures and various other demographic questions. The methods of Study 3a&b were identical, except that Study 3a was exploratory and Study 3b was confirmatory; we pre-registered Study 3b through the OSF (See Table 1).

Measures and Manipulations

Relationship Satisfaction (T1). Across both studies, participants first reported their overall relationship satisfaction, using the identical 5-item measure from Study 2 ($\alpha=0.98$).

Condition Assignment. After completing the T1 relationship satisfaction measure, participants were randomly assigned to the material or time-saving purchase condition.

In the *material-purchase condition*, respondents were asked to reflect and to write about the most recent time in which they had spent approx. $40 on a material purchase with their

partner. Participants were asked to recall the last time that themselves and their partner had spent approx. $40 together "with the primary intention of acquiring a material good: a tangible object that is kept in one's possession." The items and the wording of this prompt were identical to previously published research (e.g., VanBoven & Gilovich, 2003; Whillans et al., 2017), except that our recollection paradigm involved asking participants to reflect on a time that they had spent money on a material purchase *together* with their partner.

In the *time-saving purchase condition*, respondents were asked to reflect and to write about a time in which they had spent approx. $40 on a time-saving purchase. Participants were asked to recall the last time that themselves and their partner had spent approx. $40 "with the primary intention of acquiring free time: a purchase that allowed you and your partner to have more free time." Again, the wording of the prompts and examples were identical to recently published research (Whillans et al., 2017), except that this prompt required participants to reflect on a time-saving purchase they had made *together* with their partner.

Relationship Satisfaction (T2). After reflecting and writing about a time-saving or material purchase, participants completed several post-relationship satisfaction measures. Participants reported how much the purchase affected their relationship with their romantic partner on a scale from -5=*Weakened the Relationship Significantly* to +5=*Strengthened the Relationship Significantly* (Chan & Mogilner, 2017). Participants then reported how satisfied the purchase made them feel with their partner on a 5-item scale adapted from previous research (Rusbult, 1980). Specifically, we asked participants to report the extent to which the purchase that they reflected on made them feel close to their partner, connected to their partner, appreciative of their partner, grateful for their partner, and supported by their partner. Participants responded to these items on a scale from 1=*Strongly Disagree* to *7=Strongly Agree.*

Quality Time/Work Life. We also asked participants to report about the extent to which the purchase helped them to "deal with the demands of work and life" and "enable my partner and I to spend more quality time together" from 1=*Strongly Disagree* to 7=*Strongly Agree*.

Manipulation Check. As a manipulation check, we asked participants to report on how much time the purchases cost or saved (-3=*Cost a lot of time overall* to +3=*Saved a lot of time overall*; Whillans et al., 2017). We also controlled for differences between the purchases that could explain any documented results, including how helpful and fun the purchases were, how high in social status the purchases were, whether the participants considered the time-saving and material purchases to be "money well-spent," and the extent to which the purchase were considered one-time expenses that would be unlikely to re-occur. We adapted these variables from previously published research (Sussman, Sharma & Alter, 2015; Whillans et al., 2017).

Demographics. Participants also reported on their age, whether they had children, their family's total household income, how many hours they worked per week, and their gender.

Study 3a Results

Overview and demographic characteristics. In Study 3a, we targeted *N*=300 respondents and successfully recruited *N*=289 participants to complete the study (Table 1).

Manipulation Check. As predicted, participants who were randomly assigned to the time-saving purchase condition reported that these purchases saved them significantly more time (*M*=1.71, *SD*=1.30) as compared to participants who were randomly assigned to the material purchase condition (*M*=0.24, *SD*=1.26), $F(1, 288)=94.78$, $p<0.001$. See Table 6a for other differences between the material and time-saving purchase conditions.

T1 Relationship Satisfaction. There was no difference between condition on T1 relationship satisfaction, $p=0.739$; suggesting that random assignment was successful.

T2 Relationship Satisfaction. We standardized and combined the first six relationship items to form an overall relationship composite (α=0.93). In this study, there was no overall effect of condition on the relationship satisfaction derived from the purchase, *p*=0.877.

Quality Time Spent Together. Participants who were randomly assigned to the time-purchase condition were significantly more likely to report that the purchase enabled them to spend quality time together with their partner (*M*=5.64, *SD*=1.25) as compared to participants who were assigned to the material purchase condition (*M*=4.93, *SD*=1.37), *F*(1, 288)=21.10, *p*<0.001. Building on these results, we examined whether there was an indirect effect, such that time-saving purchases promoted relationship satisfaction through quality time spent with one's partner. Consistent with this hypothesis, there was a significant indirect effect, such that the extent to which time-saving (vs. material) purchases enabled partners to spend more quality time together, these purchases in turn promoted T2 relationship satisfaction, *Indirect Effect*=0.29 (0.07), 95%CI [0.16, 0.45]. These results held controlling for T1 relationship satisfaction, *Indirect Effect*=0.25 (0.06), 95%CI [0.15, 0.38] and when controlling for differences between purchases (i.e., variables reported in Table 6a), *Indirect Effect*=0.19 (0.04), 95%CI [0.12, 0.27].

Deal with Work and Life Demands. Participants who were randomly assigned to the time-saving purchase condition were also more likely to report that the purchase enabled them to deal with the demands of work and life (*M*=5.68, *SD*=1.17) compared to participants assigned to the material purchase condition (*M*=4.71, *SD*=1.59), *F*(1, 288)=34.78, *p*<0.001. Following from these results, we examined whether there was an indirect effect, such that time-saving purchases promoted relationship satisfaction by helping partners deal with the demands of work and life. Consistent with this hypothesis, there was a significant indirect effect, such that the extent to which time-saving (vs. material) purchases enabled partners to deal with the demands of work

and life, these purchases in turn promoted T2 relationship satisfaction, *Indirect Effect*=0.22

(0.06), 95%CI [0.11, 0.36]. Once again, these results held controlling for T1 relationship

satisfaction, *Indirect Effect*=0.18 (0.05), 95%CI [0.09, 0.30] and when controlling for differences

between the purchases, *Indirect Effect*=0.08 (0.04), 95%CI [0.01, 0.17].

Table 6a. Study 3a: Differences between purchases reflected on in each condition

	Material Purchase	Time Saving Purchase	t-value
These purchases were:			
One-time expense	5.69 (2.67)	4.32 (2.74)	$t(287) = 4.30$, $p<0.001$
Better spent on something else	3.06 (2.14)	3.56 (2.33)	$t(287) = 1.92$, $p=0.056$
Money well-spent	7.67 (1.53)	7.25 (1.82)	$t(287) = 2.11$, $p=0.035$
Helpful	5.09 (1.63)	4.52 (1.66)	$t(287) = 2.93$, $p=0.004$
Fun	5.78 (1.19)	5.99 (1.02)	$t(287) = 1.56$, $p=0.119$
High in social status	3.31 (1.60)	3.22 (1.54)	$t(287) = 0.46$, $p=0.645$

Table 6b. Study 3b: Differences between purchases reflected on in each condition

	Material Purchase	Time Saving Purchase	t-value
One-time expense	5.57 (2.62)	4.52 (2.68)	$t(597) = 4.88$, $p<0.001$
Better spent on something else	3.17 (1.98)	3.60 (2.30)	$t(597) = 2.40$, $p=0.017$
Money well-spent	7.30 (1.73)	6.74 (6.42)	$t(597) = 1.46$, $p=0.145$
Helpful	5.92 (0.96)	4.94 (1.53)	$t(597) = 2.77$, $p=0.006$
Fun	4.94 (1.53)	4.45 (1.69)	$t(597) = 3.66$, $p<0.001$
High in social status	3.23 (1.50)	3.50 (1.54)	$t(597) = 2.18$, $p=0.029$

Study 3b Results

Overview and demographic characteristics. In Study 3b, we increased our sample size to *N*=600, to ensure that we would have at least 80% power to detect between condition differences of at least *d*=0.20, using one-tailed tests (G*Power, 2013).

Manipulation Check. As predicted, consistent with the findings of Study 3b, participants who were randomly assigned to the time-saving purchase condition reported that these purchases saved them significantly more time (*M*=1.71, *SD*=1.29) as compared to participants who were assigned to the material purchase condition (*M*=0.21, *SD*=1.22), $F(1, 598) = 215.06$, $p<0.001$. See Table 6b for other purchase differences.

T1 Relationship Satisfaction. There was no difference between condition on T1 relationship satisfaction (*p*=0.117), suggesting that random assignment was successful.

T2 Relationship Satisfaction. We standardized and combined the first six relationship items to form an overall relationship composite (α=0.93). Consistent with the results of Study 3a, there was no main effect of condition to predict T2 relationship satisfaction, *p*=0.671.

Quality Time Spent Together. Participants who were randomly assigned to the time-purchase condition were more likely to report that the purchase enabled them to spend quality time together with their partner (*M*=5.58, *SD*=1.23) as compared to participants who were assigned to the material purchase condition (*M*=4.99, *SD*=1.42), $F(1, 599)=28.82$, $p<0.001$. Consistent with the results of Study 3a, there was a significant indirect effect, such that the extent to which time-saving (vs. material) purchases enabled partners to spend more quality time together, these purchases promoted greater T2 relationship satisfaction, *Indirect Effect* = 0.23 (0.04), 95%CI [0.15, 0.33]. These results held controlling for T1 relationship satisfaction,

Indirect Effect = 0.24 (0.04), 95%CI [0.16, 0.32] and for differences between material and time-saving purchases (i.e., reported in Table 6b), *Indirect Effect* = 0.18 (0.03), 95%CI [0.13, 0.26].

Deal with Work and Life Demands. Participants who were randomly assigned to the time-saving purchase condition were more likely to report that the purchase enabled them to deal with the demands of work and life (*M*=5.69, *SD*=1.23) as compared to participants assigned to the material purchase condition (*M*=4.37, *SD*=1.56), $F(1, 598) = 131.76$, $p<0.001$. Consistent with the results of Study 3a, there was a significant indirect effect, such that the extent to which time-saving purchases enabled partners to deal with the demands of work and life, these purchases in turn promoted T2 relationship satisfaction, *Indirect Effect* = 0.31 (0.04), 95%CI [0.23, 0.40]. Once again, these results held controlling for T1 relationship satisfaction, *Indirect Effect* = 0.29 (0.04), 95%CI [0.21, 0.38] and for differences between the purchases (e.g., how fun or high in status the purchases were), *Indirect Effect* = 0.22 (0.03), 95%CI [0.16, 0.30].

Discussion for Study 3a&b

Across two experimental studies utilizing a well-established recollection paradigm, we found consistent evidence that time-saving purchases increased the amount of quality time that partners reported spending together and helped couples more adeptly deal with their daily demands as compared to material purchases, in turn promoting greater post-purchase relationship satisfaction. The benefits of time-saving purchases were not explained by differences in T1 relationship satisfaction or purchase differences, such as how high in status, fun, or useful the purchases were. These studies provide causal evidence that time-saving purchases can enable couples to spend more quality time, and that these purchases help couples better deal with the demands of work and life, in turn promoting greater post-purchase relationship satisfaction.

While informative, these studies do not provide insight into *when* in daily life time-saving purchases might be most likely to benefit couples. Furthermore, in Studies 3a&b, we compared time-saving to material purchases, to control for the experience of reflecting on a purchase (Dunn, Aknin & Norton, 2008). However, material purchases are unlikely to change the way that couples spend their time. Consequently, in Study 4a&b, we sought to provide a more stringent test of whether and when time-saving purchases promote relationship satisfaction by comparing time-saving purchases to experiential purchases (VanBoven & Gilovich, 2003). This comparison allowed us to examine the conditions by which time-saving purchases—wherein buy couples *out of negative* experiences—might provide greater post-purchase satisfaction as compared to experiential purchases—which buy couples into *positive* experiences. While experiential purchases might promote greater satisfaction as compared to time-saving purchases (Chan & Mogilner, 2017), time-saving purchases should be most likely to promote satisfaction when partners are dealing with a greater number of *controllable* (vs. uncontrollable) stressors.

As detailed in the Introduction, this hypothesis is consistent with a great deal of social support literature. Consistent with the Goodness-of-Fit Hypothesis, time-saving purchases should be most likely to promote relationship satisfaction when couples 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, should be most likely to be effective when couples are dealing with non-controllable stressors, such as an illness of a friend or family and loved one. To test these hypotheses, we conducted two studies to examine the relative efficacy of material, experiential and time-saving purchases in response to controllable and uncontrollable stressors. These studies enable us to better understand when time-saving purchases are most likely to promote relationship satisfaction in romantic relationships.

In Study 4a, we assigned participants to a time-saving, experiential, or material purchase condition. We asked participants to complete the identical T1 and T2 relationship satisfaction measures from Study 3a&b. We also asked participants to report on the number of stressful events they experienced 7 days prior to making the purchase and how controllable they perceived these stressors to be prior to making their purchases. In Study 4a, we included material, experiential, and time-saving purchase conditions. In Study 4b, we included only an experiential and time-saving condition, and we pre-registered the study via the Open Science Framework.

Study 4a

Methods

Overview and demographic characteristics. To examine whether and how time-saving purchases promoted greater relationship satisfaction as compared to experiential and material purchases, we recruited $N=473$ participants from Amazon's Mechanical Turk. We targeted $N=150$ respondents per cell ($N=450$) and we slightly over-recruited this *a priori* stopping rule.

Relationship Satisfaction **(T1).** In this study, participants first reported on their overall relationship satisfaction using the identical 5-item measure from Studies 2, 3a&b ($\alpha=0.95$).

Condition Assignment. Participants were then randomly assigned to the *material purchase, time-saving purchase, or experiential purchase condition.* The material and time-saving purchase conditions were identical to Studies 3a&b. The experiential purchase condition was identical to previous research (VanBoven & Gilovich, 1999). Participants recalled the last time that they and their partner spent $40 with the primary intention of "acquiring a life experience: an event or series of events that you personally encounter or live through." This wording was identical to the wording used in published research, except for the fact that we asked participants to report on a purchase that they had made together with their partner.

Relationship Satisfaction (T2). After reflecting and writing about their most recent material, time-saving, or experiential purchase of $40, participants reported on their T2 post-purchase relationship satisfaction using the identical measures from Studies 3a&b. Specifically, participants reported how positively the purchase impacted their relationship, and how close, connected, grateful, appreciative, and supported the purchase made them feel (α=0.98).

Quality Time/Work Life. Consistent with Study 3a&b, participants reported how much the purchase helped "deal with the demands of work and life" and "enable my partner and I to spend more quality time together" on a scale from 1=*Strongly Disagree* to 7=*Strongly Agree*.

Number of Stressors. Prior to completing the study, we asked participants to report the number of stressors that they had experienced 7 days prior to making the purchase. Stressor frequency was assessed using a measure adapted from previous research (Bolger, DeLongis, Kessler & Schilling, 1989). We asked participants to report whether they experienced any of the following events in the 7 days prior to making the purchase: (1) overload at home, (2) overload at work, (3) family demands, (4) other demands, e.g., demands from relatives, friends, or neighbors, (5) transportation problems, (6) financial problems, (7) interpersonal problems or tensions with one's spouse, (8) interpersonal problems or tensions with one's child, (9) or interpersonal problems or tensions with another person/persons, or (10) another stressor. Participants were asked to report whether they experienced any of these stressors on a scale from 1=*Not at all, 2=A little, 3=Some, 4=Quite a bit, 5=A lot, 6=NA*.

Seriousness/Stressor Controllability. For each stressor that participants had reported experiencing in the 7 days leading up to the purchase, we asked participants to report on how serious the stressor was for them on a scale from 1=*none/not at all* to 7=*a lot* (alpha = 0.82). For each stressor, we also asked participants to report how controllable the event was for them using

the following item, "With this event, how much control or influence did you feel you had over it or its handling?" on a scale from *1=Not at all*, *2=A little*, *3=Some*, *4=Quite a bit, 5=A lot.* Both the stressor seriousness and the stressor controllability measures were adapted from previously published research (Folkman et al., 1986; Folkman, Lazarus, Gruen, DeLongis, 1986). There was no effect of stressor seriousness and therefore we report these results in the SI.

Demographics. Participants then completed several demographic questions, including their age, the number of children with their current relationship partner, their family's total household income, how many hours per week they currently worked at this job, and gender.

Results

Study 4a Results

Manipulation Check. There was an overall effect of condition on the amount of time that the purchases saved, $F(2, 471)=100.40$, $p<0.001$. Participants assigned to the time-saving purchase condition reported that the purchases saved more time ($M=1.53$, $SD=1.18$) as compared to the experiential ($M=-0.37$, $SD=1.20$) and material purchase conditions ($M=0.09$, $SD=1.31$), $ps<0.001$. See Table 7a for other differences in the purchases across condition.

T1 Relationship Satisfaction. There was no difference between condition on T1 relationship satisfaction ($p=0.878$), suggesting that random assignment was successful.

T2 Relationship Satisfaction. We standardized and combined the first six relationship items to form an overall relationship composite ($\alpha=0.95$). Consistent with the results of Study 3a&b, there was no significant difference in T2 relationship satisfaction between participants assigned to the material purchase condition ($M=4.95$, $SD=0.98$) and participants assigned to the time-saving purchase condition ($M=4.98$, $SD=1.05$), $p=0.822$. Consistent with recent research (Chan & Mogilner, 2017), participants assigned to the experiential purchase condition reported

greater T2 relationship satisfaction (*M*=5.63, *SD*=0.89) as compared to participates assigned to the time-saving purchase condition (M=4.98, SD=1.05) and as compared to participants assigned to the material purchase condition (M=4.95, *SD*=0.98), $F(1, 472)$=24.62, p<0.001.

Quality Time Spent Together. There was a main effect of condition to predict the amount of quality time spent together, $F(2, 473)$=41.20, p<0.001. Consistent with the results of Study 3a&b, participants assigned to the time-saving purchase condition were more likely to report that the purchase enabled them to spend more quality time together with their partner (*M*=5.41, *SD*=1.36) as compared to the material purchase condition (*M*=4.85, *SD*=1.24), p<0.001. In contrast to Study 3a&b, participants assigned to the experiential purchase condition were more likely to report that the purchase enabled them to spend more quality time together with their partner (*M*=6.10, *SD*=1.07) as compared to both the material (*M*=4.85, *SD*=1.24) and time-saving purchase condition (*M*=5.41, *SD*=1.36), ps<0.001. Although there was a main effect of experiential purchases on relationship satisfaction, consistent with Study 3a&b, there also was a significant indirect effect, such that the extent to which time-saving purchases promoted quality time spent together, these purchases in turn promoted greater relationship satisfaction, *Indirect Effect*=0.08 (0.04), 95%CI [-0.18, -0.01]. These results held controlling for T1 relationship satisfaction, *Indirect Effect*=0.08 (0.04), 95%CI [-0.17, -0.01] and for other purchase differences from Table 7a, *Indirect Effect*=0.04 (0.03), 95%CI [-0.13, -0.01].

Deal with Work and Life Demands. There was a main effect of condition to predict whether the purchase helped respondents deal with the demands of work and life, $F(2, 472)$=18.84, p<0.001. Consistent with the results of Study 3a&b, participants assigned to the time-saving purchase condition were more likely to report that the purchase helped them deal with the demands of work and life (*M*=5.54, *SD*=1.19) as compared to participants assigned to

the material purchase condition (*M*=4.60, *SD*=1.45), *p*<0.001, and as compared to participants

who were randomly assigned to the experiential purchase condition (*M*=5.20, *SD*=1.41),

p=0.029. Thus, time-saving purchases were more likely to help respondents deal with the

demands of work and life than material or experiential purchases. Consistent with Study 3a&b,

we observed a significant indirect effect. To the extent that time-saving purchases helped

participants deal with the demands of work and life, these purchases promoted greater post-

purchase T2 satisfaction, *Indirect Effect*=0.05 (0.03), 95%CI [0.01, 0.13]. These results held

controlling for T1 relationship satisfaction, *Indirect Effect*=0.05 (0.03), 95% CI [0.01, 0.13] and

for other purchase differences (Table 7a), *Indirect Effect*=0.05 (0.03, 95% CI [0.01, 0.13].

 Number of Stressors. Although experiential purchases were more likely to promote post-

purchase satisfaction, we wanted to explore *when* time-saving purchases promoted relationship

satisfaction. First, we examined whether time-saving vs. experiential purchases were more likely

to promote relationship satisfaction when respondents were experiencing a greater number of

stressors. To examine this hypothesis, we entered condition (*1=time-saving, 0=experiential*),

number of stressors, and a number of stressors X purchase interaction into a regression to predict

T2 relationship satisfaction. There was a significant interaction, *B*=0.12 (0.06), *t*(314)=2.10,

p=0.037. These results held controlling for T1 relationship satisfaction, *B*=0.12 (0.05),

t(314)=2.13, *p*=0.034. These results became marginally significant when we entered other

differences between purchases into the model to predict T2 relationship satisfaction, *B*=0.08

(0.05), *t*(313)=1.66, *p*=0.097, therefore these results should be interpreted with caution.

Table 7a.   Between condition differences in Study 4a

	Experiential Purchase	*Time-Saving Purchase*	*Material Purchase*	*F-value*
These purchases were:				
Better spent on something else	3.81 (1.93)[a]	3.96 (2.02)[a]	4.38 (1.82)[b]	$F(2, 351)=2.76, p=0.065$
Money well-spent	5.80 (1.10)	5.75 (1.27)	5.93 (1.18)	$F(2, 351)=0.75, p=0.476$
Helpful	5.02 (1.24)[a]	5.81 (1.00)[b]	5.80 (1.18)[b]	$F(2, 351)=18.84, p<0.001$
Fun	6.20 (1.02)[a]	4.69 (1.52)[b]	4.95 (1.44)[b]	$F(2, 351)=43.58, p<0.001$
High in social status	4.11 (1.60)[a]	3.50 (1.57)[b]	3.25 (1.68)[b]	$F(2, 351)=9.16, p<0.001$

Note. Different subscripts denote condition differences that are statistically significant, $p<0.05$.

Controllability of the Stressor. We also examined whether time-saving vs. experiential purchases were more likely to promote relationship satisfaction when respondents' were experiencing stressors that were *more controllable.* To examine this hypothesis, we entered condition (1=time-saving, 0=experiential), controllability, and controllability X purchase interaction into a regression to predict T2 relationship satisfaction. As predicted there was a significant interaction, B=0.19 (0.10), $t(303)$=1.96, p=0.050. This result held controlling for T1 relationship satisfaction, B=0.19 (0.09), $t(303)$=2.17, p=0.031 and for differences between the purchases, B=0.15 (0.03), $t(302)$=2.46, p=0.014. See Figure 1 for a depiction of this interaction.

Figure 1a. Interaction between purchase X controllability in Study 4a.
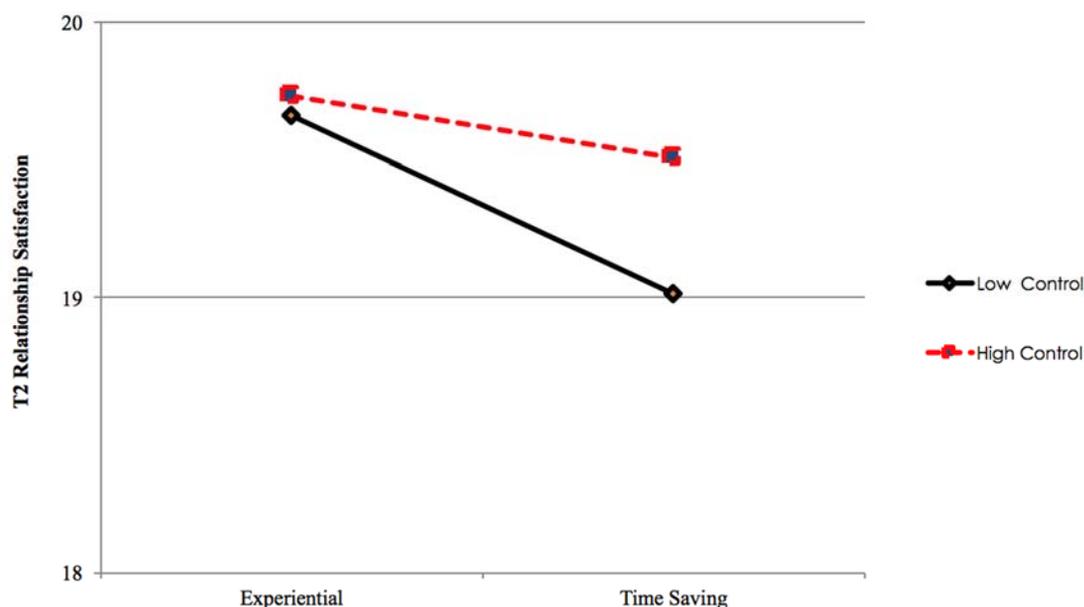
Study 4a Discussion

In Study 4a, we examined whether time-saving vs. experiential purchases promoted greater relationship satisfaction as compared to material purchases. In this paradigm, reflecting on experiential purchases resulted in greater post-purchase relationship satisfaction than

reflecting on time-saving purchases. Furthermore, both experiential and time-saving purchases resulted in greater post-purchase relationship satisfaction as compared to material purchases. In this study, we found significant differences in *when* time-saving purchases promoted greater relationship satisfaction. Specifically, time-saving (vs. experiential) purchases were more likely to promote post-purchase relationship satisfaction when couples were faced with a greater number of stressors during the previous week *and* when these stressors were controllable.

Consistent with the Goodness-of-Fit hypothesis, these findings suggest that the benefits of time-saving and experiential purchases operate in a way that is consistent with the predictions of instrumental social support: Time-saving (vs. experiential) purchases were more effective when couples were undergoing greater stress that felt more controllable. In Study 4b, we sought to replicate these results. In Study 4b, we only explored the differences between experiential and time-saving purchases given that stressor controllability was our key variable of interest.

Study 4b

Overview. We targeted *N*=600 participants and we successfully recruited *N*=603 participants. We pre-registered this study through the Open Science Framework.

Relationship Satisfaction. In this study, participants first reported on their overall relationship satisfaction using the identical 5-item measure from Studies 2-4a. After reflecting on a time-saving or experiential purchase, participants reported their T2 post-purchase relationship satisfaction using the identical measures from Studies 3a-4a. Participants also reported the identical quality time measure and work/life balance measure from Studies 3a-4a. Participants then completed the identical manipulation check from Studies 3a&b.

Stressors. Participants reported on the stressors that they faced 7 days prior to making the purchase using the identical measures from Study 4a. We then asked participants to report on the

extent to which these stressors were controllable in the 7 days prior to making the purchase on a scale from 1=*Not at all*, to 5= *extremely*.

Demographics. Again, participants completed several demographic questions: age, whether they had children with their current partner, their family's total household income, how many hours per week they currently worked at this job, and their gender.

Study 4b Results

Manipulation Check. Consistent with our previous studies, participants assigned to the time-saving purchase condition reported that these purchased saved more time (M=1.67, SD=1.16) as compared to the experiential purchase condition (M=-0.51, SD=1.18), $F(1, 602)$=432.25, $p<0.001$. See Table 7b for other differences in the purchases across condition.

T1 Relationship Satisfaction. There was no difference between conditions on T1 relationship satisfaction (p=0.298), suggesting that random assignment was successful.

T2 Relationship Satisfaction. We standardized and combined the first six relationship items to form a T2 relationship composite (α=0.95). Consistent with Study 4a, participants who reflected on experiential purchases reported higher T2 post-purchase relationship satisfaction (M=0.14, SD=1.47) as compared to time-saving purchases (M=-0.21, SD=0.85), $F(1, 602)$=10.56, $p<0.001$. These results held controlling for T1 relationship satisfaction, $F(1, 602)$=9.43, p=0.002. These results did not hold controlling for differences between the time-saving and experiential purchases (Table 7b), $F(1, 602)$=1.31, p=0.253 and should be interpreted with caution.

Quality Time Spent Together. Consistent with Study 4a, participants who were assigned to reflect on an experiential purchase said that this purchase enabled them to spend more quality time together (M=6.13, SD=1.12) as compared to participants who were assigned to reflect on a

time-saving purchase (*M*=5.66, *SD*=1.26), $F(1, 601)$=19.15, *p*<0.001. These results held controlling for T1 relationship satisfaction, $F(1, 601)$=18.09, *p*<0.001, and when controlling for differences between the time-saving and experiential conditions, $F(1, 601)$=6.95, *p*=0.009.

  Deal with Work and Life Demands. Consistent with Study 3a&b and Study 4a, participants who were assigned to reflect on a time-saving purchase reported that the purchase helped them deal with the demands of work and life (*M*=5.69, *SD*=1.26) as compared to participants assigned to reflect on an experiential purchase (*M*=5.22, *SD*=1.35), $F(1, 601)$=16.51, *p*<0.001. These results held controlling for T1 relationship satisfaction, $F(1, 601)$=20.59, *p*<0.001. These results also held controlling for differences between the purchases (Table 7b), $F(1, 601)$=11.69, *p*=0.001. Consistent with the results of Study 3a&b, there was a significant indirect effect, such that the extent to which time-saving purchases vs. experiential purchases enabled partners to deal with the demands of work and life, these purchases in turn promoted T2 relationship satisfaction, *Indirect Effect* = 0.13 (0.03), 95% CI [0.07, 0.20]. These results held controlling for T1 relationship satisfaction, *Indirect Effect* = 0.11 (0.02), 95% CI [0.06, 0.16] and for differences between the purchases, *Indirect Effect* = 0.04 (0.02), 95% CI [0.02, 0.08].

  Controllability of the Stressor. As per our pre-registration, we examined whether time-saving vs. experiential purchases were more likely to promote relationship satisfaction when respondents' stressors were *more controllable.* To examine this hypothesis, we entered condition (*1=time-saving*, *0=experiential*), controllability, and controllability X purchase interaction into a regression to predict T2 relationship satisfaction. As predicted, there was a significant interaction, *B*=0.22 (0.09), $t(592)$=2.38, *p*=0.018. These results held controlling for T1 relationship satisfaction, *B*=0.19 (0.08), $t(592)$=2.30, *p*=0.022 and for differences between the

purchases, B=0.22 (0.07), $t(592)$=2.33, p=0.020. There was no influence of the number of stressors in this study.

Study 4b Discussion

In Study 4b, we examined whether time-saving vs. experiential purchases promoted greater relationship satisfaction. Consistent with the results of Study 4a, we found evidence that experiential purchases were more likely to promote greater relationship satisfaction. However, time-saving purchases enabled couples to spend more quality time together, and to deal with the demands of work and life, in turn promoting greater post-purchase relationship satisfaction. Most importantly, we found significant differences in *when* time-saving purchases promoted greater relationship satisfaction. Specifically, time-saving (vs. experiential) purchases were more likely to promote post-purchase relationship satisfaction when couples were faced with a greater number of stressors during the previous week *and* when these stressors were controllable. This was consistent with our theorizing, that time-saving purchases would be most likely to promote post-purchase relationship satisfaction when these purchases best 'fit' couples daily demands.

General Discussion

Across seven studies with over 3,000 individuals in committed relationships, we found consistent evidence that time-saving purchases promoted relationship satisfaction. While most of past research has focused only on the impact of daily purchase decisions for individual happiness (see Mogilner, Whillans & Norton, 2018 for a recent discussion), the current research shows that daily purchases can also significantly impact the satisfaction that we derive from our relationships. Indeed, these findings suggest that the daily purchases couples make together have powerful implications for relationship satisfaction. In doing so, this research adds to a growing body of research documenting the benefits 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 promote relationship satisfaction: spending money to save time.

This research also imports a central idea from the social support literature to better understand *when* time-saving purchases are most likely to promote relationship satisfaction. We find evidence that time-saving purchases are most likely to enhance happiness when couples are faced with controllable (vs. uncontrollable) stressors. Thus, the happiest couples might most likely be couples who spend their discretionary income in a way that helps them better cope with everyday hassles. That is, happy couples are likely to spend money on experiences when faced with more uncontrollable stressors in a given week and spend money on time-saving purchases when faced with more controllable stressors in a given week. Drawing on research from the social support literature and extending it to the consumption literature, we can begin to theorize more specifically about when, whether, and how we should expect the benefits of time-saving purchases to emerge. Thus, these findings provide a theoretical contribution to the literature by connecting the seemingly disparate research on social support within close relationships with emerging research on the benefits of support purchased through the sharing economy.

Future research could explore the efficacy of interventions designed to encourage couples to buy time, particularly when they are feeling overwhelmed. This is a critical question to address, in part because busier people often take on more tasks (e.g., Stephen et al., 2017) with possible negative consequences for well-being. Building on the insights from the current research, companies might want to consider providing employees with time-saving vouchers that employees can give to their *partners* during work trips, as a way of providing social support to their spouses while they are away. These benefits could be particularly helpful for reducing conflicts pertaining to work and family life.

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.

The findings documented here make conceptual and practical contributions to the literature. On a conceptual level, these findings suggest that psychological principles that help to explain the psychology of receiving and providing social support can shed light on the psychology of support purchased in the market economy. This research also illuminates whether, when, and why time-saving purchases promote relationship satisfaction. On a practical level, these findings could help companies enable employees to derive greater satisfaction by providing time-saving vouchers to the employee *and* their significant other. In sum, our findings suggest that a pathway toward healthier romantic relationships is not just to provide support to our partners through our actions or words, but also through our purchases.

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Supplemental Information

Additional Measures in Studies 1a&b

In Studies 1a&b, if participants reported that they spent money on time-saving purchases together with their partner in a typical month, we proceeded to ask them a series of questions about these time-saving purchases. Specifically, we asked respondents how much time they saved through these purchases in a typical month (*ranging from 0 minutes to 50 hours or more)* and we asked respondents how much money they spent on these purchases in a typical month (*ranging from $0 to More than $2500).* We also asked participants to report the % of time from these purchases that saved themselves time and not their partner, that saved their partner time and not themselves, and which saved both themselves and their partner time (responses to these three questions were required to add up to 100%). Participants then reported the % of purchases in a typical month that were made by their partner for their own benefit, the % of purchases that were made for themselves for their own benefit, and the % of purchases that were purchased by themselves for their partners' benefit. Once again, the responses to these questions were required to add up to 100%. Lastly, participants were asked whether they made these time-saving purchases together (1=*made these purchases separately,7=made these purchases together*) and whether they agreed with their partner about what time-saving purchases to buy (1=*Completely Disagree* to 7=*Completely Agree*).

Additional Results from Studies 1a&b

Across both Studies 1a&b, we examined the correlations between the variables described above and our key overall relationship satisfaction outcome measure. Across studies, we found consistent evidence that time-saving purchases was linked to greater relationship satisfaction most when couples made these purchases together with their partner, and when couples agreed

on which of these time-saving purchases to make each month (Table S1a&S2a). In Study 1a, there was tentative evidence that these results were strongest when couples reported that the purchases benefitted both themselves and their partner (vs. only benefitting the respondent). In Study 1b, there was tentative evidence that these results were weaker when respondents reported that their partner purchased these purchases for their benefit (Study 2a). However, these set of results were not replicated across studies and were relatively weak statistically and therefore these results should be interpreted with caution. We also examined whether there were gender differences in any of these associations. As indicated in Table 1b&1c and Table 2b&c, there were no gender differences in these associations.

Table S1a. Follow-up questions asked for respondents who reported buying time in Study 1a (N=105)

Relationship Satisfaction	B (SE)	*f-Value of model*	*p-value*	R^2
1. Do you typically make these purchases on the weekend? (1=Yes)	-0.13 (0.20)	$F(1, 111)$=0.42	0.517	0.004
2. How much time do these purchases save per month?	-0.01 (0.04)	$F(1, 111)$=0.03	0.858	0.001
3. How much money do you spend on these purchases per month?	0.01 (0.04)	$F(1, 105)$=0.04	0.843	0.001
4. **What % of this time saves YOU time and not your partner?**	**-0.01 (0.003)**	***F*(1, 105)=5.46**	**0.021**	**0.050**
5. What % of this time saves YOUR PARTNER time and not you?	-0.001 (0.004)	$F(1,105)$=0.05	0.826	0.001
6. **What % of this time saves BOTH YOU and YOUR PARTNER?**	**0.01 (0.003)**	***F*(1, 105)=3.79**	**0.054**	**0.035**
7. What % of these purchases are purchased by you for your own benefit?	-0.003 (0.004)	$F(1, 105)$=0.45	0.505	0.004
8. What % of these purchases are purchased by your partner for your benefit?	-0.004 (0.004)	$F(1, 105)$=0.79	0.375	0.008
9. What % of these purchases are purchased by you for your partners benefit?	0.004 (0.003)	$F(1, 105)$=1.54	0.218	0.015
10. **To what extent do you make these purchase decisions together with your partner?**	**0.16 (0.065)**	***F*(1, 105)=6.31**	**0.014**	**0.057**
11. **To what extent do you and your partner agree about making these purchases?**	**0.26 (0.07)**	***F*(1, 105)=13.96**	**>0.001**	**0.118**

Table S1b. Follow-up questions asked for respondents who reported buying time in Study 1a, **Women** (*N*=48)

Relationship Satisfaction	B (SE)	*f*-Value of model	*p*-value	R^2
1. Do you typically make these purchases on the weekend? (1=Yes)	-0.25 (0.28)	$F_{(1, 62)}$=0.84	0.363	0.010
2. How much time do these purchases save per month?	-0.08 (0.05)	$F_{(1,56)}$=2.58	0.114	0.045
3. How much money do you spend on these purchases per month?	0.002 (0.05)	$F_{(1,56)}$=0.001	0.972	0.001
4. What % of this time saves YOU time and not your partner?	-0.01 (0.005)	$F_{(1,56)}$=2.60	0.112	0.045
5. What % of this time saves YOUR PARTNER time and not you?	0.003 (0.01)	$F_{(1,56)}$=0.42	0.521	0.008
6. What % of this time saves BOTH YOU and YOUR PARTNER?	0.003 (0.004)	$F_{(1,56)}$=0.56	0.456	0.010
7. What % of these purchases are purchased by you for your own benefit?	0.002 (0.006)	$F_{(1,56)}$=0.07	0.791	0.001
8. What % of these purchases are purchased by your partner for your benefit?	-0.005 (0.006)	$F_{(1,56)}$=0.56	0.457	0.010
9. What % of these purchases are purchased by you for your partners benefit?	0.002 (0.005)	$F_{(1,56)}$=0.12	0.731	0.002
10. To what extent do you make these purchase decisions together with your partner?	**0.13 (0.11)**	**$F_{(1,56)}$=1.49**	**0.228**	**0.026**
11. To what extent do you and your partner agree about making these purchases?	**0.24 (0.10)**	**$F_{(1,56)}$=5.91**	**0.018**	**0.097**

Table S1c. Follow-up questions asked for respondents who reported buying time in Study 1a, **Men** (*N*=62)

Relationship Satisfaction	B (SE)	*f-Value of model*	*p-value*	*R²*
1. Do you typically make these purchases on the weekend? (1=Yes)	0.05 (0.28)	F(1, 48)=0.03	0.867	0.001
2. How much time do these purchases save per month?	0.10 (0.05)	F(1,48)=3.87	0.055	0.076
3. How much money do you spend on these purchases per month?	0.02 (0.06)	F(1,48)=0.07	0.797	0.001
4. What % of this time saves YOU time and not your partner?	-0.01 (0.004)	F(1,48)=2.81	0.100	0.056
5. What % of this time saves YOUR PARTNER time and not you?	-0.01 (0.005)	F(1,48)=1.74	0.193	0.036
6. What % of this time saves BOTH YOU and YOUR PARTNER?	0.01 (0.003)	F(1,48)=4.88	0.032	0.094
7. What % of these purchases are purchased by you for your own benefit?	0.01 (0.005)	F(1,48)=2.12	0.144	0.045
8. What % of these purchases are purchased by your partner for your benefit?	-0.003 (0.006)	F(1,48)=0.23	0.634	0.005
9. What % of these purchases are purchased by you for your partners benefit?	0.01 (0.004)	F(1,48)=2.46	0.123	0.050
10. To what extent do you make these purchase decisions together with your partner?	**0.20 (0.08)**	**F(1,48)=6.26**	**0.016**	**0.118**
11. To what extent do you and your partner agree about making these purchases?	**0.29 (0.09)**	**F(1,48)=9.24**	**0.004**	**0.164**

Table 2a. Follow-up questions asked for respondents who reported buying time in Study 1b (*N*=279)

Relationship Satisfaction	B (SE)	*f-Value of model*	*p-value*	*R²*
12. Do you typically make these purchases on the weekend? (1=Yes)	0.21 (0.15)	$F(1, 278)=1.99$	0.149	0.01
13. How much time do these purchases save per month?	0.25 (0.02)	$F(1, 271)=0.75$	0.387	0.01
14. How much money do you spend on these purchases per month?	0.01 (0.02)	$F(1, 271)=0.19$	0.667	0.01
15. What % of this time saves YOU time and not your partner?	0.001 (0.01)	$F(1, 271)=0.02$	0.900	0.001
16. What % of this time saves YOUR PARTNER time and not you?	-0.01 (0.01)	$F(1, 271)=1.52$	0.219	0.01
17. What % of this time saves BOTH YOU and YOUR PARTNER?	0.003 (0.003)	$F(1, 271)=1.11$	0.293	0.001
18. What % of these purchases are purchased by you for your own benefit?	0.01 (0.003)	$F(1, 271)=2.60$	0.108	0.01
19. **What % of these purchases are purchased by your partner for your benefit?**	**-0.01 (0.003)**	**$F(1, 271)=3.57$**	**0.060**	**0.01**
20. What % of these purchases are purchased by you for your partners benefit?	0.001 (0.003)	$F(1, 271)=0.001$	0.995	0.004
21. *To what extent do you make these purchase decisions together with your partner?*	*0.26 (0.05)*	*$F(1, 271)=26.25$*	*<0.001*	*0.09*
22. *To what extent do you and your partner agree about making these purchases?*	*0.31 (0.07)*	*$F(1, 271)=22.29$*	*<0.001*	*0.07*

Table 2b. Follow-up questions asked for respondents who reported buying time in Study 1b, **Women** (*N*=110)

Relationship Satisfaction	B (SE)	*f-Value of model*	*p-value*	*R²*
12. Do you typically make these purchases on the weekend? (1=Yes)	-0.07 (0.28)	$F(1, 110)=0.05$	0.818	0.001
13. How much time do these purchases save per month?	-0.01 (0.05)	$F(1, 103)=0.03$	0.862	-0.01
14. How much money do you spend on these purchases per month?	-0.07 (0.06)	$F(1, 103)=1.52$	0.220	0.005
15. What % of this time saves YOU time and not your partner?	0.01 (0.01)	$F(1, 103)=1.71$	0.194	0.01
16. What % of this time saves YOUR PARTNER time and not you?	-0.01 (0.01)	$F(1, 103)=0.94$	0.335	0.001
17. What % of this time saves BOTH YOU and YOUR PARTNER?	-0.002 (0.01)	$F(1, 103)=0.13$	0.720	0.01
18. What % of these purchases are purchased by you for your own benefit?	-0.002 (0.01)	$F(1, 103)=0.13$	0.717	0.001
19. What % of these purchases are purchased by your partner for your benefit?	-0.001 (0.01)	$F(1, 103)=0.03$	0.859	-0.01
20. What % of these purchases are purchased by you for your partners benefit?	0.003 (0.01)	$F(1, 103)=0.29$	0.592	-0.01
21. To what extent do you make these purchase decisions together with your partner?	**0.22 (0.09)**	**$F(1, 103)=5.29$**	**0.023**	**0.04**
22. To what extent do you and your partner agree about making these purchases?	**0.32 (0.12)**	**$F(1, 103)=7.57$**	**0.007**	**0.06**

Table 2c. Follow-up questions asked for respondents who reported buying time in Study 1b, **Men** (*N*=166).

Relationship Satisfaction	B (SE)	*f*-Value of model	*p*-value	R^2
12. Do you typically make these purchases on the weekend? (1=Yes)	0.39 (0.16)	$F(1, 166)=0.53$	0.818	0.001
13. How much time do these purchases save per month?	0.01 (0.02)	$F(1, 166)=0.47$	0.495	0.003
14. How much money do you spend on these purchases per month?	0.02 (0.02)	$F(1, 166)=0.38$	0.538	0.002
15. What % of this time saves YOU time and not your partner?	-0.01 (0.01)	$F(1, 166)=3.76$	0.054	0.02
16. What % of this time saves YOUR PARTNER time and not you?	-0.001 (0.01)	$F(1, 166)=0.001$	0.971	-0.01
17. What % of this time saves BOTH YOU and YOUR PARTNER?	0.01 (0.003)	$F(1, 166)=3.35$	0.069	0.014
18. What % of these purchases are purchased by you for your own benefit?	-0.01 (0.004)	$F(1, 166)=4.79$	0.030	0.028
19. What % of these purchases are purchased by your partner for your benefit?	0.01 (0.003)	$F(1, 166)=4.59$	0.034	0.021
20. What % of these purchases are purchased by you for your partners benefit?	-0.002 (0.003)	$F(1, 166)=0.212$	0.646	0.001
21. To what extent do you make these purchase decisions together with your partner?	**0.27 (0.06)**	**$F(1, 166)=20.41$**	**<0.001**	**0.11**
22. To what extent do you and your partner agree about making these purchases?	**0.29 (0.08)**	**$F(1, 166)=14.53$**	**<0.001**	**0.08**

Table S3a. Study 2: Relationship satisfaction in both partners as a function of female report of couple-level variables and actor report of individual-level study variables.

Fixed effects	β	B	SE	p
Couple-Level Variables				
Intercept	0.00	5.75	0.08	< 0.001
Time Saving (1=Yes)	0.18	0.49	0.16	0.002
Number of Kids Living at Home	-0.04	-0.03	0.04	0.502
Household Income	-0.02	-0.01	0.03	0.726
Experiential Purchases (1=Yes)	0.20	0.51	0.20	0.011
Material Purchases (1=Yes)	-0.02	-0.06	0.27	0.810
Individual-Level Variables				
Age	0.05	0.06	0.07	0.343
Hours/Week (1=40+ hours)	0.04	0.09	0.09	0.321
Variances	**Variance**	**p**		
Intercept	1.09	< 0.001		
Error	0.43			

Table S3b. Study 2: Relationship satisfaction in both partners as a function of male report of couple-level variables and actor report of individual-level variables.

Fixed effects	β	B	SE	p
Couple-Level Variables				
Intercept	0.00	5.75	0.08	< 0.001
Time Saving (1=Yes)	0.07	0.18	0.16	0.265
Number of Kids Living at Home	-0.05	-0.04	0.04	0.394
Household Income	0.04	0.02	0.03	0.436
Experiential Purchases (1=Yes)	0.23	0.58	0.17	0.001
Material Purchases (1=Yes)	0.03	0.09	0.24	0.724
Individual-Level Variables				
Age	0.03	0.04	0.07	0.537
Hours/Week (1=40+ hours)	0.04	0.10	0.09	0.292
Variances	**Variance**	**p**		
Intercept	1.09	< 0.001		
Error	0.43			