

Buying (Quality) Time Predicts Relationship Satisfaction

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Seven studies examine the association between time-saving purchases (e.g., housecleaning and meal delivery services) and relationship satisfaction. Study 1 uses an 11-year longitudinal panel survey to show that increases in time-saving purchases predict long-term increases in relationship satisfaction. Study 2 replicates these findings with a 6-week daily diary study, demonstrating that time-saving purchases predict daily increases in relationship satisfaction, particularly for members of dual-income couples who are experiencing higher levels of stress. Studies 3 through 4b reveal that time-saving purchases are most beneficial when couples translate this influx of temporal resources into quality time spent together. Study 5 identifies two key aspects of quality time—positive mood when together and perceived support—that uniquely predict relationship satisfaction. Study 6, a preregistered study, provides evidence for our conceptual model: Members of committed relationships who make time-saving purchases more effectively manage daily stressors (i.e., household chores) and spend more quality time together, which predicts increased relationship satisfaction. Once again, these benefits are strongest for individuals experiencing higher levels of stress. These findings develop a nuanced framework connecting time-saving purchases to relationship satisfaction.

Keywords: time-use, dual-career couples, stress management, relationship satisfaction, work–family balance

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Every couple has received the vague and often unsolicited advice—typically from older relatives—to “make time for one another.” Left unsaid is specific advice about exactly how couples are supposed to find this free time (since time cannot be made, only found) or how they should spend it. We offer a solution: By spending money to buy themselves out of time-consuming tasks, we propose that busy couples can buy themselves quality time together.

Certainly, couples who spend more quality time together are more satisfied with their relationships and experience greater intimacy (Kingston & Nock, 1987; Kirchner, 1988; Milek et al., 2015; Orthner, 1975). However, work and family demands place significant constraints on the amount of time that couples spend together (Bianchi et al., 2006; Claxton & Perry-Jenkins, 2008). In one study, working adults reported spending only about 1 hr of quality time with their spouse and children each day (Hur et al., 2021). Another study estimated a decline of 26% in the amount of quality time that spouses spent with one another between 1975 and 2000 (Bianchi et al., 2006). Indicative of this lack of quality time, many working adults in the United States and globally feel pressed for time and unable to accomplish everything that they want to do and have to do on a regular basis (Giurge et al., 2020; Hamermesh & Lee, 2007 for a review).

At the same time, new technologies exist that offer solutions to the time stress of daily life. The rise of the gig economy has made outsourcing tasks more accessible and affordable. In one survey conducted in 2015 by the Pew Research Center, seven-in-ten Americans had used some type of online or sharing economy service in the past year. Research indicates that even relatively low-cost time-saving purchases—such as having groceries delivered or using a ridesharing service—can have benefits for personal well-being (Lok & Dunn, 2022).

While past research has documented a reliable association between time-saving purchases and personal happiness (Lok & Dunn, 2022; Whillans et al., 2017; see Dunn et al., 2020 for a review), little is known about whether and why buying time might predict relationship satisfaction. In this article, we test whether time-saving purchases allow working adults in committed romantic relationships to spend more quality time together and experience greater relationship satisfaction as a result. We also explore the features of quality time that predict relationship satisfaction. In doing so, this investigation contributes to research on relationship satisfaction, resource management, and the psychology of time and well-being by providing the first test of whether time-saving purchases allow couples to more effectively navigate the time

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demands of daily life. This research also sheds light on the question of what couples should do with an influx of time (i.e., additional temporal resources) to enhance relationship satisfaction.

Time-Saving Purchases as the Provision of Temporal Resources

We conceptualize time-saving purchases as the ability to gain additional temporal resources by paying for assistance to complete time-consuming activities. In conceptualizing time-saving purchases as an influx of temporal resources, we draw on the conservation of resources (COR) model. The COR model is a highly cited theory of stress, proposing that people are motivated to protect their current resources and acquire new ones (Hobfoll, 1989).

According to the COR model, people must invest resources to recover from losses, protect against future losses, and gain additional resources (Westman et al., 2004). For example, an employee who has been working long hours might invest time and money in a relaxing vacation to recover their depleted emotional and mental resources. Using the COR model as a conceptual framework, time-saving purchases can be viewed as a decision to use financial resources to gain additional time. Full-time working adults in committed romantic relationships typically have some discretionary income and somewhat limited time. We propose that time-saving purchases provide crucial temporal resources that working adults need to protect and increase on a regular basis. This argument aligns with research proposing the benefits of increased temporal resources for highly time stressed individuals (Sharif et al., 2021).

Research on the COR model suggests that having greater access to resources can positively influence well-being and relationship satisfaction (see Chen et al., 2015 for a review). For example, having greater access to resources like self-esteem can protect against burnout when working in highly stressful occupations such as caregiving or teaching (Janssen et al., 1999). In the context of relationships, when full-time working adults have more supportive partners, they report lower levels of work–family conflict and experience greater relationship satisfaction (Jansen, 2003). This research shows that both intrapersonal resources like self-esteem and interpersonal resources like social support can predict well-being, especially when individuals are facing high levels of stress (Chen et al., 2015).

Relevant research using the COR model has explored the association between increased temporal resources among busy professionals and well-being. Research on “respite” has found that sabbaticals—year-long breaks from paid employment—can reduce stress and improve positive mood by helping working professionals feel more in control of their time and reconnect with loved ones (Davidson et al., 2010; Schabram et al., 2022). Paid vacations are also associated with an increase in temporal resources and lower levels of stress and burnout among employees (de Bloom et al., 2012; Etzion, 2003; Westman & Eden, 1997). This research suggests that increased temporal resources enable people who are experiencing high levels of stress to better navigate demands at work and outside of it, in turn predicting higher well-being and improving the quality of their social and romantic relationships.

Building on this research, we propose that time-saving purchases are a previously unexplored response to the demands of daily life

that increase temporal resources and may predict greater relationship satisfaction for working adults in committed romantic relationships.

An influx of temporal resources should help employed adults more effectively manage their daily demands and positively predict relationship satisfaction as a result. The COR model proposes that the more resources people have available relative to their demands, the greater well-being they will experience (Hobfoll, 2001). Time-saving purchases should therefore benefit relationship satisfaction when these purchases provide a greater influx of temporal resources: that is, when they save more time. This research leads to our first two hypotheses (Hypotheses 1 and 2):

Hypothesis 1: Working adults in committed romantic relationships who make time-saving purchases will report higher levels of relationship satisfaction than those who do not make time-saving purchases (Studies 1–3, 5, 6).

Hypothesis 2: The amount of time that couples save through time-saving purchases will be a significant positive predictor of relationship satisfaction (Studies 3, 5, and 6).

Time-Saving Purchases Increase Quality Time

While prior research using the COR model has focused on understanding how intrapersonal resources like self-esteem and interpersonal resources like social support predict well-being, there is much less research documenting *when* or *why* an influx of temporal resources might translate into greater well-being or relationship satisfaction. Our research aims to address this gap by proposing that an influx of temporal resources will predict greater relationship satisfaction by improving the quality of time that working adults spend with their romantic partner.

Quality time is defined as the perception of spending enjoyable time together (R. G. Carlson et al., 2022) and it is critical for preserving relationship satisfaction (Kingston & Nock, 1987; Kirchner, 1988; Kremer-Sadlik & Paugh, 2007; Milek et al., 2015; Orthner, 1975). Yet working adults in committed romantic relationships spend very little quality time with their romantic partners, which can undermine relationship satisfaction (Bianchi et al., 2006; Claxton & Perry-Jenkins, 2008; Hatch & Bulcroft, 2004). We propose that time-saving purchases, and especially purchases that provide a greater influx of temporal resources (i.e., purchases that save more time), will predict greater relationship satisfaction by helping couples spend more quality time together. This proposition leads to the next hypothesis (Hypothesis 3):

Hypothesis 3: Time-saving purchases will predict relationship satisfaction by enabling couples to spend more quality time together (Studies 4–6).

In testing this hypothesis, we explore various conceptualizations of quality time. While past research has defined quality time as the overall perception of spending enjoyable time together (R. G. Carlson et al., 2022), very little research has explored the specific characteristics of time-use that influence these perceptions. Contributing to research in this area, we test two previously studied conceptualizations of quality time that could contribute to relationship satisfaction: how couples spend time together and how they feel about time spent together.

First, we examine whether time-saving purchases predict relationship satisfaction by decreasing the amount of time that couples spend together on mood-detracting activities like chores (Giurge et al., 2021) or by increasing the amount of time that couples spend together on mood-enhancing activities like exercise and socializing (Smeets et al., 2020). Second, we examine whether time-saving purchases predict relationship satisfaction by altering the subjective experience of time together, either by decreasing negative emotional experiences or by increasing positive emotional experiences when together (Kremer-Sadlik & Paugh, 2007).

In testing these two distinct conceptualizations of quality time—as time spent on various activities and as the subjective experience of time itself—this investigation advances research on time-use, time-perception, and relationship satisfaction. Conceptually, this investigation helps to uncover whether time-use activities or the subjective experience of time matters in predicting the relationship satisfaction benefits of buying time for working adults in committed romantic relationships. Practically, this investigation addresses the question of how working adults may consider spending an influx of time to enhance their relationship satisfaction.

Time-Saving Purchases Allow Couples to Proactively Navigate Household Stress

We also test *why* time-saving purchases predict quality time. Research using the COR model shows that personal resources like social support and coping abilities allow people in romantic relationships to engage in more proactive coping strategies when they are faced with higher demands (Chen et al., 2015). Engagement with proactive coping strategies can in turn predict a positive trajectory of resilience to daily stressors and well-being (Westman et al., 2004).

The COR model suggests that access to valuable resources can initiate positive cycles of stress management and well-being. These “gain spirals” occur when an influx of new, needed resources enables more positive coping responses to current challenges and results in further resource gains (Chen et al., 2015; Hakanen et al., 2008). We apply this concept to our study of time as a resource in relationships. Specifically, we examine whether time-saving purchases provide working adults with additional time to better manage their household chores, potentially resulting in more quality time spent together, and greater relationship satisfaction. This hypothesis reflects the COR model’s gain spiral proposition: Additional time provided by time-saving purchases should allow couples to more effectively manage their daily responsibilities, creating opportunities for more positive shared experiences and higher relationship satisfaction.

Daily diary studies have shown that recurring negative discussions about chores are the most frequent source of conflict for couples who are living together (Papp et al., 2009). Drawing on these findings, we define positive coping with the household chores as an increase in constructive conversations about the chores coupled with a decrease in repetitive, ruminative chore discussions during shared time. We hypothesize that this reduction in chore rumination will predict more quality time together and greater relationship satisfaction.

This prediction is supported by research showing that rumination about chore-related concerns can negatively predict relationship

satisfaction (D. Carlson et al., 2020; Zięba et al., 2022). Conversely, problem-focused responses to household tasks, such as planning when and how to complete daily chores, can mitigate these effects (Revenson et al., 2005). Building on this research, we propose that time-saving purchases will predict more constructive responses to the household chores. This, in turn, should predict more quality time together and greater relationship satisfaction. Based on this research, we formulate our fourth hypothesis (Hypothesis 4):

Hypothesis 4: Working adults in committed romantic relationships who make time-saving purchases (and save more time through these purchases) will have the resources to more positively cope with their daily demands (i.e., the household chores). In turn, they will spend more quality time together and report greater relationship satisfaction (Study 6).

We focus on household chores due to their ubiquitous nature and significant impact on relationship satisfaction (D. Carlson et al., 2020; Papp et al., 2009; Zięba et al., 2022). Many time-saving purchases, such as meal delivery or cleaning services, directly address chore-related demands. This direct link provides a clear channel to demonstrate the gain spiral effect proposed by the COR model (Chen et al., 2015; Hakanen et al., 2008).

By examining how time-saving purchases influence chore management, we illustrate how couples can use external resources to manage their daily responsibilities, potentially enhancing relationship satisfaction. While we could have studied other common stressors such as managing work demands, testing this gain spiral proposition in the context of household chores is a relevant and broadly applicable initial step in demonstrating whether and how time-saving purchases can help busy couples manage their day-to-day responsibilities more effectively.

Time-Saving Purchases Protect Against Stress

We also explore *when* working adults in committed romantic relationships benefit most from time-saving purchases. Based on COR model research showing that resources protect against stress (Westman et al., 2004 for a review), we predict a moderating role of stress, such that people in romantic relationships who report relatively high levels of stress (i.e., who face greater demands) will experience greater benefits from increasing their temporal resources by making time-saving purchases. This research leads to the fifth and final hypothesis (Hypothesis 5):

Hypothesis 5: Members of committed romantic relationships who experience relatively high levels of stress will report greater relationship satisfaction after receiving an influx of temporal resources through time-saving purchases (Studies 1–3, 5).

Overview

We explore these hypotheses across seven studies. Study 1 is an 11-year longitudinal panel survey testing whether changes in time-saving purchases predict long-term changes in relationship satisfaction. Study 2 is a 6-week diary study examining whether time-saving purchases predict daily relationship satisfaction. Both Studies 1 and 2 test whether these benefits are stronger for respondents who report higher levels of stress. Study 3 tests the role of hours saved in

predicting the benefits of time-saving purchases. Studies 4a and 4b provide experimental evidence that quality time predicts when time-saving purchases increase relationship satisfaction. Study 5 explores the features of quality time that uniquely predict this association. Study 6, a preregistered study, tests our full conceptual model (Figure 1). We have no a priori predictions about how stress will moderate the associations between time-saving purchases, quality time, and relationship satisfaction. Thus, our conceptual diagram is open to the possibility that stress could moderate any of the possible direct and indirect paths.

Transparency and Openness

All data (except for Study 1 which relies on public available data and due to copyright protections is not able to be shared by individual researchers but is freely available) have been made publicly available at the Open Science Framework and can be accessed at this anonymous link (https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad).

The code behind all analyses in this article have been made publicly available at the Open Science Framework and can be accessed at the anonymous link (https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad).

In testing these hypotheses, our article makes three primary contributions to the resource management, consumption, time-use, and relationship satisfaction literatures.

First, this article contributes to research on the COR model by showing when and how an influx of temporal resources predicts relationship satisfaction for working adults in committed romantic relationships. Past research on the COR model has focused on understanding when and how temporal resources provided by external parties outside of romantic relationships—such as paid vacations provided by workplaces—predict well-being and relationship satisfaction (Etzion, 2003). Moving

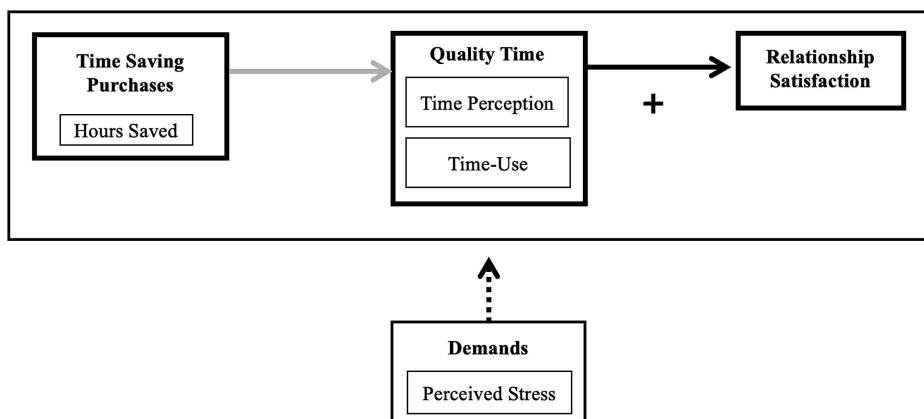
beyond this focus, our investigation explores whether and how working couples can increase their own temporal resources by making time-saving purchases together, with possible benefits for stress management, time-use, quality time, and relationship satisfaction.

Second, this article provides a conceptual contribution to the time-use and relationship satisfaction literature by exploring how working adults in romantic relationships should spend an influx of time to promote relationship satisfaction. While past research has explored whether subjective experiences of time or spending time in certain leisure activities like exercising or socializing predict self-reported relationship satisfaction, we simultaneously test time-use and perceptions of time and investigate which factors uniquely predict relationship satisfaction.

This investigation dovetails with recent calls from relationship researchers to expand the focus of research beyond understanding activities and events that disrupt relationship functioning to study the activities and events that predict relationship satisfaction—such as engaging in hobbies when spending time together (Muise et al., 2019; Righetti et al., 2022 for a review).

Finally, this article advances research on the topic of how purchases that are acquired through the market economy predict relationship satisfaction. Past research provides compelling evidence that spending money to acquire positive experiences like meals-out and vacations can enhance interpersonal closeness (Gilovich & Kumar, 2015). Extending this research, our investigation represents the first test of whether, when, and how spending money to reduce negative experiences like time spent on the household chores uniquely predicts romantic relationship satisfaction. Across all primary data collection efforts, we include measures of experiential and material purchases and show that time-saving purchases predict relationship satisfaction beyond these other consumption decisions. In doing so, this article contributes new insight into how consumer choices can predict relationship satisfaction.

Figure 1
Conceptual Model That Links Time-Saving Purchases to Relationship Satisfaction (H1–H5)



Note. In this model, time-saving purchases predict relationship satisfaction (H1) through their influence on quality time (H3). We propose that hours saved will be a unique predictor of the relationship benefits of time-saving purchases (H2). We also hypothesize that time-saving purchases will predict relationship satisfaction by helping members of committed romantic relationships better manage daily stressors like chores and enabling them to experience greater quality time together as a result (H4). We treat stress as a moderator: More stressed members of romantic relationships should experience the greatest benefits (H5). H = hypothesis.

The surveys and data for these studies are available through the Open Science Framework (OSF at https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad). Studies 4a and 6 were preregistered. Except for Study 1, an existing public data set, we prioritized recruiting members of dual-income couples who were living together. We made this decision because dual-income households experience greater time demands compared to single-income households (Kingston & Nock, 1987; Ko & Hwang, 2021). This fact makes members of dual-income couples an appropriate population for testing whether, when, and why time-saving purchases predict relationship satisfaction (see Sharif et al., 2021, for related arguments). Moreover, these couples are more likely to have money available to spend on services that save time. Focusing on dual-income couples therefore provides an ecologically valid test of our hypotheses (see also Lok & Dunn, 2022).

Study 1

Overview

Study 1 uses data from a longitudinal panel data set—Understanding Society: The U.K. Household Longitudinal Study (UKHLS)—to assess whether changes in time-saving purchases predict long-term changes in relationship satisfaction. Using this data set, we test whether individuals who are in committed romantic relationships report greater relationship satisfaction after they increase their use of paid time-saving services (Hypothesis 1). We also explore whether time-saving purchases are more beneficial for people who are experiencing higher levels of stress (Hypothesis 5).

The UKHLS is an 11-year longitudinal panel survey that provides comprehensive information about the lives and experiences of individuals and households in the United Kingdom. Analyzing this data set has two primary benefits. First, this data set allows us to control for time-invariant individual characteristics that may confound the association between time-saving purchases and relationship satisfaction such as personality traits (Ptacek et al., 1994; Stone et al., 2000). Second, the extended time frame of the UKHLS allows us to explore the reverse causal argument. It is conceivable that individuals who become more satisfied in their relationships might invest more in time-saving services to maintain or further increase their relationship satisfaction (Chen et al., 2015). By analyzing data from the same respondents over 11 years, we can differentiate between our hypothesis—that time-saving purchases predict changes in relationship satisfaction—and the alternative explanation that people in more satisfying romantic relationships simply allocate more resources to time-saving purchases.

Participants and Data Description

Launched in 2009, the UKHLS collects data from approximately 40,000 households across the United Kingdom each year, covering a wide range of topics including economic circumstances, social dynamics, health, and well-being. The UKHLS sample is designed to be representative of the U.K. population. The data set is publicly accessible through the U.K. Data Service (<https://www.understandingsociety.ac.uk/documentation/access-data/>). Comprehensive documentation and resources for this data

set can be found on the Understanding Society website (<https://www.understandingsociety.ac.uk/documentation/>).

For our analyses, we extracted relevant data from Waves 1–11 of the UKHLS, which spanned from 2009 to 2021. Respondents were included in our final analyses if they were married, in a civil partnership, or cohabitating¹ at least once across the waves of data collection and if they responded to our key questions of interest about relationship satisfaction and time-saving purchases. Our final sample included 98,062 observations from 33,456 respondents. See Table 1 for the demographic characteristics of these respondents. These analyses were not preregistered.

Measures

Relationship Satisfaction

Relationship satisfaction was measured in Waves 1, 3, 5, 6, 8, and 10 using the four-item Relationship Satisfaction subscale of the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995). Respondents reported the frequency that they considered relationship termination, regretted getting married/living together, quarrelling, and feeling irritated by their partners. Responses were collected on a 6-point scale ranging from 1 (*all of the time*) to 6 (*never*). The survey calculated a composite score by summing responses to these four items. This composite score ranged from 0 to 20, with higher scores indicating greater relationship satisfaction ($M = 16.09$, $SD = 2.66$, range = 0–20, $\alpha = .79$).²

Time-Saving Purchases

Time-saving purchases were measured in Waves 2, 4, 6, 8, and 10. Respondents were asked to report on who was primarily responsible for the household chores: themselves, their partner, jointly, or by paying someone else. Respondents reported about the following household chores: “grocery shopping,” “cooking,” “cleaning/hoovering” (vacuuming in American English), “washing and ironing,” “gardening” (yard work in American English), and “DIY jobs” (home improvement tasks and decorating). If respondents reported primarily paying someone else to complete the household task, their response was coded as a “1”; otherwise, their response was coded as “0” (10.18% of observations involved paying for at least one service). Responses were summed at each wave to create a composite score indicating the number of time-saving services that were purchased during that wave of data collection ($M = 0.13$, $SD = 0.45$, range = 0–6). This approach allowed us to test within-person changes across time as respondents shifted from completing more chores within the household to paying for more assistance. Each respondent appeared in the data set an average of three times ($\bar{T} = 2.98$).

¹ Respondents who responded to the survey item (mastat_dv) with a “2,” “3,” or “10” are considered eligible for the relationship questions in the Understanding Society survey.

² Although this article tests relationship satisfaction and commitment as separate constructs in all other studies, the available measure in the UKHLS data set does not allow for this distinction. For consistency with the RDAS subscale, we retain the label “Relationship Satisfaction,” while acknowledging that this measure encompasses both satisfaction and commitment aspects of self-reported relationship quality.

Table 1
Demographic Characteristics Across Studies

Demographic	1	2	3	4a	4b	5	6
% female	53.3%	91.9%	36.8%	53.7%	49.9%	52.1%	68.1%
<i>Mdn</i> , age	52.01 (14.84)	25–34	35–44	35–44	25–34	35–44	35–44
<i>Mdn</i> , annual income	£24,067.46 (20815.57)	\$70–\$79 K	\$90–\$99 K	\$60–\$69 K	\$60–\$69 K	\$80–\$89 K	\$90–\$99 K
<i>Mdn</i> (range) no. of children	.67 (0–8)	0 (0–4)	2 (1–6)	2 (1–6)	2 (1–6+)	2 (1–6)	2 (1–6)
<i>Mdn</i> no. of work hours/week	32.94 (10.72)	40+	40+	31–40	31–40	31–40	40+

Note. In Study 1, the average working hours per week reported is conditional on employment. In Study 1, the income variable income represents annual personal income. For the remaining studies (Studies 2–6), the income variable represents annual household income. Across all studies, the number of children variable represents the number of children who are currently living in the home. Values for Study 1 represent means; values for all other studies represent medians. *Mdn* = median.

Perceived Stress

Perceived stress was measured across all 11 waves of data collection using a validated and widely used measure of distress, the 12-item General Health Questionnaire (Goldberg et al., 1997). Respondents reported their psychological stress using a 4-point scale with the following response options: 1 = *better than usual*; 2 = *same as usual*, 3 = *less than usual*, 4 = *much less than usual*. Example items included: “Have you recently lost much sleep over worry?” and “Have you recently felt you could not overcome your difficulties?” To calculate the composite measure, responses were reversed and summed at each wave. Higher scores indicated greater psychological distress ($M = 11.14$, $SD = 5.54$, range = 0–36, $\alpha = .91$).

Control Variables

We tested whether our results held controlling for several variables that could explain the association between time-saving purchases and relationship satisfaction: age, gender (dummy-coded: 1 = *female*), and the number of children respondents reported living at home. The decision to include these covariates in our models was based on prior research exploring the association between time-use, time-perception, and well-being (DeVoe & Pfeffer, 2007, 2010; Hershfield et al., 2016). We also controlled for employment status and household income because the ability to make time-saving purchases and to increase the amount of

money spent on these purchases over time could be an indirect measure of discretionary income (Headey et al., 2008). Last, we controlled for self-reported physical health because changes in physical health could influence how frequently people report paying for time-saving services as well as their relationship satisfaction (see also Whillans et al., 2017). These control variables were consistently measured across all 11 waves of data collection. See Table 2 for a correlation table between all key variables analyzed in Study 1.

Analytical Approach

In Study 1, we tested the longitudinal association between time-saving purchases and relationship satisfaction (Hypothesis 1) using multilevel mixed-effects models. Specifically, due to the timing of the UKHLS survey, time-saving purchases at time t are predicting relationship satisfaction at time $t + 1$, while controlling for relationship satisfaction at time $t - 1$. This approach effectively handles the nested structure of the UKHLS data, where repeated observations are clustered within individuals over time (Hox et al., 2017; Luke, 2019).

This approach accounts for the temporal sequence of the data and allows us to examine how time-saving purchases at 1 point ($t - 1$) predict relationship satisfaction at a subsequent point (t ; Grimm et al., 2017). By incorporating random coefficients, this model acknowledges the fact that the influence of time-saving purchases may vary across people, and it allows us to capture person-specific

Table 2
Correlation Matrix of Key Variables in Study 1

Variable	1	2	3	4	5	6	7	8	9
1. Relationship satisfaction	—								
2. Time-saving purchases	—	—							
3. Stress	-.27***	.02***	—						
4. Physical health	.13***	-.03***	-.38***	—					
5. Personal income	.01***	.04***	-.03***	-.01***	—				
6. Children	-.11***	-.06***	.01***	.03***	-.03***	—			
7. Employed	-.04***	-.06***	-.08***	.11***	.38***	.13***	—		
8. Gender (dummy-coded: 1 = <i>female</i>)	-.07***	.02***	.10***	-.03***	-.07***	.03***	-.09***	—	
9. Age	.12***	.14***	-.04***	-.09***	.24***	-.34***	-.30***	.00	—

Note. The correlation between relationship satisfaction and time-saving purchases is marked as “—” due to the timing of measures in different waves which prevented direct correlation calculation. Correlations are based on annual observations. Income is log-transformed.

*** $p \leq .001$.

effects (Snijders & Bosker, 2011). This approach disaggregates the effect of time-varying predictors into both within-person and between-person components. In doing so, this model provides a clear understanding of how changes in time-saving purchases relate to changes in relationship satisfaction at both the individual and the group level (Curran & Bauer, 2011). Additionally, mixed-effects models are resilient to missing data and unequal measurement intervals, which are common challenges in longitudinal studies (Bates et al., 2015).

To strengthen causal inference in our longitudinal analysis, we included prior relationship satisfaction as a control variable in our models. This approach allows us to examine whether changes in time-saving purchases predict changes in relationship satisfaction beyond prior relationship satisfaction levels, testing the directional effect proposed in Hypothesis 1. Including the lagged dependent variable (prior relationship satisfaction) serves multiple purposes: It accounts for autoregressive effects (Kearney, 2017), helps to control for unobserved time-invariant confounds (Allison et al., 2017), and addresses potential reverse causality concerns (Leszczensky & Wolbring, 2022). This method complements our disaggregation of effects into between and within-person components by capturing additional time-varying individual specific factors (Curran & Bauer, 2011). We present models with and without covariates to demonstrate the robustness of our findings and to reduce potential confounding effects (VanderWeele, 2019). This approach strengthens our ability to draw causal inferences about the influence of time-saving purchases on relationship satisfaction over time.

To test Hypothesis 5, we explore interactions between time-saving purchases and stress levels. Specifically, we examine how the within-person effect of time-saving purchases interacts with between-person differences and within-person fluctuations in perceived stress. This analytic strategy allows us to explore whether time-saving purchases protect against the negative impact of both acute and chronic stress levels on relationship satisfaction over time (Hoffman, 2015).

Results

Time-Saving Purchases and Relationship Satisfaction

Our main analyses focus on whether changes in time-saving purchases predict changes in relationship satisfaction over time.

Consistent with Hypothesis 1, there was a significant within-person effect of time-saving purchases on relationship satisfaction. Controlling for prior levels of relationship satisfaction, when respondents increased their use of paid time-saving services, they reported a small but significant increase in their self-reported relationship satisfaction ($B_W = .04$, $SE = .02$, $z = 2.23$, $p = .026$). These results were unchanged when we controlled for respondents' age, gender (dummy-coded: 1 = *female*), the number of children living at home, employment status, household income, and self-reported health ($B_W = .05$, $SE = .02$, $z = 2.45$, $p = .014$). See Models 1 and 2 in Table 3.³

Reverse-Causal Analysis: Exploring the Direction of Influence

Next, we conducted an analysis to investigate the direction of the association between time-saving purchases and relation-

ship satisfaction. We tested whether prior levels of relationship satisfaction predicted changes in the number of time-saving purchases respondents made in the subsequent period. This approach is consistent with best practices in longitudinal research for establishing temporal precedence and ruling out alternative explanations (Rohrer & Murayama, 2023).

Consistent with Hypothesis 1 and our proposed conceptual model, relationship satisfaction did not significantly predict time-saving purchases ($ps \geq .327$). This result held when controlling for covariates (Table 4, Models 1 and 2). These results suggest that changes in relationship satisfaction do not meaningfully predict the increased future use of time-saving services.

In contrast, the lagged value of time-saving purchases significantly predicted current levels of time-saving purchases (Table 4, Models 1 and 2). Within-subject analyses showed that respondents who made more time-saving purchases in the previous year reported fewer time-saving purchases in the current year ($B_W = -.24$, $SE = .00$, $z = -61.78$, $p < .001$). This finding suggests a cyclical pattern: after periods of higher-than-average spending on time-saving purchases, individuals may reduce spending due to decreased need or budget constraints.

Between-subject analyses revealed that respondents who made more (vs. fewer) time-saving purchases in the past year significantly increased their use of these services in the current year ($B_B = 1.04$, $SE = .00$, $z = 340.05$, $p < .001$). These findings held with covariates.

While time-saving purchases predicted current relationship satisfaction and the future decision to buy time, relationship satisfaction did not predict the subsequent decision to make time-saving purchases.

Moderating Role of Stress on the Benefits of Time-Saving

To test the moderating role of stress (Hypothesis 5), we expanded our multilevel model to include within- and between-person effects of stress and their interactions with time-saving purchases to predict relationship satisfaction.

Our analysis revealed a significant interaction of between-person time-saving purchases and within-person stress to predict relationship satisfaction (B_B Time-Saving $\times B_W$ Stress = .02, $SE = .00$, $z = 4.62$, $p < .001$). This interaction was robust to the inclusion of covariates (Table 5, Models 1 and 2). Figure 2 illustrates this interaction and demonstrates that the positive effect of time-saving purchases intensifies as individuals report higher levels of stress over time.

These findings support Hypothesis 5 and suggest that time-saving purchases are especially beneficial for relationship satisfaction when people consistently make more of these purchases (between-person effect) and experience elevated levels of stress (within-person effect).

In contrast, as shown in Table 5, we did not observe significant interactions between within-person shifts in time-saving purchases and within-person shifts in stress, within-person shifts

³ As evidenced in Table 3, the between-person effect of time-saving purchases on relationship satisfaction was not significant. This nonsignificant between-person effect may be attributable to the relative rarity of time-saving purchases in the sample. As most observations in this data set did not involve time-saving purchases, there was limited variability on this measure across respondents, making it more difficult to detect significant between-person differences.

Table 3

Multilevel Mixed-Effects Models Examining Between-Person and Within-Person Effects of Time-Saving Purchases on Relationship Satisfaction

Fixed effect	Relationship satisfaction							
	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>b_W</i> Relationship satisfaction (lag)	-.22	.00	-61.75	<.001	-.22	.00	-61.49	<.001
<i>b_B</i> Relationship satisfaction (lag)	1.03	.00	438.69	<.001	1.03	.00	420.23	<.001
<i>b_W</i> Time-saving	.04	.02	2.23	.026	.05	.02	2.45	.014
<i>b_B</i> Time-saving	.01	.01	.84	.403	.00	.01	.12	.903
<i>b_W</i> Personal income					.00	.00	1.16	.244
<i>b_B</i> Personal income					.00	.00	.20	.841
<i>b_W</i> Children					-.12	.01	-9.15	<.001
<i>b_B</i> Children					.00	.01	-.69	.493
<i>b_W</i> Employed					-.05	.02	-2.14	.033
<i>b_B</i> Employed					.02	.02	.94	.350
<i>b_W</i> Physical health					.05	.00	13.83	<.001
<i>b_B</i> Physical health					.00	.00	.19	.847
<i>b_B</i> Gender (1 = <i>female</i>)					.00	.01	.41	.679
<i>b_B</i> Age					.00	.00	2.69	.007
Intercept	16.06	.00	3,288.18	<.001	15.99	.03	466.37	<.001
Observations			79,084				78,427	
<i>N</i>			28,449				28,354	

Note. Models 1 and 2 include random intercepts and random slopes (not shown) for time-saving purchases. Within-person predictors were group mean-centered. Between-person predictors were grand mean-centered. Due to the timing of the UKHLS survey, time-saving purchases at time *t* are predicting relationship satisfaction at time *t* + 1, while controlling for relationship satisfaction at time *t* - 1. Covariates are for the same time point as the outcome, relationship satisfaction. *b_W* = within-person; *b_B* = between-person; *SE* = standard error; UKHLS = U.K. Household Longitudinal Study.

in time-saving purchases and between-person differences in stress, or between-person differences in time-saving purchases and between-person differences in stress to predict relationship satisfaction. These findings highlight the specific conditions

under which time-saving purchases are most beneficial for relationship satisfaction—when individuals consistently invest in time-saving purchases and experience periodic increases in stress.

Table 4

Multilevel Mixed-Effects Models Examining Between-Person and Within-Person Effects of Relationship Satisfaction on Time-Saving Purchases

Fixed effect	Time-saving purchase							
	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>b_W</i> Time-saving (lag)	-.24	.00	-61.78	<.001	-.24	.00	-60.77	<.001
<i>b_B</i> Time-saving (lag)	1.04	.00	340.05	<.001	1.04	.00	327.73	<.001
<i>b_W</i> Relationship satisfaction	.00	.00	.98	.327	.00	.00	1.23	.217
<i>b_B</i> Relationship satisfaction	.00	.00	.67	.506	-.00	.00	-.16	.876
<i>b_W</i> Personal income					.00	.00	2.70	.007
<i>b_B</i> Personal income					-.00	.00	-2.03	.042
<i>b_W</i> Children					.01	.00	3.27	.001
<i>b_B</i> Children					.00	.00	1.91	.056
<i>b_W</i> Employed					.01	.00	3.09	.002
<i>b_B</i> Employed					.01	.00	2.11	.035
<i>b_W</i> Physical health					-.00	.00	-1.36	.173
<i>b_B</i> Physical health					.00	.00	.16	.875
<i>b_B</i> Gender (dummy-coded: 1 = <i>female</i>)					-.00	.00	-.37	.714
<i>b_B</i> Age					.00	.00	5.31	<.001
Intercept	.14	.00	137.51	<.001	.11	.01	15.28	<.001
Observations			70,392				68,153	
<i>N</i>			27,744				27,162	

Note. Model 1 and Model 2 include random intercepts and random slopes (not shown) for relationship satisfaction. Within-person predictors were group mean-centered. Between-person predictors were grand mean-centered. Due to the timing of the UKHLS survey, relationship satisfaction at time *t* predicts time-saving purchases at time *t* + 1, while controlling for time-saving purchases at time *t* - 1. Covariates are for the same time point as the outcome, time-saving purchases. *b_W* = within-person; *b_B* = between-person; *SE* = standard error; UKHLS = U.K. Household Longitudinal Study.

Table 5*Interactions Between Time-Saving Purchases and Stress on Relationship Satisfaction*

Fixed effect	Relationship satisfaction							
	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>b_W</i> Relationship satisfaction (lag)	-.21	.00	-60.24	<.001	-.21	.00	-60.12	<.001
<i>b_B</i> Relationship satisfaction (lag)	1.03	.00	413.88	<.001	1.03	.00	407.16	<.001
<i>b_W</i> Time-saving	.05	.02	2.61	.009	.05	.02	2.90	.004
<i>b_B</i> Time-saving	.01	.01	.90	.368	.00	.01	.09	.926
<i>b_W</i> Stress	-.06	.00	-39.82	<.001	-.05	.00	-37.84	<.001
<i>b_B</i> Stress	-.00	.00	-2.26	.024	-.00	.00	-2.13	.033
<i>b_W</i> Time-Saving × <i>b_W</i> Stress	-.00	.01	-.23	.815	-.00	.01	-.75	.452
<i>b_B</i> Time-Saving × <i>b_W</i> Stress	.02	.00	4.62	<.001	.02	.00	4.96	<.001
<i>b_W</i> Time-Saving × <i>b_B</i> Stress	.00	.00	.77	.442	.01	.00	1.15	.250
<i>b_B</i> Time-Saving × <i>b_B</i> Stress	.00	.00	.60	.546	.00	.00	.34	.734
<i>b_W</i> Personal income					.00	.00	.64	.525
<i>b_B</i> Personal income					.00	.00	.17	.868
<i>b_W</i> Children					-.11	.01	-9.01	<.001
<i>b_B</i> Children					-.00	.01	-.44	.663
<i>b_W</i> Employed					-.07	.02	-3.12	.002
<i>b_B</i> Employed					.02	.02	1.11	.267
<i>b_W</i> Physical health					.03	.00	7.17	<.001
<i>b_B</i> Physical health					-.01	.01	-1.13	.260
<i>b_B</i> Gender (dummy-coded: 1 = <i>female</i>)					.01	.01	.85	.396
<i>b_B</i> Age					.00	.00	2.66	.008
Intercept	16.07	.00	3,304.42	<.001	15.98	.03	470.18	<.001
Observations			78,873				78,234	
<i>N</i>			28,406				28,317	

Note. Models 1 and 2 include random intercepts and random slopes (not shown) for time-saving purchases and stress. Within-person predictors were group mean-centered. Between-person predictors were grand mean-centered. *b_W* = within-person; *b_B* = between-person; *SE* = standard error.

Discussion

Our analysis of an 11-year longitudinal panel survey provides evidence for Hypothesis 1: Individuals who increased their use of paid time-saving services reported a small but significant increase in relationship satisfaction. This within-person association persisted after controlling for prior relationship satisfaction, demographic characteristics, and fluctuations in personal circumstances including changes in household income.

Critically, our analyses suggest a unidirectional influence of time-saving purchases on relationship satisfaction. While the increased use of time-saving services predicted changes in relationship satisfaction over time, current relationship satisfaction did not drive these purchase decisions. This finding supports our conceptual proposition that people who increasingly make time-saving purchases will report gains in relationship satisfaction over time and that changes in relationship satisfaction will not explain this association.

We also found initial evidence for Hypothesis 5: Individuals who made more time-saving purchases on average benefited more from these purchases when their stress levels increased over time. These results suggest that time-saving purchases may protect against the negative impact of stress on relationship satisfaction, particularly during periods of heightened stress. The increased relationship benefit of time-saving purchases for more frequent consumers indicates additional advantages for those with established routines and comfort with outsourcing tasks. This familiarity may allow people to leverage these purchases more efficiently during stressful periods without the added burden of adapting to new strategies. Future research should directly test this possibility.

The within-subject analyses used in Study 1 mitigate concerns about stable individual differences and autocorrelations explaining the observed association between time-saving purchases and relationship satisfaction. The large, representative sample allowed us to test long-term patterns in the association between time-saving purchases and relationship satisfaction.

Despite these methodological strengths, Study 1 has two key limitations. First, while our longitudinal design and comprehensive controls reduce potential confounds, we cannot fully eliminate omitted variable bias. Unmeasured time-varying factors such as fluctuations in discretionary income or shifts in work-life balance could influence both the propensity to make time-saving purchases and relationship satisfaction. Second, the constraints of secondary data resulted in the use of suboptimal measures for key variables. Notably, only 10.18% of observations indicated payment for time-saving services, likely underestimating their prevalence and attenuating the observed effects. This low percentage likely stems from the survey wording, which asked about the primary responsible party for each task—the individual or a service provider. In Study 2, we address these limitations by collecting primary data with more precise measures of time-saving purchases, stress, relationship satisfaction, and relevant covariates.

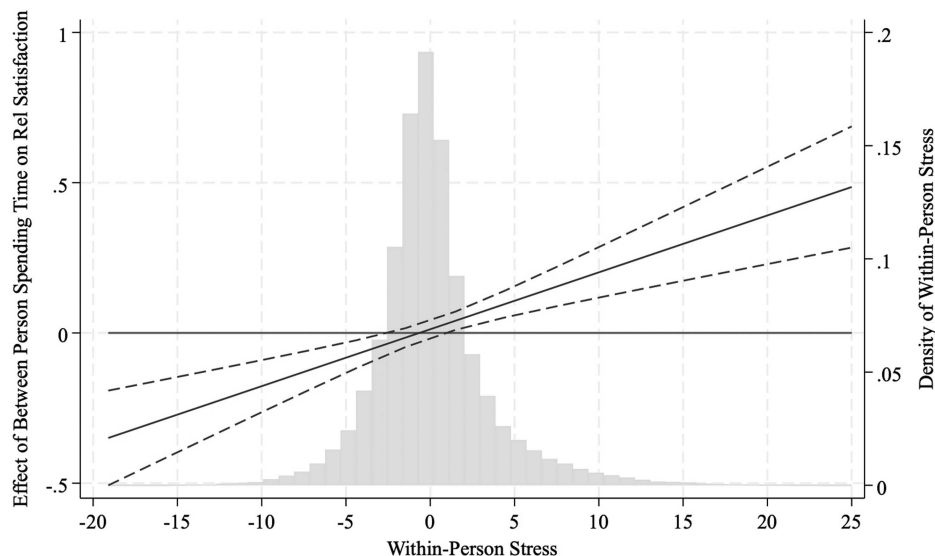
Study 2

Overview

In Study 2, we conducted a 6-week daily diary study to investigate the association between time-saving purchases and relationship satisfaction for members of dual-income households. Study 2 tests

Figure 2

Effect of Between-Person Spending on Time-Saving Purchases on Relationship Satisfaction Across Within-Person Changes in Stress



Note. The solid middle line represents the effect of between-person time-saving purchases on relationship satisfaction across varying levels of within-person stress, with the dashed lines indicating 95% confidence intervals. The positive slope of the solid middle line indicates that time-saving purchases have a stronger positive effect on relationship satisfaction when individuals experience higher than usual stress levels. The effect becomes significantly positive (above the flat line) at above-average stress levels, suggesting that time-saving purchases are particularly beneficial during periods of heightened stress. The gray histogram represents the distribution of within-person stress, which is approximately normally distributed around zero.

whether individuals report higher relationship satisfaction on days when they make time-saving purchases (Hypothesis 1) and whether these time-saving purchases are especially beneficial for working adults who are experiencing higher levels of stress (Hypothesis 5).

Study 2 complements Study 1 by using a different time scale and methodology. Study 2 uses daily assessments of time-saving purchases to minimize recollection bias (Kahneman et al., 2006) and capture daily within-person fluctuations in relationship satisfaction.

Mirroring the approach taken in Study 1, we examine the potential bidirectional association between relationship satisfaction and time-saving purchases. This approach once again allows us to address concerns about reverse causality—the possibility that fluctuations in relationship satisfaction predict changes in time-saving purchases rather than vice versa.

Our recruitment strategy targeted working adults in committed romantic relationships who regularly made time-saving purchases. This strategy increased our statistical power by improving the likelihood of capturing at least one such purchase during the 6-week study.

Participants and Data Description

We analyzed data from 71 respondents who participated in a 6-week daily diary study. Respondents were recruited using Facebook advertisements, and they were eligible to participate in the full study if they were in a committed romantic relationship, lived full time with their partner, worked more than 30 hr per

week, had a romantic partner who worked at least 30 hr per week, and made at least two time-saving purchases in a typical month.

Respondents completed short online surveys each evening, reporting on their daily relationship satisfaction, stress levels, and purchase behavior. Daily text messages with survey links were sent at 7 p.m. each day, with instructions to complete the survey “at the end of the day.” Each completed survey earned one entry into a prize lottery for a \$100 Amazon gift card.

Of the 74 initial enrollees, three respondents were excluded from our final analyses due to a lack of daily diary data, resulting in a final sample of 71 respondents. See Table 1 for the demographic characteristics of the final sample. The data set consists of 1,873 complete responses, averaging 26.38 responses per participant over the 42-day study period.⁴ This represents a 63% daily completion rate. Table 6 displays correlations between key variables.

Measures

Daily Relationship Satisfaction

We measured day-level relationship satisfaction using a single item measure that was adapted from the Dyadic Adjustment Scale (Spanier, 1976): “How satisfied are you with your romantic relationship right now?” (1 = *not at all* to 6 = *extremely*). This

⁴ Survey completion ranged from 1 to 35 days. All participants were retained. Sensitivity analyses showed that excluding low-response participants did not significantly alter these results.

Table 6
Correlation Matrix for Key Variables in Study 2

Variable	1	2	3	4	5	6	7	8	9
1. Relationship satisfaction	—								
2. Time-saving purchases (dummy-coded: 1 = yes)	.04 [†]	—							
3. Perceived stress	-.18***	-.03	—						
4. Material purchases (dummy-coded: 1 = yes)	.03	.08**	-.01	—					
5. Experiential purchases (dummy-coded: 1 = yes)	.03	.05*	-.03	.05*	—				
6. Age	-.23***	0	0	0	0	—			
7. Work hours	-.09***	0	0	0	0	.19***	—		
8. Children living at home	-.11***	0	0	0	0	.51***	.17***	—	
9. Household income	.01	0	0	0	0	.29***	.32***	.29***	—

Note. This correlation matrix includes both within-person and between-person effects. Variables 1–5 (relationship satisfaction, time-saving purchases, stress, material purchases, and experiential purchases) are person mean-centered, representing within-person deviations from individual averages. These correlations reflect day-to-day associations within individuals. Variables 6–9 (age, work hours, children living at home, and household income) are between-person variables, constant for each person across observations. Correlations involving these variables should be interpreted as relationships across individuals. All correlations are based on daily observations.

[†] $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

measure is commonly used in longitudinal designs because it effectively captures both individual differences and fluctuations in relationship satisfaction (Gadassi et al., 2016).

Daily Stress

We used a short, face-valid assessment of overall stress by measuring general self-reported day-level stress using a single item (Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter, et al., 1986; Folkman, Lazarus, Gruen, et al., 1986). Respondents reported their stress by responding to the item, “How stressed are you right now?” on a scale from 1 = *not at all* to 6 = *extremely*.

Time-Saving Purchases

After completing the relationship and stress items, respondents indicated whether they had made a time-saving purchase with their partner that day using the item: “Did you and your partner make any time-saving purchases today (an item or service that allowed you and your partner to have more free time, e.g., taking a taxi instead of the bus)?” (dummy-coded: 1 = yes). This measure was adapted from past research (Whillans et al., 2017).

Control Variables

Consistent with the approach taken in Study 1, we tested whether our results held controlling for several variables that could otherwise explain the association between time-saving purchases and relationship satisfaction: age, work hours, and the number of children living at home.⁵ Recognizing that time-saving purchases might serve as an indirect measure of discretionary income, we took additional steps to control for financial factors. We included household income as a control variable, and we tracked whether respondents made material or experiential purchases during each day of the study. This approach allowed us to disentangle the effect of time-saving purchases from those of general spending ability and other types of purchases. If respondents only experienced greater relationship satisfaction on days where they made time-saving purchases, because they had more discretionary income available to them, controlling for these indicators should eliminate

the association between time-saving purchases and relationship satisfaction (Headey et al., 2008; Van Boven & Gilovich, 2003).

To assess whether respondents made material and experiential purchases each day of the study, we asked: “Did you and your partner make any material purchases today (tangible object(s) that you and your partner obtained to keep in your possession, e.g., clothing)?” (dummy-coded: 1 = yes) and “Did you and your partner make any experiential purchases today (a purchase that you and your partner bought with the primary intention of buying a life experience, e.g., concert tickets)?” (dummy-coded: 1 = yes). We randomized the presentation of these purchase questions each day.

Results

Analytic Approach

We followed the same analytic approach from Study 1, while accounting for the unique characteristics of the daily diary design. We tested the association between time-saving purchases and relationship satisfaction using multilevel mixed-effects models with disaggregated within-person and between-person effects to address confounding factors and time-invariant alternative explanations (Curran & Bauer, 2011; Wang & Maxwell, 2015). This approach allows us to isolate the effect of daily fluctuations in time-saving purchases on changes in relationship satisfaction, controlling for stable individual differences that may influence this association, such as household income (Allison, 2009; Hoffman & Stawski, 2009).

Unlike Study 1 which focused on year-level analyses, Study 2 examined daily effects. This allowed us to capture the immediate, short-term association between time-saving purchases and relationship satisfaction. Given our sample selection criteria, which excluded people who did not frequently report making time-saving purchases, we anticipated limited between-person variability in time-saving purchases. To avoid potentially biased interpretations (Raudenbush & Bryk, 2002), we focus on reporting and interpreting the within-subject analyses.

⁵ Given the skewed distribution (91.9% female), we did not control for gender in our analysis.

Consistent with Study 1 (Hypothesis 1), we tested the association between daily fluctuations in time-saving purchases and relationship satisfaction. We isolated the influence of daily changes in time-saving purchases on relationship satisfaction by controlling for relevant covariates, including whether respondents reported making material and experiential purchases each day, age, household income, hours worked each week, and the number of children living at home. Mirroring Study 1, we examined the lagged effect of time-saving purchases on relationship satisfaction controlling for the prior day's satisfaction levels.

We then investigated whether fluctuations in time-saving purchases interacted with stress to predict relationship satisfaction (Hypothesis 5). Specifically, we explored how daily fluctuations in time-saving purchases (within-person changes) interacted with an individual's overall stress levels (between-person differences) and changes in stress levels over time (within-person changes; Preacher et al., 2006). This allowed us to explore whether the association between time-saving purchases and relationship satisfaction was moderated by stress, while considering both chronic stress levels and day-to-day fluctuations (Hoffman, 2015; Wang & Maxwell, 2015).

Results

Time-Saving Purchases and Relationship Satisfaction

Our main analyses focused on the association between time-saving purchases and relationship satisfaction. Consistent with Hypothesis 1, we found a significant within-person effect of time-saving purchases on relationship satisfaction: On days when individuals made time-saving purchases, they reported higher relationship satisfaction than their typical levels ($B_w = .14$, $SE = .05$, $t = 2.74$, $p = .006$; Table 7, Model 1). The interpretation of these results was unchanged when we

controlled for whether respondents made material or experiential purchases each day as well as when we controlled for their age, the number of hours they typically worked per week, the number of children they had living at home, and their annual household income ($B_w = .13$, $SE = .05$, $t = 2.41$, $p = .016$; Table 7, Model 2).

Next, we examined the association between time-saving purchases and relationship satisfaction controlling for relationship satisfaction from the previous day. In this model, the within-person effect of time-saving purchases on relationship satisfaction remained statistically significant ($B_w = .14$, $SE = .05$, $t = 2.95$, $p = .003$). This result held with covariates (Table 7, Models 3 and 4). Thus, the association between time-saving purchases and relationship satisfaction persisted even after accounting for relationship satisfaction on the previous day.

Consistent with our selection criteria, which limited between-person variability in time-saving purchases, the between-person effect of time-saving purchases on relationship satisfaction was not significant (Table 7, Models 1–4). These results suggest that the association between time-saving purchases and relationship satisfaction was predicted by within-person fluctuations in time-saving purchases rather than by individual differences in purchasing behavior.

Reverse Causality Analysis: Exploring the Direction of Influence

To address potential concerns about reverse causality, we conducted additional analyses to examine whether relationship satisfaction from the previous day predicted present day time-saving purchases.

Consistent with the results of Study 1, neither the within-person ($B_w = .00$, $SE = .01$, $z = .10$, $p = .918$) or the between-person ($B_B = .00$, $SE = .00$, $z = 1.14$, $p = .256$) effects of relationship satisfaction

Table 7
Predicting Relationship Satisfaction From Time-Saving Purchases

Fixed effect	Relationship satisfaction															
	Model 1				Model 2				Model 3				Model 4			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
b_w Relationship satisfaction (lag)									.24	0.02	10.19	<.001	.24	.05	5.01	<.001
b_B Relationship satisfaction (lag)									1.01	0.02	50.76	<.001	1.00	.01	168.63	<.001
b_w Time-saving (1 = yes)	.14	.05	2.74	.006	.13	.05	2.41	.016	.14	0.05	2.95	.003	.13	.05	2.65	.008
b_B Time-saving (1 = yes)	-.53	.69	-.78	.437	-.15	.93	-.16	.875	.01	0.12	.11	.913	-.05	.05	-1.05	.293
b_w Material (1 = yes)					.08	.04	1.78	.076					.07	.04	1.69	.091
b_B Material (1 = yes)					.57	.61	.94	.349					-.07	.04	-1.82	.069
b_w Experiential (1 = yes)					.05	.06	.72	.473					.02	.06	.36	.716
b_B Experiential (1 = yes)					1.01	1.44	.70	.482					.22	.06	3.45	.001
b_B Age					-.29	.14	-2.10	.036					-.00	.01	-.22	.830
b_B Work hours					.04	.22	.21	.836					.02	.01	1.72	.086
b_B Children					-.01	.12	-.07	.941					.00	.01	.16	.877
b_B HH income					.01	.04	.32	.750					-.00	.00	-1.23	.219
Intercept	4.83	.17	28.54	<.001	5.01	.37	13.51	<.001	-.03	0.10	-.33	.743	.02	.04	.53	.599
Observations			1,873				1,737				1,617				1,494	
<i>N</i>			71				66				69				64	

Note. Models 1 and 2 include random intercepts and random slopes (not shown) for time-saving purchases and stress. Within-person predictors were group mean-centered and are for the same time point as the outcome, relationship satisfaction. Between-person predictors were grand-mean centered. All variables labeled 1 = yes in this table are dummy-coded such that 1 = yes and 0 = no. b_w = within-person; b_B = between-person; *SE* = standard error; HH income = household income.

on time-saving purchases were significant (Table 8, Model 1). These results held with covariates (Table 8, Model 2).

These results strengthen our confidence in the proposed direction of the association between time-saving purchases and relationship satisfaction by suggesting that fluctuations in relationship satisfaction do not meaningfully influence the decision to buy time.

Moderating Role of Stress on the Benefits of Time-Saving Purchases

Next, we examined the moderating role of stress on the association between time-saving purchases and relationship satisfaction (Hypothesis 5). Given that our sample consisted exclusively of respondents who made time-saving purchases, we focused on the within-person effects to maintain statistical power and to capture the dynamic nature of these associations. We analyzed how daily fluctuations in time-saving purchases (within-person changes) interacted with both overall stress levels (between-person differences) and changes in stress over time (within-person changes).

As per Table 9, consistent with Hypothesis 5, we found a significant interaction effect of within-person time-saving purchases and between-person stress (B_W Time-Saving $\times B_B$ Stress = .10, $SE = .04$, $t = 2.33$, $p = .020$). This result held with covariates (Table 9, Models 1 and 2).

Figure 3 illustrates this interaction. The upward-sloping line shows that the positive effect of time-saving purchases on relationship satisfaction intensifies as stress levels increase. This effect becomes statistically significant at stress levels of 2.70 and above as indicated by the lower confidence interval crossing 0. While time-saving purchases have negligible effects for individuals who report relatively lower levels of stress, the positive association of time-saving purchases with relationship satisfaction increases for those experiencing higher levels of stress.

These results suggest that time-saving purchases may serve as a particularly effective strategy for maintaining or enhancing daily relationship satisfaction among working adults who regularly experience elevated levels of stress.

Discussion

Study 2 sheds light on the daily dynamics of time-saving purchases and relationship satisfaction for members of dual-income couples. Our analysis revealed consistent within-person effects across several multilevel models, providing robust evidence for a positive association between daily time-saving purchases and relationship satisfaction. This association remained significant when controlling for the previous day's relationship satisfaction and other purchase decisions. These findings suggest that time-saving purchases have a unique and immediate influence on relationship satisfaction. The persistence of this result across various model specifications strengthens our confidence in the association between time-saving purchases and daily fluctuations in relationship satisfaction for members of dual-income couples.

Our reverse causality analysis supports the proposed directional association between time-saving purchases and relationship satisfaction. This approach—combined with lagged predictors and outcomes—helps to address temporal precedence which is a key criterion for establishing causal relationships in nonexperimental designs (Hoffman & Stawski, 2009).

Study 2 illuminates the microdynamics of how time-saving purchases predict relationship satisfaction. Study 1 found that changes in time-saving purchases predict greater relationship satisfaction in subsequent years. Study 2 demonstrates higher relationship satisfaction on days when time-saving purchases are made. These results suggest a cumulative process where daily improvements may accumulate over time, resulting in the higher overall relationship

Table 8

Multilevel Mixed-Effects Models Examining Between-Person and Within-Person Effects of Relationship Satisfaction on Time-Saving Purchases

Fixed effect	Time-saving purchase							
	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>b_W</i> Time-saving (1 = yes; lag)	-.01	.03	-.39	.700	-.02	.03	-.62	.538
<i>b_B</i> Time-saving (1 = yes; lag)	-1.01	.03	-38.1	<.001	-.99	.02	-44.45	<.001
<i>b_W</i> Relationship satisfaction	.00	.01	.10	.918	.00	.01	.00	.999
<i>b_B</i> Relationship satisfaction	.00	.00	1.14	.256	.00	.00	1.13	.259
<i>b_W</i> Material purchase (1 = yes)					.04	.02	1.86	.063
<i>b_B</i> Material purchase (1 = yes)					-.06	.04	-1.41	.158
<i>b_W</i> Experiential purchase (1 = yes)					-.07	.04	-1.67	.095
<i>b_B</i> Experiential purchase (1 = yes)					.00	.00	-.54	.586
<i>b_B</i> Age					-.01	.01	-1.09	.277
<i>b_B</i> Work hours					.00	.00	.63	.530
<i>b_B</i> Children at home					.00	.00	-.16	.870
<i>b_B</i> Household income					1.98	.03	76.54	<.001
Intercept	1.98	.02	105.48	<.001	-.07	.03	-2.39	.017
Observations			1,617				1,494	
<i>N</i>			69				64	

Note. Models 1 and 2 include random intercepts and random slopes for time-saving purchases. Within-person predictors were group mean-centered and are for the same time point as the outcome, relationship satisfaction. Between-person predictors were grand mean-centered. All variables labeled 1 = yes in this table are dummy-coded such that 1 = yes and 0 = no. *b_W* = within-person; *b_B* = between-person; *SE* = standard error.

Table 9*Interaction Between Time-Saving Purchases and Stress on Relationship Satisfaction*

Fixed effect	Relationship satisfaction							
	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>b_W</i> Time-saving (1 = yes)	-.16	.12	-1.32	.186	-.20	.12	-1.60	.111
<i>b_B</i> Time-saving (1 = yes)	-.43	.70	-.62	.533	.30	.92	.33	.741
<i>b_W</i> Stress	-.22	.03	-7.24	<.001	-.24	.03	-7.42	<.001
<i>b_B</i> Stress	-.35	.11	-3.11	.002	-.39	.10	-3.79	<.001
<i>b_W</i> Time-Saving × <i>b_B</i> Stress	.10	.04	2.33	.020	.11	.04	2.55	.011
<i>b_W</i> Time-Saving × <i>b_W</i> Stress	-.00	.06	-.07	.948	-.02	.07	-.23	.820
<i>b_W</i> Material (1 = yes)					.05	.05	1.13	.259
<i>b_B</i> Material (1 = yes)					-.21	.62	-.33	.739
<i>b_W</i> Experiential (1 = yes)					.03	.06	.55	.580
<i>b_B</i> Experiential (1 = yes)					1.38	1.37	1.01	.314
<i>b_B</i> Age					-.32	.11	-2.97	.003
<i>b_B</i> Work hours					.28	.20	1.44	.149
<i>b_B</i> Children					.02	.08	.22	.828
<i>b_B</i> Household income					-.04	.04	-.96	.336
Intercept	5.79	.31	18.88	<.001	6.49	.43	15.19	<.001
Observations			1,873				1,737	
<i>N</i>			71				66	

Note. Models 1 and 2 include random intercepts and random slopes for time-saving purchases and stress. Within-person predictors were group-mean centered and are for the same time point as the outcome, relationship satisfaction. Between-person predictors were grand-mean centered. All variables labeled 1 = yes in this table are dummy-coded such that 1 = yes and 0 = no. *b_W* = within-person; *b_B* = between-person; *SE* = standard error.

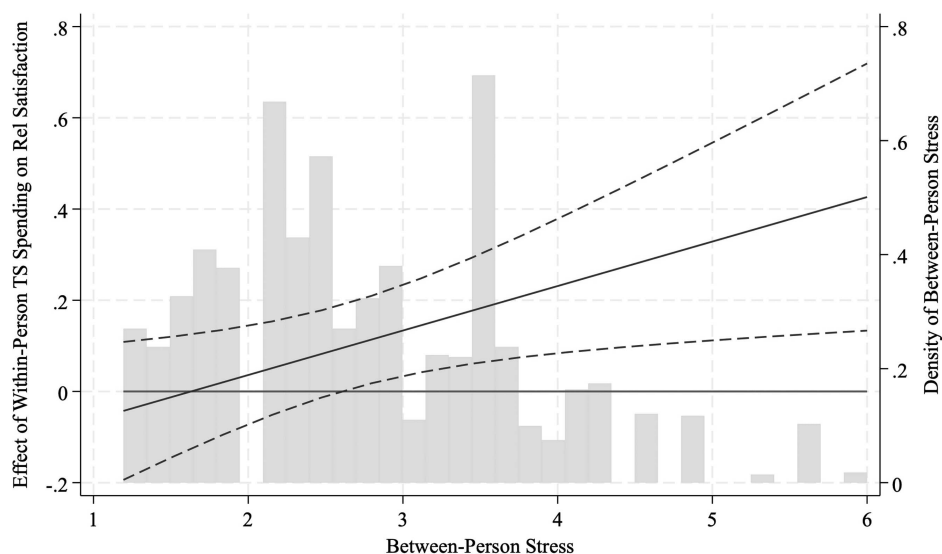
satisfaction that we observed among time-saving purchasers in Study 1.

Both studies highlight stress as a moderator on different time scales. Study 1 found that time-saving purchases were particularly

beneficial when stress levels increased across years. Study 2 demonstrated this effect daily, especially for individuals who reported consistently higher levels of stress. The different time scales (years vs. days) may account for this variation in stress-related

Figure 3

Effect of Within-Person Spending on Time-Saving on Relationship Satisfaction Across Between-Person Stress



Note. The solid middle line shows the effect of time-saving purchases on relationship satisfaction across stress levels with 95% confidence intervals that are represented by dashed lines in this figure. The positive slope indicates that time-saving purchases have a stronger positive effect on relationship satisfaction for respondents who experience relatively higher levels of stress. This association becomes significantly positive at moderate stress levels, suggesting that time-saving purchases are particularly beneficial for individuals who consistently experience higher stress.

findings. Over years, individuals are likely to experience a wider range of stressors, making within-person effects easier to detect. In contrast, stress levels may be more stable over a 6-week period, making between-person differences more salient.

Despite these minor differences across studies, Study 2 corroborates the positive association between time-saving purchases and relationship satisfaction, particularly for those experiencing higher levels of stress. The daily diary methodology offers a granular examination of short-term effects while addressing potential confounds and reverse causality concerns.

However, these studies leave open important empirical questions. Notably, our dichotomous measure of time-saving purchases limits our understanding of which features predict relationship satisfaction. We were unable to test Hypothesis 2—whether members of dual-income couples report greater satisfaction when these purchases provide a greater influx of time.

Study 3 addresses these limitations by investigating how purchase characteristics predict relationship satisfaction. We hypothesize that the amount of time saved through these purchases will significantly predict relationship satisfaction (Hypothesis 2). We also tested several other purchase characteristics that could predict relationship satisfaction: the amount of money spent on time-saving purchases, whether these purchases could be classified as products or services, who in the relationship benefited most, whether couples made these purchases together, and the perceived usefulness of these purchases.

To the extent that money spent on time-saving purchases is a proxy for positive impact (Aknin et al., 2013), it is possible that the amount of money spent on these purchases could predict relationship satisfaction. We therefore tested whether the amount of money that members of dual income couples reported spending on time-saving purchases predicted relationship satisfaction.

Compared to time-saving services like monthly lawn care, time-saving products like a robotic vacuum cleaner could result in higher levels of hedonic adaption if consumers acclimate to more regular use, thereby reducing satisfaction. Thus, we tested whether people benefited more from time-saving services versus time-saving products.

It is possible for time-saving purchases to save time within the relationship, such as by directly addressing household chores, or by saving time outside of the relationship, such as by removing unpleasant work tasks. Because of this, we tested whether the relationship satisfaction benefits of time-saving purchases depended on whether the purchases saved time within or outside of the relationship.

Couples who make financial decisions together report greater relationship satisfaction (Gladstone et al., 2022). Relatedly, chore equity is a significant predictor of relationship satisfaction (Gordon et al., 2022). We therefore tested the effect of making time-saving purchases jointly, and the effect of who benefitted most from the time-saving purchases (i.e., the respondent, the respondents' partner, or both the respondent and the partner equally).

To the extent that time-saving purchases are more likely to solve important time demands for members of dual-income couples, these purchases could have stronger benefits for relationship satisfaction when these purchases are more useful or practical. We tested whether the benefits of time-saving purchases depended on whether members of dual-income couples made time-saving purchases that were more practical (i.e., utilitarian) or fun (i.e., hedonic).

In Study 3, we implemented a cross-sectional survey. This decision allowed us to include more comprehensive measures of our key outcomes, moderators, mediators, and covariates.

Study 3

Overview

In Study 3, we attempted to replicate the results of Studies 1 and 2 by testing whether members of dual-income couples who made time-saving purchases reported greater relationship satisfaction (Hypothesis 1). Once again, we explored whether the benefits of time-saving purchases were stronger for members of dual-income couples who reported higher levels of stress (Hypothesis 5). We controlled for similar covariates from Studies 1 and 2: age, gender (dummy-coded: 1 = *female*), the number of children living at home, and annual household income.

Moving beyond Studies 1 and 2, we controlled for how much money respondents reported spending on material and experiential purchases instead of controlling only for a dichotomous measure of whether respondents made material or experiential purchases. We also included more comprehensive measures of relationship satisfaction and perceived stress. Most importantly, we included an extensive set of purchase characteristic items. These items allowed us to test the hypothesis that the amount of time saved would be a significant predictor of relationship satisfaction (Hypothesis 2). These items also provided an initial test of the hypothesis that quality time would be a significant predictor of the relationship benefits of buying time (Hypothesis 3).

In this and all subsequent studies that rely on cross-sectional designs (Studies 5 and 6), respondents reflected on their experiences in the past week. This decision is based on research showing that people can become inaccurate in recalling daily time-use experiences at longer time horizons (e.g., Kahneman et al., 2006).

Participants and Procedure

We recruited respondents from Qualtrics, a professional survey company. Respondents were eligible to complete the study if they were employed full time (≥ 30 hr per week), married or in a marriage-like relationship, and lived together with their partner who was also employed ≥ 30 hr per week. We targeted 600 respondents and slightly overrecruited, resulting in a final sample of $N = 691$. See Table 1 for demographic information.

Respondents completed two validated measures of relationship satisfaction.⁶ Respondents reported how much stress they had experienced in the past week and whether they had spent any money on time-saving, material, and/or experiential purchases with their partner in the past week. If respondents had made time-saving purchases, they were asked to report how much time these purchases had saved themselves and their partner, how much money they and their partner had spent on these purchases, whether these purchases were predominately products or services, whether these purchases saved time within or outside of the relationship (allowing us to provide an initial test of whether spending this time together predicted relationship satisfaction; Hypothesis 3), which partner had made these purchases, which partner had benefited most from these purchases, and the extent to which these purchases were made

⁶ Respondents also completed a measure of relationship commitment. It is not discussed here because it was not central to our investigation and was not included in subsequent studies. Complete survey items and study data are available through the OSF at https://osf.io/g2kvh/?view_only=ff32cdcef564b5db049e210f640ecad.

jointly. All respondents completed the following demographic items: gender (dummy-coded: 1 = *female*), annual household income, age, number of hours worked per week, and the number of children living at home.

Measures

Relationship Satisfaction

Respondents completed a four-item measure of relationship satisfaction where they reported their overall 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?”; $\alpha = .92$; Cleary et al., 1985). Respondents then completed the five-item relationship satisfaction subscale from the Investment Model Scale on a scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (e.g., “My relationship was much better than others’ relationship”; $\alpha = .94$; Rusbult et al., 1998).

For parsimony, we created a standardized composite from these two highly correlated measures, correlated at $r(679) = .85, p < .001$; $\alpha = .96$. This decision was supported by an exploratory factor analysis showing that the nine items from these two scales loaded together on one factor that explained 73% of the variance, with factor loadings that ranged from .74 to .91.

Perceived Stress

Respondents completed the 11-item perceived stress scale (PSS), where they reported how much stress they had experienced from 1 = *never*, 2 = *almost never*, 3 = *sometimes*, 4 = *fairly often*, 5 = *very often* (e.g., “In the last week, how often have you felt that you were unable to control the important things in your life?”; $\alpha = .83$; Cohen et al., 1983).

Time-Saving Purchases

To measure time-saving purchases, respondents completed a question adapted from Whillans et al. (2017):

In the past week, did you and your partner spend any money on time-saving purchases? Specifically, did you and your partner spend any money with the primary intention of acquiring free time: a purchase that allowed you and your partner to have more time? For example, did you and your partner spend money to take a taxi instead of the bus, purchase household services (e.g., lawn-mowing, laundry, or house-cleaning services), use online services (online accounting software and research services), or purchase more expensive groceries from a closer grocery store?

42.7% of respondents had made time-saving purchases in the past week. On average, these purchases saved 18.01 hr ($SD = 14.92$).

Purchase Characteristics

If respondents spent any money on time-saving purchases in the past week, they were asked to complete several additional measures.

Amount of Time Saved. First, they reported how much time (in hours) that these purchases had saved themselves and their partner in the past week (*from 0 to 50 hr*).

Amount of Money Spent. Then, they reported how much money that they and their partner had spent on these purchases in the past week (*from \$0 to more than \$2,500*).

Products or Services. On two items that summed up to 100%, respondents reported the extent to which these purchases were products or services using a validated definition of products and services (Palmer, 2012).

Saved Time in the Relationship. On two items that summed up to 100%, respondents reported the extent to which these purchases saved time within or outside the relationship.

Who Saved Time. Respondents reported whether these purchases saved them time, their partner time, or themselves and their partner time equally; responses summed up to 100%.

Who Benefited From These Purchases. Respondents reported whether they had made these purchases for their partners’ benefit, their own benefit, or whether their partner had made these purchases to benefit them; responses to these items summed up to 100%.

Joint Decisions. Respondents reported whether they had made these purchases together with their partner in the past week on a scale from 1 = *strongly disagree*; 7 = *strongly agree*.

Utilitarian or Hedonic. Finally, respondents reported whether these purchases were primarily utilitarian or hedonic in nature using a validated measure from published research (Dhar & Wertenbroch, 2000) with the response options: 1 = *primarily utilitarian*—defined as useful, practical, functional, something that helps you achieve a goal, 2 = *primarily hedonic*—defined as pleasant, fun, something that is enjoyable, and appeals to the senses, 3 = *both utilitarian and hedonic*, 4 = *neither*.

Discretionary Income and Demographics

We controlled for how much money people reported spending on material and experiential purchases with their partners in the past week (Van Boven & Gilovich, 2003). We also controlled for: age, gender (dummy-coded: 1 = *female*), the number of children living at home, and annual household income.

Table 10 presents descriptive statistics for key variables. Tables 11 and 12 provide correlation matrices. Table 11 presents the correlations between purchase characteristics. Table 12 presents the correlations between purchase characteristics and our expanded set of covariates.

Results

Relationship Satisfaction

Consistent with Hypothesis 1, respondents who spent money on time-saving purchases with their partner in the past week reported greater relationship satisfaction ($M = 0.08, SD = 0.82$) compared to those who did not ($M = -0.06, SD = 0.90$), $t(638.58) = 2.11, p = .035, 95\% \text{ CI } [.01, .27], d = .16$. These results held controlling for our expanded set of covariates: age, gender (dummy-coded: 1 = *female*), number of children living at home, annual household income, and amount of money spent jointly on experiential and material purchases in the past week ($\beta = .08, B = .14, SE = .07, t(638) = 2.02, p = .044, 95\% \text{ CI } [.004, .29]$).

Table 10
Descriptive Statistics of Study Variables in Study 3

Variable	<i>M</i>	<i>SD</i>	Observed range	No. of item	<i>N</i>	α
1. Relationship satisfaction (standardized)	0.00	0.87	−2.89 to .91	9	691	.96
2. Perceived stress	2.76	0.68	1.00–4.64	11	671	.83
3. Time-saving purchases (%)	42.7%	0.50	0.00–100.00	1	667	
4. Time-saving purchase (amount spent)	\$21–\$40 ^a	3.34	1.00–16.00	1	667	
5. Time-saving purchase (time saved)	18.01	14.92	1.00–50.00	1	285	
6. Material purchase (%)	75.9%	0.49	0.00–100.00	1	661	
7. Material purchase (amount spent)	\$61–\$80	3.17	1.00–16.00	1	661	
8. Experiential purchases (%)	44.8%	0.50	0.00–100.00	1	661	
9. Experiential purchase (amount spent)	\$41–\$60	3.84	1.00–16.00	1	661	
10. Time-saving—% services	57.00	31.12	0.00–100.00	1	282	
11. Time-saving—% products	43.00	31.12	0.00–100.00	1	282	
12. Time-saving—% time saved within the relationship	60.94	28.56	0.00–100.00	1	282	
13. Time-saving—% time saved outside the relationship	39.06	28.56	0.00–100.00	1	282	
14. Time-saving—% of time that you saved (not partner)	40.19	28.95	0.00–100.00	1	279	
15. Time-saving—% of time your partner saved (not you)	24.13	20.61	0.00–100.00	1	279	
16. Time-saving—% of time that you both saved	35.68	31.79	0.00–100.00	1	279	
17. Time-saving—% of purchases your partner bought for you	32.80	26.98	0.00–100.00	1	279	
18. Time-saving—% of purchases you bought for your partner	31.23	28.79	0.00–100.00	1	279	
19. Time-saving—% of purchases that you bought for you	35.97	28.52	0.00–100.00	1	279	
20. Time-saving—made the purchases together	5.24	1.73	1.00–7.00	1	279	
21. Time-saving—(a) utilitarian, (b) Hedonic, (c) both, (d) neither	Utilitarian: 56.6% Hedonic: 11.1% Both: 26.5% Neither: 5.7%				279	

Note. All the questions about time-saving purchase characteristics were only asked to respondents who reported making time-saving purchases. Items that were reported in percentages had to add to 100%.

^aFor this variable, people who reported that they had not spent money on time-saving purchases were coded as spending \$0 for the time-saving purchase question.

Moderating Role of Stress

Next, we examined whether time-saving purchases were more beneficial for respondents who were experiencing relatively higher levels of stress (Hypothesis 5). To test Hypothesis 5, we entered time-saving purchases (dummy-coded: 1 = *yes*), a mean-centered stress measure, and a time-saving purchase by stress interaction into a regression model to predict relationship satisfaction.

There was a significant interaction between time-saving purchases and stress to predict relationship satisfaction ($B = .25$, $SE = .09$, $t(663) = 2.73$, $p = .007$, 95% CI [.07, .44]. This interaction held controlling for age, gender (dummy-coded: 1 = *female*), the number of children living at home, annual household income, and the amount of money spent on material and experiential purchases in the past week ($B = .27$, $SE = .10$), $t(636) = 2.75$, $p = .006$, 95% CI [.08, .46].

We probed this interaction to examine whether the benefits of time-saving purchases became stronger at higher levels of stress. Consistent with this hypothesis, at low levels of stress (−1 *SD* below the mean), time-saving purchases were not significantly associated with relationship satisfaction ($B = .06$, $SE = .09$), $t(663) = 0.68$, $p = .496$, 95% CI [−.12, .24]. At average levels of stress, time-saving purchases were significantly associated with relationship satisfaction ($B = .23$, $SE = .06$), $t(663) = 3.74$, $p < .001$, 95% CI [.11, .36]. At high levels of stress (+1 *SD* above the mean), time-saving purchases were significantly associated with relationship satisfaction ($B = .40$, $SE = .09$), $t(663) = 4.68$, $p < .001$, 95% CI [.24, .57].

This pattern of results was consistent after including an expanded set of controls. With controls, at low levels of stress (−1 *SD* below

the mean), time-saving purchases were not significantly associated with relationship satisfaction ($B = .05$, $SE = .09$), $t(636) = .485$, $p = .627$, 95% CI [−.14, .23]. At average stress levels, time-saving purchases were significantly associated with relationship satisfaction ($B = .22$, $SE = .07$), $t(636) = 3.40$, $p < .001$, 95% CI [.09, .35]. At high stress levels (+1 *SD* above the mean), time-saving purchases were significantly associated with relationship satisfaction ($B = .40$, $SE = .09$), $t(636) = 4.42$, $p < .001$, 95% CI [.22, .58].

Time-Saving Purchase Characteristics

We then conducted a two-stage analysis to understand which purchase characteristics significantly predicted relationship satisfaction. First, we tested each predictor independently to identify significant associations with relationship satisfaction. Next, we added significant predictors simultaneously into a regression model to determine which purchase characteristics were unique predictors of relationship satisfaction.

Tables 13 and 14 present the results of our initial analysis without and with covariates. Four variables consistently emerged as independent predictors of relationship satisfaction across both models: hours saved, extent of time saved within versus outside of the relationship, extent to which purchases saved time for both partners, and extent of making these purchases together.

Tables 15 and 16 display the results of our comprehensive regression models, without and with covariates. Three variables consistently emerged as unique predictors of relationship satisfaction across both models: hours saved, extent of time saved within

Table 11
Correlation Matrix of Study 3 Purchase Characteristics (Without Covariates)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Relationship satisfaction	—														
2. Time-saving purchase (time saved)	.16**	—													
3. Time-saving purchase (amount spent)	.06	.22***	—												
4. Purchases—% Products versus services	.02	.003	.06	—											
5. Purchases—% Within versus outside	.17**	-.14*	.03	-.08	—										
6. Time that you saved (not partner)	-.11†	.04	.03	-.03	.01	—									
7. Time that your partner saved (not you)	-.05	.13*	.02	.002	-.13*	-.21***	—								
8. Time that you both saved	.13*	-.12*	-.04	.03	.07	-.46***	-.23***	—							
9. Purchases your partner bought for you	.03	.13*	.001	-.11†	.07	.11†	.23***	-.25***	—						
10. Purchases you bought for you	-.08	-.08	-.002	.18**	.05	.38***	-.09	-.29***	-.46***	—					
11. Purchases you bought for your partner	.05	-.04	.001	-.08	.02	-.48***	-.13*	.53***	-.48***	-.56***	—				
12. Purchases—% together versus apart	.24***	.008	.02	-.07	.17**	-.26***	-.02	.25***	.04	-.28***	.24***	—			
13. Utilitarian (dummy-coded: 1 = yes)	-.02	-.03	.03	.14*	.13*	.06	-.12†	.02	-.14*	.06	.07	-.07	—		
14. Hedonic (dummy-coded: 1 = yes)	-.03	.002	-.09	-.08	-.06	-.007	.001	.006	.23***	-.16**	-.05	.06	-.40***	—	
15. Both (dummy-coded: 1 = yes)	.006	.01	.06	-.07	-.11	-.08	.10	.01	-.03	.08	-.06	.07	-.69***	-.21***	—

Note. Utilitarian = utilitarian (1), all other (0); Hedonic = hedonic (1), all other (0). The variables saved you time, saved your partner time, and saved both you and your partner time had to add up to 100%, accounting for the high correlations between these variables. Similarly, the variables pertaining to whether the time-saving purchases were bought by you, by your partner, and by you for your partner, and by you for you also had to add up to 100%, accounting for the high correlations between these variables. For parsimony, the variables “% products versus services,” “within versus outside,” and “% together versus apart” were calculated as the difference score between the two relevant survey items measured for each construct pair.

† $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

versus outside of the relationship, and extent of making these purchases together.

These results are consistent with Hypotheses 2 and 3 and highlight the importance of both the quantity of time saved and how couples allocate this additional time. These results suggest that the amount of time saved as well as the opportunity to spend this time together within the relationship are crucial factors that predict relationship satisfaction. Furthermore, the process of making these purchases together appears to significantly contribute to relationship satisfaction.

Discussion

Study 3 replicates and extends the results of Studies 1 and 2 in several critical ways. Replicating our previous results, members of dual-income couples who made time-saving purchases together in the past week reported greater relationship satisfaction, with stronger benefits for those experiencing higher levels of stress.

Supporting the COR model, three purchase characteristics emerged as significant predictors of relationship satisfaction: the number of hours saved, the extent to which couples made these purchases together, and the degree to which these purchases saved time within the relationship. These three factors remained significant in regression models that examined the independent contribution of each characteristic and in models that examined the unique contribution of each characteristic, even when controlling for a more comprehensive set of covariates. Notably, other purchase characteristics such as monetary cost, product versus service orientation, and utilitarian purpose did not consistently predict relationship satisfaction.

These findings support Hypotheses 2 and 3. Consistent with Hypothesis 2, the amount of time saved was an important predictor of relationship satisfaction. Consistent with Hypothesis 3, spending this influx of time together within the relationship was critical. These findings suggest that both the quantity of time saved as well as the quality of its use are essential factors that predict relationship satisfaction.

Indeed, our data show that time saved within the relationship and making purchases together are unique and reliable predictors of the benefits of time-saving purchases. These results deepen our understanding of when time-saving purchases predict relationship satisfaction: when they provide couples with a sizeable influx of shared temporal resources. Building on these findings, Studies 4a and 4b explicitly test whether time-saving purchases predict relationship satisfaction by facilitating quality time together. Study 5 explores the features of quality time that matter for these results, examining whether time-saving purchases predict greater relationship satisfaction by altering time-use activities or changing perceptions of time spent together (Hypothesis 3).

Studies 4a and 4b

Studies 4a and 4b directly test the role of quality time in predicting the relationship satisfaction benefits of time-saving purchases (Hypothesis 3). These experimental studies address a limitation of our earlier correlational research. While Studies 1 and 2 support the proposed direction between time-saving purchases and relationship satisfaction, it is possible that people in more satisfying relationships are simply more likely to make time-saving purchases.

To overcome this limitation, Studies 4a and 4b use an experimental design to test whether reflecting on past time-saving purchases made

Table 12
Correlation Matrix of Purchase Characteristics (With Covariates)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Relationship satisfaction	—										
2. Time-saving purchase (time saved)	.16**	—									
3. Time-saving purchase (amount spent)	.06	.22***	—								
4. Purchases—% products versus services	.02	.003	.06	—							
5. Purchases—% within versus outside relationship	.17**	-.14*	.03	-.08	—						
6. Time that you saved (not partner)	-.11†	.04	.03	-.03	.01	—					
7. Time that your partner saved (not you)	-.05	.13*	.02	.002	-.13*	-.21***	—				
8. Time that you both saved	.13*	-.12*	-.04	.03	.07	-.77***	-.46***	—			
9. Purchases your partner bought for you	.03	.13*	.001	-.11†	-.07	.11†	.23***	-.25***	—		
10. Purchases you bought for you	-.08	-.08	-.002	.18**	.05	.38***	-.09	-.29***	-.46***	—	
11. Purchases you bought for your partner	.05	-.04	.001	-.08	.02	-.48***	-.13*	.53***	-.48***	-.56***	—
12. Purchases—% together versus apart	.24***	.008	.02	-.07	.17**	-.26***	-.02	.25***	.04	-.28***	.24***
13. Utilitarian (dummy-coded: 1 = yes)	-.02	-.04	.03	.14*	.13*	.06	-.12†	.02	-.14*	.06	.07
14. Hedonic (dummy-coded: hedonic: 1 = yes)	-.03	.002	-.09	-.08	-.06	-.007	.001	.006	.23***	-.16**	-.05
15. Both (dummy-coded: 1 = yes)	.006	.01	.06	-.07	-.11†	-.08	.1	.01	-.03	.08	-.06
16. Age	.01	.02	.08	.01	-.02	-.001	-.02	.01	.04	.04	-.08
17. Gender (dummy-coded: 1 = female)	-.04	-.22***	-.18**	.02	.05	.21***	-.15*	-.09	-.11†	.19**	-.09
18. Number of children living at home	-.0005	.14*	.11†	.06	-.07	.15*	.02	-.15*	.05	.07	-.12*
19. Annual HH income	.04	-.04	.28***	.13*	.15*	.09	-.04	-.06	-.07	.15*	-.09
20. Experiential purchase (amount spent)	.06	.38***	.52***	.17**	-.13*	.05	-.20***	-.18**	-.02	-.007	.02
21. Material purchase (amount spent)	.04	.30***	.48***	.18**	-.10†	-.005	.14*	-.09	.02	.07	-.08

Variable	12	13	14	15	16	17	18	19	20	21
12. Purchases—% together versus apart	—									
13. Utilitarian (dummy-coded: 1 = yes)	-.07	—								
14. Hedonic (dummy-coded: hedonic: 1 = yes)	.06	-.40***	—							
15. Both (dummy-coded: 1 = yes)	.07	-.69***	-.21***	—						
16. Age	-.04	-.02	.11†	-.04	—					
17. Gender (dummy-coded: 1 = female)	-.001	-.06	-.01	.03	-.11**	—				
18. Number of children living at home	-.05	.04	.005	-.02	-.08*	.09*	—			
19. Annual HH income	-.07	.20***	-.07	-.11†	.16***	.08	.07†	—		
20. Experiential purchase (amount spent)	.006	-.02	.02	.07	-.08*	.04	.08*	.19***	—	
21. Material purchase (amount spent)	-.07	.01	-.02	.09	-.04	.07†	.07†	.23***	.40***	—

Note. The variables saved you time, saved your partner time, and saved both you and your partner time had to add up to 100% accounting for the high correlations between variables. Likewise, the variables whether the purchases were bought by your partner for you, by you for your partner, and by you for you also add up to 100% accounting for the high correlations between variables. For parsimony, the variables “% products versus services,” “within versus outside,” and “% together versus apart” were calculated as the difference score between the two relevant survey items measured for each construct pair. Gender = female (1), male (0); Utilitarian = utilitarian (1), all other (0); Hedonic = hedonic (1), all other (0); Both = both (1), all other (0); Material = material purchase (1), no material purchase (0); Experiential = experiential purchase (1), no experiential purchase (0); Children = number of children living in the home; HH income = household income.

† $p \leq .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 13*Each Predictor Entered Separately Without Covariates to Predict Relationship Satisfaction*

Predictor	β	<i>B</i> (<i>SE</i>)	<i>t</i>	<i>p</i>	<i>R</i> ²
1. In the past week, how much time did these purchases save you and your partner? (<i>hr</i>)	.16*	.009 (.003)*	2.71*	.007*	.03*
2. In the past week, how much money did you and your partner spend on time-saving purchases?	.06	.02 (.02)	1.04	.298	.004
3. What % of these purchases saved time within (vs. outside) the relationship?	.17*	.002 (.001)*	2.81*	.005*	.03*
4. What % of these purchases was a product (vs. a service)?	.02	.0003 (.001)	.33	.741	.0004
5. What % of this time saved YOU time and NOT your partner?	-.11	-.003 (.002)	-1.78	.075	.01
6. What % of this time saved YOUR PARTNER time and not you?	-.05	-.002 (.002)	-.88	.380	.003
7. What % of this time saved BOTH YOU and YOUR PARTNER time?	.13*	.003 (.002)*	2.20*	.028*	.02*
8. What % of these purchases was purchased by you for your own benefit?	-.08	-.002 (.002)	-1.26	.209	.006
9. What % of these purchases was purchased by your partner for your benefit?	.03	.001 (.002)	.45	.653	.001
10. What % of these purchases was purchased by you for your partner's benefit?	.05	.001 (.002)	.82	.411	.002
11. My partner and I made time-saving purchases together (vs. apart) in the past week.	.24*	.08 (.02)*	4.04*	<.001*	.06*
12. Were these purchases utilitarian? (dummy-coded: 1 = <i>hedonic</i>)	-.03	-.08 (.16)	-.51	.612	.001
13. Were these purchases hedonic? (dummy-coded: 1 = <i>utilitarian</i>)	-.02	-.03 (.10)	-.27	.790	.0003
14. Were these purchases both utilitarian and hedonic? (dummy-coded: 1 = <i>both</i>)	.006	.01 (.11)	.10	.920	.00004

Note. This table represents the standardized betas, unstandardized beta coefficients and standard errors (*SEs*). The items listed under the column "predictors" are abbreviated illustrations of the full questions that were presented to respondents. For the full survey items used in this and subsequent studies, please refer to the Open Science Framework (https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad) page. For parsimony, the variables "% products versus services," "within versus outside," and "% together versus apart" were calculated as the difference score between the two relevant survey items measured for each construct pair.

* $p \leq .05$.

together with a romantic partner causally increases relationship satisfaction. Study 4a compares the effects of reflecting on a time-saving purchase versus a material purchase, controlling for the act of reflecting on a purchase decision (consistent with Whillans et al., 2017). Study 4b investigates whether the benefits of time-saving purchases depend on couples spending the resultant time together.

Both studies use recollection paradigms, which are well-validated and commonly used in consumption research. These paradigms facilitate tightly controlled, ecologically relevant tests of key hypotheses with robust sample sizes (Aknin et al., 2020, 2022).⁷

Overview

Studies 4a and 4b use a well-validated recollection paradigm to examine the causal effect of time-saving purchases on relationship satisfaction, proxied by a measure of postpurchase relationship satisfaction (Chan & Mogilner, 2017; Van Boven & Gilovich, 2003). MTurk participants completed these experiments in exchange for US \$0.80. Eligibility required being in a marriage or marriage-like relationship and working for pay at least 21–30 hr per week. To prevent cross-contamination, individuals could only participate in Study 4a or 4b, not both. The experimental procedure was as follows: Participants reported their overall relationship satisfaction, they were randomly assigned to an experimental condition (below), they completed measures of postpurchase relationship closeness, and they provided demographic information. We preregistered Study 4a through OSF. Study 4b was not preregistered (OSF link for Study 4a: https://osf.io/ky289/?view_only=b45452e735ad4291beb3829262e7a041).

Study 4a

Overview and Demographic Characteristics

We targeted and successfully recruited 600 participants to complete Study 4a. See Table 1 for participant characteristics.

Measures and Manipulations

Relationship Satisfaction (*T1*)

Participants reported their baseline levels of relationship satisfaction using the same four-item measure from Study 3 ($\alpha = .93$). Because of the high correlation between the four-item and the five-item measure used in Study 3 ($r = 0.85, p < .001$), we used the shorter relationship satisfaction scale in all subsequent studies (Studies 4b–6).⁸

Condition Assignment

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

In the *time-saving purchase condition*, participants were instructed to recall and describe a recent time-saving purchase they had made together with their romantic partner. They were asked to reflect on a shared purchase of approximately \$40 that was made "with the primary intention of acquiring free time: a purchase that allowed you and your partner to have more free time." This prompt was designed to closely parallel previously published research (Whillans et al., 2017) while introducing an important modification: the focus on a purchase that they had made together with their romantic partner.

⁷ To test whether the findings observed in Study 4a differed based on whether the recollection paradigm was implemented using a between or within-subjects design, we conducted a preregistered within-subject experiment mirroring the design of Study 4a (comparing time-saving vs. material purchases). The findings of this preregistered study were statistically equivalent with those of Study 4a. For brevity, the statistically equivalent results of this study are reported as online Supplemental S2.

⁸ The preregistration states that we used a five-item measure of relationship satisfaction. This was a typographical error in the preregistration. We used a four-item measure. See OSF at https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad for study data.

Table 14*Each Predictor Entered Separately With Covariates to Predict Relationship Satisfaction*

Predictor	β	B (SE)	t	p	R^2
1. In the past week, how much time did these purchases save you and your partner? (<i>hr</i>)	.18*	.01 (.004)*	2.74*	.007*	.05*
2. In the past week, how much money did you and your partner spend on time-saving purchases?	-.01	-.003 (.02)	-.17	.864	.03
3. What % of these purchases was a product (vs. a service)?	.002	.000 (.054)	.03	.979	.03
4. What % of these purchases saved time within (vs. outside) the relationship?	.16*	.002 (.001)*	2.65*	.008*	.05*
5. What % of this time saved YOU time and NOT your partner?	-.12	-.003 (.002)	-1.84	.066	.04
6. What % of this time saved YOUR PARTNER time and not you?	-.08	-.003 (.003)	-1.28	.201	.03
7. What % of this time saved BOTH YOU and YOUR PARTNER time?	.16*	.004 (.002)*	2.50*	.013*	.05*
8. What % of these purchases was purchased by you for your own benefit?	-.07	-.002 (.002)	-1.15	.249	.03
9. What % of these purchases was purchased by your partner for your benefit?	.02	.001 (.002)	.34	.734	.03
10. What % of these purchases was purchased by you for your partner's benefit?	.05	.001 (.002)	.81	.421	.03
11. My partner and I made time-saving purchases together in the past week.	.24*	.08 (.02)*	4.12*	<.001*	.09*
12. Were these purchases utilitarian? (dummy-coded: 1 = <i>Utilitarian</i>)	-.05	-.08 (.10)	-.82	.411	.03
13. Were these purchases hedonic? (dummy-coded: 1 = <i>Hedonic</i>)	-.03	-.08 (.16)	-.53	.599	.03
14. Were these purchases both utilitarian and hedonic? (dummy-coded: 1 = <i>Both</i>)	.04	.06 (.11)	.56	.573	.03

Note. This table represents the standardized betas, unstandardized beta coefficients, and standard errors (SE s). The items listed under the column "predictors" are abbreviated illustrations of the full questions that were presented to respondents. For the full survey items used in this and subsequent studies, please refer to the Open Science Framework (https://osf.io/g2kvh/?view_only=ff32cdcef5e64b5db049e210f640ecad) page. For parsimony, the variables "% products versus services," "within versus outside," and "% together versus apart" were calculated as the difference score between the two relevant survey items measured for each construct pair. Covariates were as follows: age, gender (dummy-coded: 1 = *female*), the number of children living at home, annual household income, and amount spent on experiential and material purchases in the past week.

* $p \leq .05$.

This decision mirrors the wording of the time-saving purchase question used in Study 3 to ensure consistency across studies.

In the *material purchase condition*, participants were instructed to recall and describe a recent material purchase they had made together with their romantic partner. They were asked to reflect on a shared purchase of approximately \$40 that was made "with the primary intention of acquiring a material good: a tangible object that is kept in one's possession." The wording of this prompt was nearly identical to published research (Van Boven & Gilovich, 2003) except for the focus on a purchase made together with their partner to mirror the wording from Study 3.

Relationship Satisfaction (T2)

After writing about a material or time-saving purchase, participants completed several postpurchase relationship satisfaction measures. Participants reported how much the purchase had affected the relationship with their romantic partner on a scale from $-5 =$ *weakened the relationship significantly* to $+5 =$ *strengthened the relationship significantly* (Chan & Mogilner, 2017). Participants reported whether the purchase made them feel close, connected, appreciative, grateful, and supported by their partner on a scale from $1 =$ *strongly disagree* to $7 =$ *strongly agree* (Chan & Mogilner, 2017). We standardized and averaged responses to these six items to create a composite of postpurchase relationship satisfaction ($\alpha = .93$).⁹

Quality Time

Participants reported the extent to which the purchase "enabled my partner and I to spend more quality time together" from $1 =$ *strongly disagree* to $7 =$ *strongly agree*.

Manipulation Check

As a manipulation check, participants reported how much time the purchases cost or saved ($-3 =$ *cost a lot of time overall* to $+3 =$ *saved a lot of time overall*).

Purchase Differences

Purchases can differ on many characteristics, and as noted in our preregistration, we included several measures assessing these differences to use as control variables. Purchases can differ in how ordinary or extraordinary they are (Sussman & Alter, 2012) and many people, especially younger individuals, derive greater happiness from extraordinary purchases (Bhattacharjee & Mogilner, 2014). We therefore measured the extent to which participants felt that the purchases "should be considered a one-time expense that is unlikely to reoccur" on a scale from $1 =$ *strongly disagree* to $7 =$ *strongly agree*. If buying time signals that your time is more valuable than other people's, time-saving purchases could be seen as higher in social status. Thus, we asked participants to report whether their purchases "were high in social status" on a scale from $1 =$ *strongly disagree* to $7 =$ *strongly agree*. Typical time-saving purchases such as hiring a housecleaner might be perceived as more practical and less fun than typical material purchases such as buying kitchen accessories. We therefore asked participants to report the extent to which the

⁹ Participants also rated whether these purchases helped them manage work-life demands on a scale from $1 =$ *strongly disagree* to $7 =$ *strongly agree*. We preregistered using a standardized composite measure that incorporated all seven items, including this work-life balance item. However, because this item addresses a distinct concept from the other items, which focus more directly on postpurchase relationship satisfaction, we present the results in text that use the six-item measure (excluding the work-life balance question). For transparency and completeness, results using the seven-item measure are provided in the online [Supplemental Materials](#). Key findings remain consistent regardless of whether the work-life balance item is included.

Table 15

Each Significant Predictor From Table 13 Entered Simultaneously Without Covariates to Predict Relationship Satisfaction

Predictor	β	B (SE)	t	p	95% CI
1. In the past week, how much time did these purchases save you and your partner? (hr)	.20	.01 (.003)	$t(274) = 3.45$	<.001***	[.005, .02]
2. What % of these purchases saved time within (vs. outside) the relationship?	.16	.002 (.001)	$t(274) = 2.67$	.008**	[.001, .004]
3. My partner and I made time-saving purchases together (vs. apart) in the past week.	.18	.06 (.02)	$t(274) = 3.10$	.002**	[.02, .10]
4. What % of this time saved BOTH YOU and YOUR PARTNER time?	.10	.003 (.002)	$t(274) = 1.65$	.101 [†]	[−.0005, .006]

Note. $F = 8.95$; $p < .001$; $R^2 = .12$. SE = standard error; CI = confidence interval.

[†] $p \leq .10$. ** $p \leq .01$. *** $p \leq .001$.

recalled purchases were “fun,” “helpful,” and represented “money well spent” from 1 = *strongly disagree* to 7 = *strongly agree*. We adapted these measures from published research (Sussman et al., 2015).

Demographics

Participants reported their age, how many children were currently living at home, annual household income, how many hours they worked per week, and their gender.

Results

Manipulation Check

As expected, participants who were randomly assigned to the time-saving purchase condition reported that these purchases saved them significantly more time ($M = 1.73$, $SD = 1.27$) compared to participants who were randomly assigned to the material purchase condition ($M = .21$, $SD = 1.26$), $t(625) = 15.06$, $p < .001$, 95% CI [1.32, 1.72], $d = 1.20$. See Table 17 for other differences between the material and time-saving purchase conditions.

At baseline (T1), condition assignment did not significantly predict relationship satisfaction, indicating successful randomization. Participants in the time-saving condition reported slightly but not significantly lower levels of relationship satisfaction ($M = 5.55$, $SD = 1.37$) as compared to those in the material purchase condition ($M = 5.71$, $SD = 1.23$), $t(770) = 1.75$, $p = .081$, 95% CI [−.02, .35], $d = .13$. These results suggest that the impact of time-saving purchases on postpurchase relationship satisfaction is conservative. Participants who were randomly assigned to the time-saving condition were somewhat although not significantly less satisfied in their relationships at T1 as compared to those assigned to the material purchase condition.

In contrast to our preregistered hypothesis, participants in the time-saving purchase condition did not report higher postpurchase relationship satisfaction ($M = -0.03$, $SD = 0.85$) as compared to the material purchase condition ($M = 0.03$, $SD = 0.88$), $t(626) = .898$, $p = .370$, 95% CI [−.07, .20], $d = .07$. These results held controlling for baseline relationship satisfaction ($p = .901$) and when controlling for both T1 relationship satisfaction and purchase characteristics in the same model ($p = .906$). See Tables 18 and 19 for the full results.

Table 16

Each Significant Predictor From Table 14 Entered Simultaneously With Covariates to Predict Relationship Satisfaction

Predictor	β	B (SE)	t	p	95% CI
1. In the past week, how much time did these purchases save you and your partner? (hr)	.20	.01 (.004)	$t(264) = 3.05$	.002**	[.004, .02]
2. What % of these purchases saved time within (vs. outside) the relationship?	.13	.002 (.001)	$t(264) = 2.18$	.030*	[.0002, .004]
3. My partner and I made time-saving purchases together (vs. apart) in the past week.	.19	.07 (.02)	$t(264) = 3.15$	.002**	[.02, .11]
4. What % of this time saved BOTH YOU and YOUR PARTNER time?	.11	.003 (.002)	$t(264) = 1.80$	.073 [†]	[−.0003, .006]
5. Age	.02	.01 (.05)	$t(264) = .28$	.779	[−.09, .12]
6. Gender (dummy-coded: 1 = <i>female</i>)	−.03	−.04 (.10)	$t(264) = −.41$	.685	[−.25, .16]
7. Annual household income	.13	.04 (.02)	$t(264) = 2.08$	.038*	[.002, .07]
8. Number of children living at home	.04	.03 (.04)	$t(264) = .71$	.478	[−.06, .12]
9. Experiential purchases (amount)	.04	.009 (.02)	$t(264) = .58$	.560	[−.02, .04]
10. Material purchases (amount)	−.06	−.01 (.02)	$t(264) = −.76$	.448	[−.05, .02]

Note. $F = 4.197$; $p < .001$; $R^2 = .14$. SE = standard error; CI = confidence interval.

[†] $p \leq .10$. * $p \leq .05$. ** $p \leq .01$.

Table 17
Between Condition Differences Between Purchases

Response	Material purchase	Time-saving purchase	<i>t</i>	Cohen's <i>d</i>
These purchases were				
One-time expense	5.57 (2.65)	4.52 (2.66)	$t(625) = 4.94, p < .001$	.40
Better spent on something else	3.22 (2.08)	3.56 (2.27)	$t(612.62) = 1.96, p = .051$	.16
Money well spent	7.37 (1.73)	7.11 (1.87)	$t(625) = 1.77, p = .077$	.14
Helpful	5.73 (1.15)	5.93 (0.96)	$t(615.16) = 2.31, p = .021$	.18
Fun	5.02 (1.55)	4.47 (1.68)	$t(613.98) = 4.28, p < .001$	.34
High in social status	3.31 (1.58)	3.49 (1.54)	$t(625) = 1.46, p = .146$	.12

Note. This table represents the mean and standard deviation (in parentheses). For the variables "better spent on something else," "helpful," and "fun," we use the Welch's correction to account for unequal variances, accounting for the smaller degrees of freedom for these results.

Quality Time Together

Our conceptual model and the results of Study 3 suggest that the benefits of time-saving purchases should be the most pronounced when facilitating quality time between partners. To test this, we conducted an exploratory indirect effect analysis of time-saving purchases on relationship satisfaction through self-reported quality time spent together (Hypothesis 3).

The results strongly support this hypothesis. Participants who were randomly assigned to the time-saving purchase condition were more likely to report that the purchase allowed them to spend more quality time with their partner ($M = 5.59, SD = 1.23$) compared to those who were assigned to the material purchase condition ($M = 5.10, SD = 1.44$), $t(626) = 4.60, p < .001, 95\% CI [.28, .70], d = .37$. These results held controlling for T1 relationship satisfaction and for the purchase characteristics outlined in Table 17. Table 20 shows the significant main effects of condition assignment and T1 relationship satisfaction on quality time spent between partners. Table 21 includes purchase characteristics, demonstrating that condition assignment remains a strong predictor of quality time, even after accounting for these additional variables.

Next, we ran an exploratory path model using the Process Macro in SPSS (Model 4) with 20,000 bootstrapped samples. Time-saving (vs. material) purchases significantly predicted the amount of quality time that working adults reported spending together ($B = .49, SE = .11, t(626) = 4.60, p < .001, 95\% CI [.28, .70]$). In turn, spending quality time together predicted higher levels of postpurchase relationship satisfaction ($B = .40, SE = .02, t(626) = 20.29, p < .001, 95\% CI [.36, .44]$). The indirect effect of this analysis differed from 0 (indirect effect [IDE] = .21, $SE = .05, 95\% CI [.12, .30]$). These results held controlling for T1 relationship satisfaction (IDE = .22, $SE = .04, 95\% CI [.14, .30]$), and when we included both T1

relationship satisfaction and purchase characteristics in the model (IDE = .18, $SE = .03, 95\% CI [.11, .24]$).

Discussion

Study 4a used a well-established recollection paradigm to provide causal evidence that time-saving purchases, compared to material purchases, significantly increased the amount of quality time that couples reported spending together. Increased quality time, in turn, improved postpurchase relationship satisfaction. Notably, these benefits persisted controlling for baseline relationship satisfaction and purchase characteristics including perceived status, enjoyment, and utility.

While we did not observe a direct effect of time-saving purchases on relationship satisfaction, these findings align with our conceptual model. The relationship benefits of time-saving purchases appear to depend on spending this time together in high-quality ways. Study 4b builds on these findings and provides a causal test of whether time-saving purchases predict relationship satisfaction when these purchases allow couples to spend more quality time together.

Study 4b

Overview

Study 4b investigated the effect of shared and nonshared time-saving purchases on relationship satisfaction. Participants reported their overall relationship satisfaction and were randomly assigned to a *shared* or *nonshared* time-saving purchase condition. Participants then completed the identical measures of postpurchase relationship satisfaction, purchase characteristics, and demographic questions from Study 4a.

Overview and Demographic Characteristics

We targeted 400 participants and successfully recruited 401 participants. See Table 1 for the characteristics of this sample.

Measures and Manipulations

Relationship Satisfaction (T1)

Participants reported their overall relationship satisfaction using the identical four-item measure from Studies 3 and 4a ($\alpha = .92$).

Table 18
T2 Relationship Closeness Predicted by Condition and T1 Relationship Satisfaction

Variable	<i>B</i> (<i>SE</i>)	<i>t</i>
Condition (dummy-coded: 1 = <i>time-saving purchase</i>)	−0.008 (.06)	$t(625) = −.13, p = .901$
T1 relationship satisfaction	.25 (.03)	$t(625) = 10.03, p < .001$

Note. $F = 50.72; p < .001; R^2 = .14$. T = time; *SE* = standard error.

Table 19

T2 Relationship Closeness Predicted by Condition With Purchase Characteristics and T1 Relationship Satisfaction

Variable	B (SE)	t
Condition (dummy-coded: 1 = <i>time-saving purchase</i>)	.007 (.06)	$t(618) = 0.12, p = .906$
T1 relationship satisfaction	.14 (.02)	$t(618) = 6.17, p < .001$
One-time expense	-.02 (.01)	$t(618) = 1.94, p = .053$
Better spent on something else	.03 (.02)	$t(618) = 1.82, p = .069$
Money well spent	.09 (.02)	$t(618) = 3.83, p < .001$
Helpful	.12 (.04)	$t(618) = 3.27, p = .001$
Fun	.16 (.02)	$t(618) = 7.99, p < .001$
High in social status	.08 (.02)	$t(618) = 3.81, p < .001$

Note. $F = 40.09; p < .001; R^2 = .34$. T = time; SE = standard error.

Condition Assignment

Participants were assigned to a *shared* or *nonshared* time-saving purchase condition. In the *shared time-saving purchase condition*, participants reflected on and wrote about the most recent time that they had spent approximately \$40 on a time-saving purchase with their partner that “enabled you to spend quality time together.” In the *nonshared* condition, participants wrote about the most recent time they had spent approximately \$40 on a time-saving purchase with their partner where “you did not spend your extra time together.”

Postpurchase Relationship Satisfaction (T2)

After reflecting on and writing about their most recent time-saving purchase, participants reported how satisfied the purchase had made them feel with their partner using the identical six-item measure from Study 4a ($\alpha = .94$).¹⁰

Manipulation Check

To verify the effectiveness of the manipulation, we again asked participants to report the extent to which the purchase helped them “spend more quality time with their partner” on a one-item measure ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Results

Manipulation Check

Participants assigned to the shared time-saving purchase condition reported that these purchases increased quality time spent with their partner ($M = 6.10, SD = 1.01$) significantly more than participants assigned to the nonshared time-saving purchase condition ($M = 4.29$,

$SD = 1.70$), $t(313.84) = 12.90, p < .001$, 95% CI [1.54, 2.09], $d = 1.30$.¹¹

As detailed in Table 22, shared time-saving purchases were rated as more likely to be money well spent, helpful, fun, and higher in status as compared to nonshared purchases. Shared time-saving purchases were also less likely to be viewed as money that would be better spent on something else.

T1 Relationship Satisfaction

Suggesting that random assignment to condition was successful, participants who were randomly assigned to the shared purchase condition did not report higher levels of baseline relationship satisfaction ($M = 5.77, SD = 1.13$) than participants assigned to the nonshared condition ($M = 5.79, SD = 1.11$), $t(516) = .24, p = .814$, 95% CI [-.17, .22], $d = .02$.

T2 Relationship Satisfaction

Consistent with the results of Study 4a and our conceptual model, participants who were randomly assigned to the shared time-saving condition reported significantly higher postpurchase relationship satisfaction ($M = 0.30, SD = 0.68$) as compared to participants in the nonshared time-saving condition ($M = -0.31, SD = 0.93$), $t(356.85) = 7.44, p < .001$, 95% CI [.45, .77], $d = .75$. These results held controlling for T1 satisfaction, $t(398) = 7.86, p < .001$ as well as for T1 relationship satisfaction and purchase characteristics, $t(392) = 5.48, p < .001$. See Tables 23 and 24 for the full reporting of these results.

Discussion

Study 4b shows that reflecting on shared time-saving purchases leads to higher postpurchase relationship satisfaction compared to reflecting on nonshared time-saving purchases, reinforcing the crucial role of quality time in predicting the benefits of time-saving purchases. Together, Studies 4a and 4b offer insight into how working adults can leverage time-saving purchases to improve their romantic relationships and spend the influx of time together in high-quality ways.

Despite the strength of the experimental approach used in Study 4a and 4b, these studies relied on a narrow measure of quality time. Study 5 addresses this concern by exploring various conceptualizations of quality time. Study 5 therefore provides a more comprehensive framework for understanding how time-saving purchases predict improvements in relationship satisfaction.

Study 5

Overview

Study 5 examines both time-use and the subjective experience of shared time.

¹⁰ Participants also reported the extent the purchase helped them deal with the demands of work and life on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. The results hold when we include this item as part of the postpurchase relationship satisfaction composite. See online [Supplemental Materials](#) for these analyses.

¹¹ We report this analysis using a Welsch's t test to account for unequal variances across conditions, explaining the reduced degrees of freedom in this analysis as compared to other analyses reported here.

Table 20

Quality Time With Partner Predicted by Condition and T1 Relationship Satisfaction

Variable	B (SE)	t
Condition (dummy-coded: 1 = <i>time-saving purchase</i>)	.57 (.10)	$t(625) = 5.68, p < .001$
T1 relationship satisfaction	.37 (.04)	$t(625) = 9.46, p < .001$

Note. $F = 56.83; p < .001; R^2 = .15$. T = time; SE = standard error.

Table 21

Quality Time With Partner Predicted by Condition With Purchase Characteristics and T1 Relationship Satisfaction

Variable	<i>B</i> (<i>SE</i>)	<i>t</i>
Condition (dummy-coded: 1 = time-saving purchase)	.56 (.10)	<i>t</i> (618) = 5.64, <i>p</i> < .001
T1 relationship satisfaction	.24 (.04)	<i>t</i> (618) = 6.21, <i>p</i> < .001
One-time expense	-.06 (.02)	<i>t</i> (618) = -3.45, <i>p</i> < .001
Better spent on something else	.07 (.03)	<i>t</i> (618) = 2.44, <i>p</i> = .015
Money well spent	.13 (.04)	<i>t</i> (618) = 3.49, <i>p</i> < .001
Helpful	.12 (.06)	<i>t</i> (618) = 2.12, <i>p</i> = .035
Fun	.19 (.03)	<i>t</i> (618) = 5.91, <i>p</i> < .001
High in social status	.05 (.03)	<i>t</i> (618) = 1.41, <i>p</i> = .161

Note. *F* = 28.33; *p* < .001; *R*² = .27. *T* = time; *SE* = standard error.

Quality Time

Time Use

We measured time-use by asking respondents to report on passive leisure, active leisure, and necessities completed with their partner in the past week. This approach helps us to understand whether time-saving purchases are associated with relationship satisfaction by reducing time spent on stressful activities like chores or increasing time spent on positive activities like socializing (Dunn et al., 2020). We distinguish between active and passive leisure activities based on research showing that active leisure activities (e.g., exercising, volunteering) can predict personal well-being more strongly than passive leisure activities (e.g., resting, relaxing; Smeets et al., 2020).

Subjective Experience of Time

We measured the subjective experience of time spent together, focusing on both positive and negative experiences. For positive experiences, we examined positive mood and perceived partner support based on research showing strong associations between these factors and concurrently measured relationship satisfaction (e.g., DeLongis et al., 1988, 1992; Joel et al., 2020).

For negative experiences, we assessed negative mood, relationship conflict, and distraction. This choice was informed by research demonstrating that interventions such as meditation and savoring

can increase personal well-being by reducing goal conflict and helping people feel more present and less distracted (Etkin et al., 2015; West et al., 2021).

This comprehensive approach of studying quality time tests whether time-saving purchases predict relationship satisfaction by changing how couples spend their time together or by altering how they feel about this shared time. Study 5 provides a nuanced understanding of how dual-income couples can best use an influx of time to enhance their relationship satisfaction.

Participants and Procedure

As part of a larger study (see OSF at https://osf.io/bac57/?view_only=68857b178f9c437cb05077794ab8b0e2 for full study measures), we targeted 600 respondents (*n* = 300 males and *n* = 300 females) through the survey company Qualtrics. We successfully recruited a total of 555 eligible respondents (52.1% female); 477 respondents completed our measures of interest. Eligible respondents were employed for pay and worked more than 30 hr per week, were married or in a marriage-like relationship, and lived together with a romantic partner who was also employed for pay more than 30 hr per week.

The 10-min survey began with a brief relationship satisfaction measure, followed by questions about time spent on various activities with their partner, subjective experiences during shared time, and time-saving purchases. Respondents also provided demographic information.

Measures

Relationship Satisfaction

Respondents completed the identical four-item relationship satisfaction measure from Studies 3–4b in reference to the past week (Cleary et al., 1985).

Time-Saving Purchases

Respondents completed the identical time-saving purchase questions from Studies 2 and 3. 51% of respondents spent money on time-saving purchases together with their partner in the past week, which saved 12.57 hr (*SD* = 16.17) on average.

Table 22

Differences Between Purchases Reflected on in Each Condition

Response	Shared time-saving purchase	Nonshared time-saving purchase	<i>t</i>	Cohen's <i>d</i>
These purchases were				
One-time expense	4.66 (2.69)	5.06 (2.58)	<i>t</i> (399) = 1.51, <i>p</i> = .132	.15
Better spent on something else	3.47 (2.27)	4.59 (2.56)	<i>t</i> (388.75) = 4.62, <i>p</i> < .001	.46
Money well spent	7.58 (1.56)	6.52 (2.00)	<i>t</i> (368.18) = 5.90, <i>p</i> < .001	.59
Helpful	5.91 (0.95)	5.44 (1.26)	<i>t</i> (363.23) = 4.15, <i>p</i> < .001	.42
Fun	5.07 (1.53)	4.37 (1.61)	<i>t</i> (399) = 4.44, <i>p</i> < .001	.44
High in social status	4.09 (1.53)	3.76 (1.72)	<i>t</i> (388.56) = 2.04, <i>p</i> = .042	.20

Note. This table represents the mean and standard deviation (in parentheses). For the variables “better spent on something else,” “money well-spent,” “helpful,” and “status,” we used the Welch’s correction to account for unequal variances across condition, accounting for the smaller degrees of freedom in these analyses.

Table 23

Postpurchase Relationship Satisfaction Predicted by Condition and T1 Relationship Satisfaction

Variable	<i>B</i> (<i>SE</i>)	<i>t</i>
Condition (dummy-coded: <i>I</i> = <i>Shared</i>)	.61 (.08)	<i>t</i> (398) = 7.86, <i>p</i> < .001
T1 relationship satisfaction	.21 (.03)	<i>t</i> (398) = 6.14, <i>p</i> < .001

Note. *F* = 49.51; *p* < .001; *R*² = .20. T = time; *SE* = standard error.

Time-Use

Respondents reported how many hours they had spent on active, passive, and necessary activities together with their partner in the past week. We created time-use composites based on well-cited time-use research (e.g., Kahneman et al., 2006; see also, Smeets et al., 2020).

Respondents reported the number of hours that they had spent going outdoors, praying or meditating, exercising, socializing, volunteering, and having intimate relations with their partners in the past week. We averaged responses to these items to form an “active leisure” composite measure (Smeets et al., 2020). Respondents reported the number of hours that they had spent doing nothing, resting, relaxing, and watching TV with their partner in the past week. We averaged responses to these items to form a “passive leisure” composite. Respondents reported the amount of time they had spent cooking, eating, doing laundry, cleaning, and taking care of their children or other household members with their partner in the past week. We combined responses to these items to form a time spent on “necessities” composite (Smeets et al., 2020).

Subjective Experience of Quality Time

To assess the subjective experience of shared time, we implemented four validated measures. Respondents reported on their experience of positive and negative mood when spending time with their partner in the past week on a widely used 12-item scale (Simpson, 1987). Respondents reported how much they had experienced six positive emotions (e.g., satisfied, loved, supported) and six negative emotions (e.g., sad, anger, depressed) when spending time with their partner in the past week on a scale ranging from 1 = *very little/none* to 7 = *a great deal*. We created separate composite measures for the positive

and negative mood items (PA: $\alpha = .93$; NA: $\alpha = .92$). This decision was supported by previous research (Simpson, 1987) and an exploratory factor analysis showing the emergence of two distinct factors that explained 72.61% of the variance and had eigenvalues of ≥ 4.15 .

Respondents reported how much they had supported their partner and how much their partner had supported them in the past week on four items from a widely used measure of support: the Dyadic Coping Inventory (DCI; Gmelch et al., 2008). Respondents reported their agreement with two items from the “supportive dyadic coping” subscale of the DCI as follows: “Did your partner show empathy and understanding toward you” and “Did you show empathy and understanding to your partner” and two items from the “delegated dyadic coping” subscale of the DCI: “Did your partner take on tasks that you normally do to help you out” and “Did you take on things that your partner normally does in order to help you out.” Respondents reported their agreement on a scale from 1 = *very rarely* to 5 = *very often*. We created an overall composite of perceived support given and received in the past week from these four items ($\alpha = .84$). This decision was supported by an exploratory factor analysis showing the emergence of one distinct factor which explained 67.83% of the variance and had an eigenvalue of 2.71.

Respondents reported how distracted they felt when spending time with their partner in the past week using an adapted five-item version of the Mindful Attention Awareness Scale (Brown & Ryan, 2003). Respondents agreed with items such as, “I was rushing through activities without really being attentive to them” ranging from 1 = *very little/none* to 7 = *a great deal* ($\alpha = .91$).

Finally, respondents reported how much conflict they had experienced when spending time with their partner in the past week using four items from a validated relationship conflict scale: the negative interaction scale of the Network of Relationship Inventory (Furman & Buhrmester, 2009). Respondents completed items such as “How often have you and your partner ‘gotten on each other’s nerves’” on a scale ranging from 1 = *never* to 7 = *all the time* ($\alpha = .94$).

Control Variables

We measured respondents’ overall positive and negative mood in the past week on the six-item Schedule for Positive and Negative Affect (Diener et al., 2009; PA: $\alpha = .86$, NA: $\alpha = .94$). Respondents completed demographic items, that is, age, gender (dummy-coded: 1 = *female*), annual household income, and number of children. We used these items as covariates. See Tables 25 for the descriptive statistics of all survey items.

Tests of Discriminant Validity

To verify that our measure of relationship satisfaction could be distinguished from other potentially related constructs such as positive mood when spending time together and perceived partner support, we conducted tests of discriminant validity. These analyses are crucial for establishing the fact that these conceptually related constructs are measuring distinct aspects of relationship-oriented experiences. We implemented two complementary approaches: the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio.

The Fornell–Larcker criterion test compares the square root of the average variance extracted (AVE) for each construct against its

Table 24

Postpurchase Relationship Satisfaction Predicted by Condition, Purchase Characteristics, and T1 Satisfaction

Variable	<i>B</i> (<i>SE</i>)	<i>t</i>
Condition (dummy-coded: <i>I</i> = <i>Shared</i>)	.41 (.07)	<i>t</i> (392) = 5.48, <i>p</i> < .001
T1 relationship satisfaction	.13 (.03)	<i>t</i> (392) = 4.28, <i>p</i> < .001
One-time expense	.02 (.01)	<i>t</i> (392) = 1.18, <i>p</i> = .239
Better spent on something else	-.02 (.02)	<i>t</i> (392) = 1.23, <i>p</i> = .221
Money well spent	.01 (.03)	<i>t</i> (392) = .50, <i>p</i> = .619
Helpful	.03 (.04)	<i>t</i> (392) = .73, <i>p</i> = .467
Fun	.20 (.03)	<i>t</i> (392) = 7.96, <i>p</i> < .001
High in social status	.07 (.02)	<i>t</i> (392) = 2.81, <i>p</i> = .005

Note. *F* = 30.48; *p* < .001; *R*² = .38. T = time; *SE* = standard error.

correlations with other constructs (Fornell & Larcker, 1981). This analysis revealed that for each construct pair, the square root of AVE exceeded the maximum squared correlation. These findings satisfy the Fornell–Larcker criterion and indicate discriminant validity for all comparisons. See Table 26.

Complementing this approach, we calculated HTMT ratios for each construct pair. These ratios, which measure the similarity between constructs, were all below the commonly used threshold of .85 and the more conservative threshold of .90 (Henseler et al., 2015). These results further support the distinctiveness of our measures. See Table 27.

The results from both the Fornell–Larcker criterion and the HTMT ratios provide evidence for discriminant validity between these three potentially overlapping constructs. By demonstrating that relationship satisfaction, positive mood during shared time together, and perceived partner support are distinct constructs, we can confidently proceed with our analyses given that we are capturing unique aspects of relationship-oriented experiences.

Results

Relationship Satisfaction

Consistent with Hypothesis 1, respondents who made time-saving purchases together with their romantic partner in the past week reported significantly higher levels of relationship satisfaction ($M = 5.81$, $SD = 1.14$) as compared to those who did not ($M = 5.04$, $SD = 1.50$), $t(427.77) = 6.19$, $p < .001$, 95% CI [.52, 1.01], $d = .58$. This result held controlling for age, gender (dummy-coded: 1 = *female*), number of children, and annual household income ($\beta = .24$, $B = .66$, $SE = .13$), $t(462) = 4.95$, $p < .001$, 95% CI [.40, .92].

Consistent with Hypothesis 2 and the results of Study 3, respondents who saved more time through these purchases reported higher relationship satisfaction ($\beta = .29$, $B = .03$, $SE = .004$), $t(468) = 6.65$, $p < .001$, 95% CI [.02, .03]. These results held controlling for the covariates listed above ($\beta = .26$, $B = .02$, $SE = .004$), $t(462) = 5.19$, $p < .001$, 95% CI [.01, .03]. When the dichotomous time-saving purchase variable and the hours

saved variable were both entered into a regression model to predict relationship satisfaction, the dichotomous measure was no longer significant ($p = .066$). Given the superior predictive power of the hours saved variable, we adopted it as our primary predictor in all subsequent analyses. The models reported below maintained statistical significance when using the dichotomous measure, underscoring the robustness of our results to various operationalizations and model specifications.

Mediating Role of Quality Time

While Studies 4a and 4b provide evidence that quality time is an important predictor of relationship satisfaction, Study 5 was designed to test which specific features of quality time predict relationship satisfaction. Our analysis focused on whether the positive effects of time-saving purchases were explained by changes in how members of dual-income couples spent their time together, their subjective experiences during time spent together, or both. To address this question, we used a two-pronged analytic approach.

First, we tested each quality time variable individually as a potential mediator. Second, we conducted a simultaneous mediation analysis to identify the unique contributions of each significant variable. Both analyses were performed with and without covariates, that is, age, gender (dummy-coded: 1 = *female*), number of children, and annual household income. See Table 28 for the correlations between all variables.

In Table 29, we report our first set of regression models where each quality time variable was entered separately as a mediator between time-saving purchases and relationship satisfaction without and with covariates. We tested these models using SPSS Process Model 4 with 20,000 bootstrapped samples. In models without and with covariates, six variables significantly mediated the association between time-saving purchases and relationship satisfaction: positive mood, negative mood, positive mood when spending time together with one's romantic partner, negative mood when spending time together with one's romantic partner, perceived partner support when spending time with one's romantic partner, and relationship conflict.

Table 25

Descriptive Statistics of Study Variables in Study 5

Variable	<i>M</i>	<i>SD</i>	Observed range	No. of item	<i>N</i>	α
1. Relationship satisfaction	5.43	1.38	1.00–7.00	4	470	.92
2. Active leisure (hr)	14.79	14.32	0.00–50.00	6	469	
3. Passive leisure (hr)	19.44	13.76	0.00–50.00	4	467	
3. Necessities (hr)	19.39	14.15	0.00–50.00	5	467	
4. Positive mood with partner	5.00	1.41	1.00–7.00	3	470	.93
5. Negative mood with partner	3.49	1.64	1.00–7.00	3	470	.92
6. Distracted with partner	3.86	1.67	1.00–7.00	5	470	.91
7. Partner support	3.55	0.87	1.00–5.00	5	470	.84
8. Relationship conflict	3.53	1.96	1.00–7.00	4	470	.94
9. Positive mood overall	3.65	0.83	1.00–5.00	3	470	.86
10. Negative mood overall	2.68	0.95	1.00–5.00	3	470	.87
11. Time-saving purchases (dummy-coded: 1 = <i>yes</i>)	0.51 ^a			1	471	
12. Time saved (hr)	12.57	16.17	0.00–50.00	1	471 ^b	

^aTime-saving purchases represent the percentage of respondents who reported making time-saving purchases together with their partner in the past week. ^bThis item was only asked to respondents who reported making time-saving purchases. For respondents who reported that they did not make these purchases, their values were assigned a value of "0." This variable is therefore dummy-coded: 1 = *yes*; 0 = *no*.

Table 26*Discriminant Validity Checks*

Construct 1	Construct 2	Ave of Construct 1	Ave of Construct 2	Squared correlation	Alpha for Construct 2
Relationship satisfaction	Partner positive mood	.61	.95	.40	.93
Relationship satisfaction	Support	.61	.50	.43	.84
Partner positive mood	Support	.95	.50	.33	.93

In Tables 30 and 31, we report our second set of regression models where each significant quality time variable from Table 29 was entered simultaneously as a mediator between time-saving purchases and relationship satisfaction. In the simultaneous mediation model, the inclusion of these six variables substantially reduced the direct effect of time saved on relationship satisfaction from $B = .02$, $SE = .003$, $p < .001$ to $B = .001$, $SE = .004$, $p = .757$. Bootstrap mediation with 20,000 simulations confirmed that the indirect effect differed from zero, $IDE = .02$, $SE = .004$, 95% CI [.02, .03]. Notably, only positive mood and perceived support during shared time emerged as unique mediators in this comprehensive model, with the confidence intervals for the other variables including 0. These results held controlling for age, gender (dummy-coded: 1 = *female*), number of children, and annual household income.

These findings suggest that the benefits of time-saving purchases are primarily mediated through improvements in subjective experiences during shared time, particularly increased positive mood and perceived partner support, rather than through changes in self-reported time-use.

Discussion

Study 5 replicates and extends our findings from Studies 3, 4a, and 4b. Consistent with Study 3, members of dual-income couples who made time-saving purchases together in the past week and who saved more time through these purchases reported higher levels of relationship satisfaction. Study 5 provides additional evidence for Hypothesis 3, demonstrating that time-saving purchases predict relationship satisfaction by facilitating quality time between partners.

Our comprehensive approach to studying quality time in Study 5 included measures of time-use and subjective perceptions of shared time. When analyzed individually, six variables emerged as significant mediators: personal and shared positive and negative mood, partner support, and relationship conflict. In our simultaneous mediation model, only positive mood and perceived support during shared time remained unique significant mediators.

These analyses consistently show that time-saving purchases predict relationship satisfaction by changing perceptions of time spent together rather than by changing time-use.

Table 27*HTMT Ratios for Each Construct Pair*

Construct pair	HTMT ratio
Partner positive mood and partner support	.7064
Relationship satisfaction and partner positive mood	.6960
Relationship satisfaction and partner support	.6861

Note. HTMT = heterotrait-monotrait.

To validate and extend these findings, we designed a final preregistered study (Study 6) to test our full conceptual model. Study 6 examines whether time-saving purchases and the resultant influx of time contribute to relationship satisfaction by helping partners more effectively navigate a common day-to-day stressful experience—the household chores—and in turn enable people to perceive higher quality time spent together with their romantic partner and enhanced relationship satisfaction (Hypothesis 4).

Study 6

Study 6 had two main objectives. First, we aimed to replicate our earlier findings showing that time-saving purchases enhance relationship satisfaction (Hypotheses 1 and 2) by improving perceptions of positive mood and perceived support during shared time (Hypothesis 3). Second, we explored our “gain-spiral” hypothesis (Hypothesis 4). This hypothesis proposes that the time gained from time-saving purchases could help couples more effectively manage their daily stressors (i.e., household chores). To test this comprehensive model, we investigated whether time-saving purchases increased the frequency of chore-related discussions, signaling a more proactive approach to household management. We also tested whether time-saving purchases reduced ruminative discussions about the household chores. Finally, we tested whether these changes positively influenced perceptions of quality time and relationship satisfaction. We focused on household chores because they are a common source of conflict in domestic life. By examining all these factors together, our goal was to better understand the process by which time-saving purchases predict relationship satisfaction.

We also investigated whether the benefits of time-saving purchases were more pronounced for individuals experiencing higher levels of stress (Hypothesis 5), consistent with our stress-buffering hypothesis. Consistent with Studies 3 and 5, and the COR model, we used hours saved through time-saving purchases as our key predictor (Hypothesis 2). Results were statistically equivalent using a dichotomous measure. See the online [Supplemental Materials](#) for these results. We preregistered our stopping rule, inclusion criteria, and analysis plan through the Open Science Framework (https://osf.io/bac57/?view_only=68857b178f9c437cb05077794ab8b0e2). A pilot study with an identical approach was conducted before conducting Study 6; the statistically equivalent results of this study are reported in online [Supplemental S3](#). The design of this study provides comprehensive evidence for the associations between time-saving purchases, quality time, stress management, and relationship satisfaction.

Participants and Procedure

We recruited respondents from Qualtrics, a professional survey provider. Eligible participants were employed full time and worked

Table 28
Correlations Among Key Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Relationship satisfaction	—											
2. Active leisure	.25***	—										
3. Passive leisure	.24***	.82***	—									
4. Necessities	.21***	.86***	.85***	—								
5. Positive mood with partner	.71***	.39***	.33***	.32***	—							
6. Negative mood with partner	-.09*	.38***	.31***	.31***	-.03	—						
7. Partner support	.69***	.41***	.36***	.37***	.70***	.06	—					
8. Distracted with partner	.08†	.46***	.35***	.36***	.22***	.67***	.22***	—				
9. Relationship conflict	-.02	.52***	.40***	.44***	.07	.59***	.11*	.66***	—			
10. Positive mood overall	.35***	.23***	.14**	.19***	.45***	-.13**	.38***	.01	.06	—		
11. Negative mood overall	-.14**	.08	.08†	.04	-.08	.50***	-.04	.37***	.23***	-.26***	—	
12. Time-saving (hr)	.29***	.75***	.62***	.65***	.40***	.38***	.47***	.43***	.52***	.22***	.13**	—

† $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

at least 30 hr per week, were in a marriage or marriage-like relationship, and lived with a romantic partner who was employed full time and worked at least 30 hr per week. As per our preregistered stopping rule, we targeted 1,000 respondents and Qualtrics slightly overrecruited.

Based on effect sizes observed in our pilot study (average standardized effect $f^2 = 0.20$ for the mediation of positive mood and perceived support on relationship satisfaction), we preregistered a target sample of 1,000 respondents. This sample size exceeds the minimum 620 respondents required for 95% power in a regression model with two mediators and six covariates. We recruited a larger sample to ensure adequate statistical power to detect potential interaction effects between variables (Blake & Gangestad, 2020).

The 10-min survey included measures of relationship satisfaction and stress, replicating the approach used in Studies 2 and 3. Respondents reported on their subjective experiences of shared time, focusing on positive mood and support (identical to the approach used in Study 5). We introduced a new element by asking about time spent discussing and ruminating about the household chores during shared time. Respondents reported on the amount they had jointly spent on time-saving, experiential, and material purchases in the past week and completed the same demographic items from Study 5 (e.g., age, gender). Consistent with our preregistration, we report our results with and without covariates. 42.5% of respondents spent money on time-saving purchases in the past week, saving an average of 7.31 hr ($SD = 12.38$).

Measures

In this study, we included a carefully selected set of measures to comprehensively assess the key constructs in our conceptual model. This approach allowed us to build on and extend our past findings while maintaining methodological consistency. See Tables 32 and 33 for the descriptive statistics and correlations between these measures.

Relationship Satisfaction

We used the same four-item scale from Studies 3–5, ensuring continuity in our assessment of this crucial outcome variable.

Quality Time

Respondents reported on their positive emotion and perceived support during shared time with their partner over the past week, using identical measures from Study 3.

Perceived Stress

Respondents completed the 11-item PSS (Cohen et al., 1983) to understand stress levels over the past week.

Relationship Conflict

As an additional covariate, respondents reported on general relationship conflict with their partner over the past week using a validated four-item measure from the RDAS (Busby et al., 1995), with response options ranging from 1 = *never* to 7 = *all the time* (e.g., “How often do you and your partner quarrel?”).

Discussion About Household Chores

As a measure of proactive coping responses to the household chores, respondents reported how frequently they had discussed the household chores when spending time together in the past week using three items adapted from a validated measure (Cropley et al., 2006). Respondents reported the extent they had spent time discussing the household chores using a scale from 1 = *not at all* to 7 = *all the time* (e.g., “While spending time with my partner, we discussed household chores and tasks”).

Rumination About Household Chores

Respondents reported on their rumination about the household chores and tasks when spending time with their partner in the past week. Rumination is characterized by recurrent, preoccupying, and negatively valenced thoughts or discussions about a common theme (Fresco et al., 2002; Smith & Alloy, 2009). Notably, ruminating about chores is a strong predictor of marital conflict (Cropley et al., 2006).

To test the role of time-saving purchases in reducing chore rumination for romantic partners, we adapted two items from the job

Table 29*Indirect Effect of Hours Saved Predicting Relationship Satisfaction by Time Use Characteristics When Entered Separately*

Time variable	<i>B</i> (<i>SE</i>)	<i>t</i>	<i>p</i>	95% CI	IDE (<i>SE</i>), 95% CI of model
Active leisure	.007 (.007)	1.05	.293	[−.006, .02]	.005 (.004), [−.004, .01]
Indirect effects with covariates	.006 (.006)	.97	.332	[−.007, .02]	.004 (.004), [−.004, .01]
Indirect effects with covariates + personal PA and NA	.002 (.006)	.38	.704	[−.01, .01]	.002 (.004), [−.007, .01]
Passive leisure	.009 (.006)	1.56	.120	[−.002, .02]	.005 (.003), [−.002, .01]
Indirect effects with covariates	.009 (.006)	1.48	.139	[−.003, .02]	.004 (.003), [−.002, .01]
Indirect effects with covariates + personal PA and NA	.008 (.005)	1.51	.133	[−.003, .02]	.004 (.003), [−.002, .01]
Necessities	.003 (.006)	.56	.574	[−.008, .01]	.002 (.004), [−.005, .009]
Indirect effects with covariates	.004 (.006)	.61	.540	[−.008, .01]	.002 (.004), [−.005, .01]
Indirect effects with covariates + personal PA and NA	.0001 (.005)	.02	.986	[−.01, .01]	.0001 (.004), [−.007, .007]
Positive mood when together	.69 (.04)	19.63	<.001***	[.62, .76]	.02 (.004), [.02, .03]
Indirect effects with covariates	.69 (.04)	19.55	<.001***	[.62, .76]	.02 (.004), [.02, .03]
Indirect effects with covariates + personal PA and NA	.67 (.04)	17.52	<.001***	[.59, .74]	.02 (.004), [.01, .03]
Negative mood when together	−.20 (.04)	−5.16	<.001***	[−.28, −.13]	−.008 (.002), [−.01, −.004]
Indirect effects with covariates	−.22 (.04)	−5.43	<.001***	[−.29, −.14]	−.007 (.002), [−.01, −.004]
Indirect effects with covariates + personal PA and NA	−.15 (.04)	−3.37	.008**	[−.24, −.06]	−.005 (.002), [−.008, −.002]
Support when together	1.13 (.06)	18.65	<.001***	[1.01, 1.25]	−.03 (.003), [.02, .03]
Indirect effects with covariates	1.13 (.06)	18.52	<.001***	[1.01, 1.25]	.03 (.003), [.02, .03]
Indirect effects with covariates + personal PA and NA	1.07 (.06)	16.82	<.001***	[.95, 1.20]	.02 (.003), [.02, .03]
Distracted when together	−.05 (.04)	−1.16	.248	[−.13, .03]	−.002 (.002), [−.006, .002]
Indirect effects with covariates	−.05 (.04)	−1.31	.189	[−.14, .03]	−.002 (.002), [.005, .001]
Indirect effects with covariates + personal PA and NA	.002 (.04)	.055	.956	[−.08, .08]	.0001 (.002), [−.003, .003]
Conflict when together	−.16 (.04)	−4.56	<.001***	[−.23, −.09]	−.01 (.003), [−.02, −.005]
Indirect effects with covariates	−.17 (.04)	−4.67	<.001***	[−.24, −.10]	−.01 (.003), [−.02, −.005]
Indirect effects with covariates + personal PA and NA	−.15 (.04)	−4.12	<.001***	[−.22, −.08]	−.008 (.003), [−.01, −.004]
Positive mood overall	.49 (.07)	6.86	<.001***	[.35, .63]	.006 (.002), [.003, .009]
Indirect effects with covariates	.49 (.07)	6.81	<.001***	[.35, .63]	.005 (.002), [.002, .009]
Negative mood overall	−.26 (.06)	−4.05	<.001***	[−.38, −.13]	−.002 (.0009), [−.004, −.003]
Indirect effects with covariates	−.26 (.06)	−4.05	<.001***	[−.39, −.13]	−.002 (.001), [−.004, .0002]

Note. In the first model with covariates, we control for age, gender (dummy-coded: 1 = *female*), annual household income, and number of children. In the second model with covariates, we also control for personal positive and negative mood. Across all models, the independent variable is hours saved through time-saving purchases, the dependent variable is relationship satisfaction, and the indirect effect variables are the time use variable of interest (e.g., active leisure). The models were run in SPSS using the Process Macro (Model 4) with 20,000 bootstrapped samples. IDE = indirect effect; *SE* = standard error; CI = confidence interval; PA = positive affect; NA = negative affect.

** $p \leq .01$. *** $p \leq .001$.

strain and work rumination scale (Cropley et al., 2006): “Would you describe your discussion about chores and/or household tasks during the time that you were spending with your partner reoccurring?” and “Would you describe your discussion about chores and/or household tasks during the time that you were spending with your partner repetitive?” on a scale from 1 = *not at all* to 7 = *all the time*.

This rumination measure aligns with the COR model and allows us to explore how time-saving purchases might create a “gain spiral” by helping couples manage a common stressor more effectively. We focused on perceptions of chore-related interactions rather than time spent on chores, as our findings from Study 3 suggested that time-saving purchases primarily shape perceptions of shared time rather than time-use.

We predicted that the temporal resources gained through time-saving purchases would facilitate more positive coping responses to recurring stressors, specifically household chores. We operationalized positive coping as an increase in chore discussions coupled with a decrease in chore-related rumination. We theorized that improved

coping should enhance the quality of shared time, in turn predicting greater relationship satisfaction.

Tests of Discriminant Validity

To establish the distinctiveness of our key constructs, we repeated the same discriminant validity tests from Study 5—the Fornell–Larcker test and the HTMT ratio analysis. The Fornell–Larcker test revealed that the square root of the AVE exceeded the maximum squared correlation between constructs for all construct pairs. Thus, the Fornell–Larcker criterion was met for all comparisons (Fornell & Larcker, 1981). The HTMT ratio analysis corroborated these findings. The HTMT ratios for all construct pairs were below the commonly used threshold of 0.85 and the more conservative threshold of .90 (Henseler et al., 2015). Detailed results are presented in Tables 34 and 35.

Both the Fornell–Larcker test and HTMT ratios demonstrated discriminant validity among relationship satisfaction, positive mood during shared time, and perceived partner support. These findings

Table 30
Indirect Effect Models Without Covariates

Time variable	<i>B</i> (<i>SE</i>)	<i>t</i>	<i>p</i>	95% CI	IDE (<i>SE</i>), 95% CI
Personal positive mood	-.03 (.06)	-.45	.656	[-.14, .09]	-.0003 (.0008), [-.002, .001]
Personal negative mood	-.08 (.06)	-1.51	.128	[-.18, .02]	-.0006 (.0004), [-.002, .0002]
Positive mood when together with partner	.43 (.04)*	9.84*	<.001*	[.34, .51]*	.01 (.003), [.01, .02]*
Negative mood when together with partner	-.04 (.04)	-1.09	.28	[-.11, .03]	-.002 (.002), [-.005, .002]
Perceived partner support received and provided	.65 (.07)*	9.18*	<.001*	[.51, .79]*	.02 (.002), [.01, .02]*
Relationship conflict	-.03 (.03)	-1.04	.301	[-.09, .03]	-.002 (.003), [-.007, .003]
Total indirect effect of the model					IDE = .03, <i>SE</i> = .004, [.02, .03]

Note. We report the indirect effects of each variable, when each variable was entered simultaneously without covariates. The models were run in SPSS using the Process Macro (Model 4) with 20,000 bootstrapped samples. IDE = indirect effect; *SE* = standard error; CI = confidence interval.

* $p \leq .05$.

replicate Study 5 and support treating these measures as distinct constructs in our analyses. The consistency of these results across studies strengthens our confidence in the validity of our measures and the robustness of our conceptual model.

Results

Relationship Satisfaction

Following our preregistered analysis plan, we tested whether the number of hours saved through time-saving purchases predicted relationship satisfaction (Hypothesis 2). Supporting this hypothesis, respondents who saved more hours through time-saving purchases in the past week reported greater relationship satisfaction ($\beta = .14$, $B = .02$, $SE = .003$), $t(1215) = 4.92$, $p < .001$, 95% CI [.01, .02]. These results held controlling for our preregistered covariates: age, gender (dummy-coded: 1 = *female*), the number of children living at home, household income, and the amount of money spent on experiential and material purchases in the past week ($\beta = .13$, $B = .02$, $SE = .004$), $t(1118) = 3.87$, $p < .001$, 95% CI [.007, .02].

Quality Time Mediation

Following our preregistration, we conducted a mediation analysis. We assessed whether hours saved through time-saving purchases predicted relationship satisfaction, and whether each of the critical

quality time variables from Study 5 (i.e., positive mood and perceived partner support during shared time) mediated this result.

Following our preregistration, we first conducted a mediation analysis using the Bootstrapping Macro (Model 4: Preacher & Hayes, 2008) with 20,000 bootstrapped samples. We assessed whether hours spent on time-saving purchases in the past week predicted higher levels of relationship satisfaction and whether quality time mediated this result. We preregistered positive mood as our mediator of interest. For transparency, we report the results of three models. In Model 1, we entered positive mood into a mediation model to predict the association between time-saving purchases and relationship satisfaction. In Model 2, we entered perceived partner support into a mediation model to predict the association between time-saving purchases and relationship satisfaction. In Model 3, we entered both positive mood and perceived support simultaneously into a mediation model to predict the association between time-saving purchases and relationship satisfaction. Last, we conducted all three models with our preregistered covariates: age, gender (dummy-coded: 1 = *female*), the number of children living at home, the amount spent jointly on experiential and material purchases, and annual household income.

Model 1.

Positive Mood. We tested whether hours saved through time-saving purchases predicted relationship satisfaction through positive mood during shared time. Supporting this hypothesis, entering positive mood into the model significantly reduced the association between time-saving purchases and relationship satisfaction from

Table 31
Indirect Effect Models With Covariates

Time variable	<i>B</i> (<i>SE</i>)	<i>t</i>	<i>p</i>	95% CI	IDE (<i>SE</i>), 95% CI
Personal positive mood	-.02 (.06)	-.39	.695	[-.14, .09]	-.002 (.0007), [-.002, .001]
Personal negative mood	-.08 (.05)	-1.48	.139	[-.18, .03]	-.005 (.0004), [-.002, .0002]
Positive mood when together with partner	.42 (.04)*	9.75*	<.001*	[.34, .51]*	.01 (.003), [.009, .02]*
Negative mood when together with partner	-.04 (.04)	-.04	-.124	[-.12, .03]	-.002 (.002), [-.005, .002]
Perceived partner support received and provided	.65 (.07)*	9.07*	<.001*	[.51, .79]*	.02 (.002), [.01, .02]*
Relationship conflict	-.03 (.03)	-1.07	.283	[-.09, .03]	-.002 (.002), [-.007, .003]
Total indirect effect of the model					IDE = .02, <i>SE</i> = .004, 95% CI [.02, .03]

Note. We report the indirect effects of each variable entered simultaneously with the following covariates: age, gender (dummy-coded: 1 = *female*), number of children, annual household income. The models were run in SPSS using the Process Macro (Model 4) with 20,000 bootstrapped samples. IDE = indirect effect; *SE* = standard error; CI = confidence interval.

* $p \leq .05$.

Table 32*Descriptive Statistics of Study Variables in Study 6*

Variable	<i>M</i>	<i>SD</i>	Observed range	No. of item	<i>N</i>	α
1. Relationship satisfaction	5.62	1.43	1.00–7.00	4	1,217	.92
2. Quality time—positive mood	5.29	1.48	1.00–7.00	6	1,189	.94
3. Quality time—perceived support	3.70	0.84	1.00–5.00	4	1,180	.79
4. Perceived stress	2.77	0.63	1.00–4.64	11	1,197	.78
5. Frequency of chore discussions	3.92	1.66	1.00–7.00	3	1,178	.89
6. Ruminative chore discussions	3.84	1.84	1.00–7.00	2	1,172	.92
7. Relationship conflict	1.00	7.00	1.00–7.00	4	1,125	.91
8. Time-saving (dummy-coded: 1 = yes)	0.42 ^a			1	1,170	
9. Time-saving (hr)	7.31 ^b	12.38	0.00–50.00	1	1,170 ^b	
10. Material (dummy-coded: 1 = yes)	0.78			1	1,164	
11. Material (amount)	3.90 ^c	3.06	0.00–15.00	1	1,164	
12. Experiential (%)	0.51			1	1,166	
13. Experiential (amount)	3.27 ^c	3.65	0.00–15.00	1	1,166	

^aThese values represent the proportion of entries in which respondents reported making each purchase type (dummy-coded: 1 = yes, 0 = no). ^bThis item was only asked to respondents who reported making time-saving purchases. For respondents who did not make these purchases, their responses were imputed as “0.” ^cThese categories correspond to \$41–60.

$B = .02$, $SE = .003$, $p < .001$ to $B = -.0001$, $SE = .002$, $p = .947$. Bootstrap mediation with 20,000 simulations confirmed that the indirect effect differed from 0 (IDE = .02, $SE = .002$, 95% CI [.01, .02]). This result held after including our preregistered covariates: age, gender (dummy-coded: 1 = female), the number of children living at home, the amount spent jointly on experiential and material purchases in the past week, and annual household income (IDE = .02, $SE = .003$, 95% CI [.008, .02]).

Model 2.

Perceived Support. We tested whether hours saved through time-saving purchases predicted relationship satisfaction through enhanced perceptions of partner support during shared time. Supporting this hypothesis, entering perceived support into the model reduced the association between time-saving purchases and relationship satisfaction from $B = 0.02$, $SE = .002$, $p < .001$ to $B = -.003$, $SE = .003$, $p = .208$. Bootstrap mediation with 20,000 simulations confirmed that the indirect effect differed from 0 (IDE = .02, $SE = .002$, 95% CI [.015, .024]). This result held with preregistered covariates (IDE = .02, $SE = .003$, 95% CI [.01, .02]).

Model 3.

Positive Mood and Perceived Support. As preregistered, we then entered both positive mood and perceived support simultaneously

into a mediation model to explain the association between hours saved through time-saving purchases and relationship satisfaction.

Entering positive mood and perceived support into the model weakened the effect of hours saved on relationship satisfaction from $B = .02$, $SE = .002$, $p < .001$ to $B = -.004$, $SE = .002$, $p = .092$. Bootstrap mediation using 20,000 samples confirmed that this indirect effect differed from 0 (IDE = .02, $SE = .003$, 95% CI [.015, .025]). This result held when we included our preregistered covariates in the model (IDE = .02, $SE = .003$, 95% CI [.01, .02]).

In this mediation model, positive mood was a stronger predictor of relationship satisfaction IDE = .014, $SE = .002$, 95% CI [.01, .02] than perceived support IDE = .006, $SE = .001$, 95% CI [.004, .009]. Following our preregistration, we conducted a pair-wise comparison to test whether these indirect effects were different from one another. In this analysis, positive mood during shared time was a stronger mediator than perceived support both without IDE = .007, $SE = .002$, 95% CI [.003, .01] and with covariates IDE = .006, $SE = .002$, 95% CI [.002, .01]. These findings suggest that perceived support and positive mood during shared time help to explain the association between time-saving purchases and relationship satisfaction, and that positive mood during shared time may be a stronger predictor of this association.

Table 33*Correlation Matrix Among Key Study Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Relationship satisfaction	—										
2. Positive mood when together	.79***	—									
3. Perceived support when together	.66***	.70***	—								
4. Perceived stress	-.32***	-.34***	-.19***	—							
5. Frequency of chore discussions	.24***	.26***	.33***	.15**	—						
6. Ruminative chore discussions	-.10***	-.06*	-.02	.36***	.56***	—					
7. Relationship conflict	-.36***	-.31***	-.21***	.46***	.23***	.40***	—				
8. Time-saving (dummy-coded: 1 = yes)	.12***	.15***	.21***	.12***	.35***	.22***	.24***	—			
9. Time saved (hr)	.14***	.18***	.26***	.15***	.39***	.29***	.38***	.69***	—		
10. Material purchases (amount)	.03	.06*	.10**	.10**	.20***	.17**	.19***	.21***	.28***	—	
11. Experiential purchases (amount)	.08*	.14***	.16***	.08*	.28***	.19***	.21***	.30***	.40***	.41***	—

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 34*Discriminant Validity Checks*

Construct 1	Construct 2	Ave of Construct 1	Ave of Construct 2	Squared Correlation	Alpha for Construct 2
Partner positive mood	Relationship satisfaction	.91	.74	.50	.93
Relationship satisfaction	Partner support	.74	.64	.43	.80
Partner support	Partner positive mood	.64	.91	.53	.94

Using Serial Mediation to Understand Quality Time. Next, we conducted preregistered serial mediation analyses to examine the association between time-saving purchases and relationship satisfaction with three mediators: frequent chore discussions, chore rumination, and positive mood during shared time. We ran these analyses with and without covariates using the PROCESS macro (Model 6; Hayes, 2013) with 20,000 bootstrapped samples.

Our analysis focused on positive mood as the indicator of quality time, given its predictive strength. This approach aligned with our preregistered analysis plan. For transparency, in the online [Supplemental Materials](#), we report the following results using partner support and a composite measure of positive mood and perceived partner support as mediators, noting that the pattern of results remained consistent across these different model specifications.

As specified in our preregistration, we also conducted an exploratory analysis to test the robustness of our findings when we controlled for overall levels of relationship conflict. This control variable was included in our models because relationship conflict could potentially explain an increased frequency of chore-related discussions and chore-related rumination among those who made time-saving purchases. Controlling for relationship conflict does not significantly alter our results (see online [Supplemental Materials](#)).

Our initial analysis revealed a significant total effect of hours saved through time-saving purchases on relationship satisfaction ($B = .02$, $SE = .003$, $p < .001$, 95% CI [.01, .02]). However, when we incorporated all three mediators into the model (frequent chore discussions, chore rumination, and positive mood during shared time), the direct effect became nonsignificant ($B = -.0003$, $SE = .002$, $p = .879$, 95% CI [-.005, .004]). This shift suggests that these mediators account for the association between time-saving purchases and relationship satisfaction.

Crucially, the total indirect effect in this model had confidence intervals that did not include 0. This result held both in the model without covariates (IDE = .017, $SE = .003$, 95% CI [.01, .02]) and in the model with our preregistered covariates (IDE = .02, $SE = .003$, 95% CI [.008, .02]). These results provide strong evidence for the mediating role of our proposed variables in explaining the

association between hours saved through time-saving purchases and relationship satisfaction.

Our analysis revealed a series of significant relationships supporting our hypotheses. Individuals who saved more time through time-saving purchases engaged in more frequent discussions about household chores with their partners ($B = .05$, $SE = .004$, $p < .001$). This increased frequency of chore discussions was positively associated with relationship satisfaction ($B = .09$, $SE = .02$, $p < .001$). These findings remained robust in models both with and without covariates (without covariates: IDE = .005, $SE = .001$, 95% CI [.003, .008]; with covariates: $B = .004$, $p < .001$, 95% CI [.002, .006]).

Moreover, frequent chore discussions predicted more positive mood during shared time ($B = .34$, $SE = .03$, $p < .001$), which in turn was associated with greater relationship satisfaction ($B = .74$, $SE = .02$, $p < .001$; IDE = .01, $SE = .002$, 95% CI [.01, .02]). These results remained consistent when including preregistered covariates (IDE = .01, $SE = .002$, 95% CI [.007, .01]).

To validate our proposed conceptual sequence, we compared our model to an alternative model specification where the order of positive mood and the frequency of chore discussions was reversed. Our original model was more explanatory, as indicated by an indirect effect comparison with a confidence interval that did not cross 0 (IDE = 0.01, $SE = 0.018$, 95% CI [.065, .01]).

These findings support the “gain spiral” proposition of the COR model. These results suggest that time-saving purchases enable couples to more proactively manage chores, which predicts the quality of shared time and, ultimately, higher relationship satisfaction. This sequential process illustrates how external resources (time-saving purchases) may catalyze a positive cycle of improved communication, mood, and relationship satisfaction.

Contrary to our preregistered hypothesis, while hours saved through time-saving purchases predicted more frequent chore discussions ($B = .05$, $SE = .004$, $p < .001$), these purchases also predicted increased rumination about chores during shared time ($B = .01$, $SE = .004$, $p = .001$). This increased rumination appeared to have negative consequences, predicting less positive mood during shared time ($B = -.24$, $SE = .03$, $p < .001$) and, subsequently, lower relationship satisfaction ($B = -.09$, $SE = .02$, $p < .001$; IDE = -.006, $SE = .0008$, 95% CI [-.007, -.004]). These effects persisted when we controlled for our preregistered control variables (IDE = -.004, $SE = .007$, 95% CI [-.006, -.003]). However, a critical finding emerged from an additional contrast analysis: The positive indirect effect of time-saving purchases on relationship satisfaction through positive mood outweighed the negative indirect effect through chore discussions and rumination, *contrast*: IDE = .01, $SE = .003$, 95% CI [.008, .02]. This result held with controls: IDE = .01, $SE = .003$, 95% CI [.006, .02].

These findings provide partial support for our “gain-spiral” hypothesis while also revealing important complexities. Time-

Table 35*HTMT Ratios for Each Construct Pair*

Construct pair	HTMT ratio
Partner positive mood and partner support	.7230
Relationship satisfaction and partner positive mood	.7730
Relationship satisfaction and perceived partner support	.6579

Note. HTMT = heterotrait-monotrait.

saving purchases facilitate more frequent conversations about household chores, but these discussions can sometimes predict increased rumination, negatively impacting relationship satisfaction. Crucially, however, the overall benefit of time-saving purchases for quality time and positive mood during shared time more than compensated for these negative effects, resulting in a net positive influence on relationship satisfaction.

This outcome contrasts with our preregistered hypothesis, which anticipated uniformly positive effects of time-saving purchases through increased chore discussions and decreased rumination. Instead, our results paint a more realistic picture of relationship dynamics, where increased communication about household responsibilities can have both positive and negative consequences. Nonetheless, the overall impact of time-saving purchases on relationship satisfaction remained positive, highlighting the complex but ultimately beneficial role of these purchases in relationship management.

Moderated Mediation to Understand the Influence of Stress. As preregistered, we then tested whether the indirect effect of the number of hours saved through time-saving purchases (X) on relationship satisfaction (Y) through greater quality time (M)—that is, the c' path depicted in Figure 4—was conditional on respondents' self-reported levels of stress.

As predicted, this model yielded a moderated indirect effect (c') of time-saving purchases on relationship satisfaction through quality time and a moderated direct effect (c) between time-saving purchases and relationship satisfaction. In Model 7, the Index of Moderated Mediation did not cross 0 ($IMM = .02$, $SE = .003$, 95% CI [.01, .03]). This index indicates that the strength of the indirect effect between time-saving purchases on relationship satisfaction through greater quality time (i.e., positive mood) was dependent on respondents' self-reported levels of stress.

We conducted pairwise contrasts to test whether these indirect effects were statistically different from one another. The pairwise

comparison between the indirect effect of +1 SD above the mean of stress and the mean of stress differed from 0 ($IDE = .01$, $SE = .002$, 95% CI [.006, .01]) as did the pairwise comparison between +1 SD above the mean of stress and -1 SD below the mean of stress ($IDE = .01$, $SE = .002$, 95% CI [.006, .01]). These analyses support the interpretation that the mediation result of hours saved through time-saving purchases on relationship satisfaction through quality time was stronger at higher levels of stress.

We conducted follow-up analyses using Model 59 to better understand the nature of this conditional indirect effect. First, we tested whether stress moderated the “ a ” path between time-saving purchases and quality time. Second, we tested whether stress moderated the “ b ” path between quality time and relationship satisfaction. Finally, we tested whether stress moderated the “ c ” path (the direct effect) between time-saving purchases and relationship satisfaction.

In analyzing the “ a ” path, there was a significant interaction between time-saving purchases and perceived stress to predict quality time spent together in the past week ($B = .02$, $SE = .005$, $p < .001$, 95% CI [.01, .03]). At -1 SD below the mean of stress, the indirect effect of hours saved on relationship satisfaction through increased quality time (i.e., positive mood) did not cross 0 ($IDE = .01$, $SE = .005$, 95% CI [.0008, .02]), at the mean of stress the indirect effect did not cross 0 ($IDE = .02$, $SE = .003$, 95% CI [.02, .03]), and at +1 SD above the mean of stress the indirect effect did not cross 0 ($IDE = .04$, $SE = .004$, 95% CI [.03, .05]).

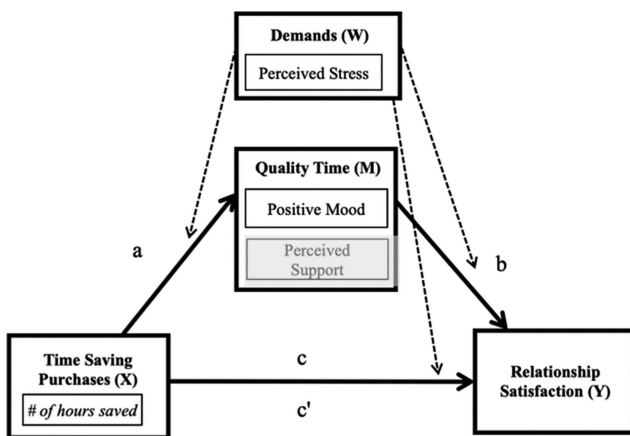
In analyzing the “ b ” path, there was an interaction between quality time (i.e., positive mood) and perceived stress to predict relationship satisfaction ($B = .07$, $SE = .03$, $p = .008$, 95% CI [.02, .12]). At -1 SD below the mean of stress, the effect of quality time on relationship satisfaction was significant ($B = .68$, $SE = .03$, 95% CI [.63, .74]); at the mean of stress the effect of quality time was significant ($B = .73$, $SE = .02$, 95% CI [.69, .77]); and at +1 SD above the mean of stress, the effect was significant ($B = .77$, $SE = .02$, 95% CI [.73, .81]). These data suggest that positive mood during shared time had a stronger effect on relationship satisfaction under higher levels of stress. Perceived stress did not moderate the “ c ” path ($B = .002$, $SE = .004$, $p = .949$).

This pattern of results held when we added our preregistered covariates to the model. Adding covariates to Model 7, the IMM index had a CI that did not cross 0 ($IMM = 0.02$, $SE = .003$, 95% CI [.01, .02]). When we added covariates to Model 59, the “ a ” path indicated a significant interaction between hours saved and stress to predict quality time (positive mood; $B = .02$, $SE = .006$, $p = .001$, 95% CI [.01, .03]), the “ b ” path indicated a significant interaction between quality time and stress to predict relationship satisfaction ($B = .07$, $SE = .03$, $p = .009$, 95% CI [.02, .13]) and stress did not moderate the “ c ” path ($B = .002$, $SE = .004$, $p = .654$).

Thus, the mediation model that linked hours saved to relationship satisfaction through quality time (i.e., positive mood) was moderated by perceived stress. These results were driven by stress moderating the association between hours saved and perceptions of quality time (Path A) and the association between perceptions of quality time and relationship satisfaction (Path B).

Examining the “ a ” path, for people experiencing higher levels of self-reported stress, there was a stronger positive association between hours saved and quality time spent together. Examining the “ b ” path, for people experiencing higher levels of stress, there was a stronger positive association between quality time spent together

Figure 4
Conceptual Model Illustrating the Moderated Mediation Results



Note. In Study 6, the path analyses and moderation analyses used positive mood as the key mediator of interest. Because of this, perceived support is grayed out to promote clarity. All results hold whether we use perceived support or a composite measure of quality time. See the online [Supplemental Materials](#) for these results.

and relationship satisfaction. Time-saving purchases were more likely to predict quality time for more stressed respondents, and quality time was more important for relationship satisfaction as stress levels increased. The direct effect of hours saved on relationship satisfaction was not significant across any levels of stress in these mediation models, underscoring the importance of the mediated pathway through perceptions of quality time.

Although we did not preregister these analyses, readers might wonder whether perceived stress moderated the association between time-saving purchases, the frequency of chore discussions, chore rumination, and relationship satisfaction. In an exploratory moderated-mediation analysis, perceived stress moderated the association between hours saved and chore rumination both without ($B = .02$, $SE = .007$, $p = .003$) and with covariates ($B = .015$, $SE = .007$, $p = .027$). In follow-up analyses, the positive link between hours saved and chore rumination was stronger as perceived stress levels increased. For individuals who were experiencing lower levels of stress, the effect of time-saving purchases on chore rumination was smaller. As stress levels increased, time-saving purchases had a more pronounced effect on increased chore rumination.

Discussion

Study 6 provided additional evidence for our conceptual model. Consistent with Hypotheses 1–3, members of dual-income couples reported higher levels of relationship satisfaction when they reported making time-saving purchases together, particularly when these purchases saved more time. This increase in relationship satisfaction was mediated by enhanced perceptions of quality time together.

We found partial evidence in support of the “gain-spiral” proposition of the COR model. First, we observed a significant indirect effect: People who received a larger influx of time through time-saving purchases spent more time discussing the chores when spending time together with their partner, which predicted more quality time (positive mood when together) and higher levels of relationship satisfaction. These findings help to explain why time-saving purchases predict perceptions of quality time: When members of dual-income couples receive an influx of time, they more effectively respond to daily stressors like chores. This proactive response, characterized by more frequent conversations about household chores, in turn predicts more positive perceptions of quality time together and greater relationship satisfaction. These results align with the COR model: time-saving purchases provide couples with a direct way to manage shared demands. This influx of time enables more effective coping strategies (proactive chore discussions) and fosters positively valenced time together and relationship satisfaction.

However, contrary to our full preregistered model, we did not observe a negative association between time-saving purchases and chore rumination. Instead, we found an indirect effect: Individuals who saved more time through time-saving purchases discussed chores more frequently when spending time together, which predicted increased rumination about the chores and lower relationship satisfaction. For members of dual-income households, more frequent chore-related discussions predicted more rumination, potentially reducing the positive effects of time-saving purchases on relationship satisfaction. These results were somewhat attenuated—though not significantly—when controlling for relationship conflict (see [Supplemental Material](#)), suggesting that the negative influence of chore discussions on

rumination was partly explained by respondents in higher conflict relationships.

These results reveal a complex relationship between time-saving purchases, chore discussions, chore rumination, and relationship satisfaction. Time-saving purchases can facilitate positive mood during shared time and encourage relationship satisfaction—when these purchases enable constructive conversations about the household chores. However, when these purchases prompt chore conversations that predict rumination, these purchases have the potential to undermine—as opposed to improve—relationship satisfaction. Despite the negative indirect effect we observed, it is important to note that the quality time benefits of time-saving purchases outweighed the negative indirect effect of chore rumination on relationship satisfaction.

Crucially, these findings highlight the importance of quality time in realizing the benefits of time-saving purchases. Even when time-saving purchases resulted in chore-related rumination during shared time, the positive effects of quality time outweighed these negative experiences. Our results suggest that for couples who make time-saving purchases—even if these purchases prompt more chore-related discussions that result in rumination—engaging in quality time together that generates positive mood can counteract these negative experiences and ultimately enhance relationship satisfaction.

Consistent with our stress-buffering hypothesis (Hypothesis 5), we also observed a significant moderated-mediation: The benefits of time saved through time-saving purchases were more pronounced for members of dual-income couples experiencing higher levels of stress. For these respondents, the association between hours saved through time-saving purchases and perceptions of quality time spent together was stronger, as was the association between quality time spent together and overall relationship satisfaction. These findings help to explain why the mediation effect between time-saving purchases was stronger for respondents reporting average or above average levels of stress.

We also observed a moderating effect of stress on chore rumination: When individuals reported higher levels of stress and made time-saving purchases, they reported ruminating more about the household chores when spending time with their partner. These results present open areas for future research, which we will return to in more detail in the General Discussion section.

We focused on household chores due to their ubiquitous nature and the direct impact that time-saving purchases can have on these tasks. This decision builds on the results of Study 3, which demonstrated that time-saving purchases were more effective when they saved time within the relationship rather than outside of it. Future research should explore how time-saving purchases help couples cope with other demands like work-related stress.

Additional research should expand the breadth of the measures used to study chore rumination. In Study 6, we used a validated measure of chore rumination that did not explicitly ask respondents whether they experienced ruminating about the household chores as a positive or negative experience. This approach leaves open the possibility that some study respondents might have interpreted recurring chore discussions positively. This ambiguity creates a conservative test of our hypotheses, as positive interpretations would run counter to the overall patterns we observed, potentially weakening our reported findings. Future studies should build on these results by incorporating measures that more directly assess people’s negative

feelings about repetitive discussions and their perceptions of coping strategies related to household tasks.

Similarly, additional research should expand the breadth of the measures used to study proactive chore discussions. In Study 6, we used a validated measure of chore discussions that did not explicitly ask respondents whether they experienced the chore discussions as a positive coping response. This approach leaves open the possibility that some study respondents might have interpreted recurring chore discussions negatively. Once again, this ambiguity creates a conservative test of our hypotheses, as negative interpretations would run counter to the overall patterns we observed where chore discussions predicted greater positive mood during shared time. Future studies should therefore build on these findings by incorporating measures that more directly assess people's feelings about frequent chore discussions during shared time together.

It is important to note that Study 6 was correlational in nature. While our path model supports the proposed causal direction, the possibility of reverse causality remains a concern. For example, individuals who talk more about the chores might be more inclined to make time-saving purchases. To address this limitation, future research should use experimental designs and longitudinal panel data. These approaches would allow for a more robust exploration of the associations between time-saving purchases, positive coping strategies for daily stressors, the experience of enjoyable time together, and relationship satisfaction. Such methodologies would provide stronger evidence for the causal relationships proposed in our conceptual model.

General Discussion

Seven studies involving nearly 40,000 respondents in romantic relationships provide reliable evidence that time-saving purchases predict relationship satisfaction. Consistent with our conceptual model, time-saving purchases consistently predict relationship satisfaction when these purchases provide a greater influx of time. Time-saving purchases predict relationship satisfaction through their association with quality time spent together. These quality time benefits are supported by more frequent conversations about the household chores. However, members of romantic couples should be mindful to spend this influx of time in ways that enhance quality time. When time-saving purchases do not result in perceived quality time together, they do not predict greater relationship satisfaction. Furthermore, discussions about time-saving purchases can predict chore rumination, which may detract as opposed to enhance relationship satisfaction—unless couples spend quality time together as a result of making time-saving purchases. Collectively, these results underscore the importance of quality time for the benefits of time-saving purchases to emerge.

Our research also reveals that perceptions of time spent together are more reliable predictors of relationship satisfaction than the specific activities that couples report engaging in together. These findings highlight the subjective nature of quality time, suggesting that the emotional experience of shared time could matter more for relationship satisfaction than the specific activities that couples engage in together. This research underscores the importance of understanding how partners subjectively experience their time together, rather than focusing solely on measures of time-use.

Advancing the COR Model

Our findings extend the COR model of stress. We demonstrate that time-saving purchases can allow members of dual-income couples to adopt more proactive coping strategies to common stressors, particularly the household chores. This proactive approach facilitates quality time together and predicts greater relationship satisfaction.

Importantly, our research applies the COR model in novel ways. While previous studies have focused on the benefits of externally provided temporal resources such as employer-sponsored vacation days, we highlight the role of self-generated temporal resources. We show that working adults in committed romantic relationships can actively generate their own temporal resources through household purchases. This insight opens new avenues for understanding how people can leverage consumption behavior to enhance their romantic relationships.

By showing how time-saving purchases can positively predict relationship outcomes, we provide a new perspective on how individuals can invest in and protect their temporal resources. Our approach expands the traditional understanding of resource acquisition in the COR model and suggests a more active role for individuals in managing their resources, particularly in the context of romantic relationships. Our work bridges past research on consumption patterns and relationship science, demonstrating how consumer behavior can serve as a tool for stress management and relationship enhancement.

Consumption Patterns and Relationship Satisfaction

Research on purchase decisions has primarily focused on individual happiness (Aknin et al., 2022; Matz et al., 2016). We extend this focus by showing that spending money to buy (quality) time can predict relationship satisfaction. This finding contributes to a growing literature that examines how spending decisions shape well-being (Dunn et al., 2020).

Our research clarifies the mechanisms linking time-saving purchases to relationship satisfaction, addressing inconsistencies in previous studies. Some studies have suggested that time-saving purchases increase personal well-being by eliminating stressful experiences (Whillans & West, 2022). Other research proposes that time-saving purchases increase personal well-being by allowing people to spend more time on mood enhancing activities like socializing with friends and family members (Whillans et al., 2017). Our findings bridge these two possibilities by proposing a two-step process: Time-saving purchases can reduce the impact of negative daily stressors, which can then facilitate more positive experiences (greater quality time spent together). This process suggests that the benefits of time-saving purchases stem not just from creating more free time, but from how that time is perceived within the relationship.

Time-saving purchases are particularly beneficial for members of romantic relationships who are experiencing higher levels of stress. This finding extends research showing that spending decisions best predict happiness when they fit personality characteristics (Matz et al., 2016; Park et al., 2017). Moving beyond this research, our findings suggest that couples might also benefit from matching consumption to their current life circumstances and stressors.

Our findings underscore the need for a more nuanced approach to understanding time-saving purchases. Rather than assuming a universal benefit, researchers and practitioners should consider how

factors such as stress levels and relationship dynamics moderate the impact of these purchases. This could lead to more targeted interventions and recommendations for couples seeking to enhance their relationship satisfaction through strategic resource allocation.

Protective Effects of Time Investments

Our findings on the stress-buffering effects of time-saving purchases contribute to the literature on relationship satisfaction. Prior research has largely focused on internal relationship dynamics, such as constructive communication patterns and forgiveness as critical factors that predict relationship satisfaction (Christensen & Heavey, 1990; Cutrona & Suhr, 1992; Gordon & Chen, 2016; Heavey et al., 1993; Hilpert et al., 2016; O'Brien, 2009; Overall et al., 2009). Adding to this research, our studies demonstrate that people can seek out external resources to improve relationship resilience to stress.

The results from Study 6 are particularly noteworthy. We found that stress consistently moderated the association between time-saving purchases and quality time together as well as the association between quality time and relationship satisfaction. These findings suggest that the benefits of time-saving purchases may be especially pronounced for individuals experiencing higher levels of stress, offering a novel perspective on stress management within relationships.

Importantly, our results revealed a complex pattern of stress moderation. While stress moderated the link between time-saving purchases and ruminative chore discussions, it did not moderate the frequency of chore-related discussions. This distinction suggests that stress may influence the emotional impact of chore-related interactions more than their quantity.

Our research highlights the need for a more detailed exploration of how various types of stress—including work-related, financial, and health-related stressors—may differently influence the effects of time-saving purchases on relationship outcomes. This investigation could reveal important distinctions in the way couples benefit from such purchases under different stressful circumstances. For example, financial stress due to job loss of one partner and resultant long work hours for the other could increase the negative impact of time-saving purchases on chore rumination. Couples may have no choice but to make time-saving purchases to allow one partner to interview for jobs, and the other partner to pick up more hours to cover bills; yet such couples may ruminate more about chores due to guilt over spending money to buy time. In contrast, work-related stress that does not coincide with financial concerns could lessen the negative impact of making time-saving purchases on chore rumination, potentially predicting a stronger association between time-saving purchases and relationship satisfaction as a result.

We also observed evidence that stress positively predicted time-saving purchases in Studies 1 and 3 ($r = 0.02, p < .001$ and $r = 0.16, p < .001$, respectively). These results suggest that some couples might strategically make time-saving purchases to protect themselves from daily stressors. Future research should explore the mechanisms predicting whether and when couples proactively seek out time-saving purchases to deal with various day-to-day responsibilities.

Redefining Quality Time: The Primacy of Perceptions

Our research, particularly Studies 3–6, reveals that the subjective experience of time spent together, rather than the specific activities

completed together predicts the relationship satisfaction benefits of buying time. This insight contributes to research on quality time and relationship satisfaction, providing initial evidence that perceptions of time spent together, not just changes in time-use, contribute to relationship satisfaction for dual-income couples. These findings address calls to study factors that foster positive feelings between partners (e.g., Righetti et al., 2022). Our findings suggest that couples might benefit more from cultivating positive moods and supportive interactions than from planning elaborate activities (Johnson et al., 2006).

Study 3 revealed that joint decision-making is important for realizing the benefits of time-saving purchases, highlighting a crucial aspect of couple dynamics: how partners coordinate resource allocation and the creation of discretionary time. This collaborative decision-making process may itself contribute to relationship satisfaction by fostering a sense of teamwork and shared goals. Our findings suggest that the benefits of time-saving purchases may extend beyond simply creating free time; they might also include the positive relational aspects of how couples navigate these decisions together. Future research should explore how the process of deciding on time-saving purchases contributes to relationship satisfaction, such as by facilitating open discussions about chore allocation and household resources (see Overall & McNulty, 2017).

Another promising area of future research is studying the intersection between experiential purchases, time-saving purchases, and relationship satisfaction. Time-saving purchases were unique predictors of relationship satisfaction across studies that measured both experiential and time-saving purchases. However, there may be additive benefits when couples make both types of purchases simultaneously.

Although not directly studied, members of dual-income couples engaging in novel activities together such as visiting new landmarks or restaurants (Aron et al., 2000) might benefit more from these experiences after making time-saving purchases. Time-saving purchases could reduce rumination about household chores or other demands, allowing couples to more fully immerse themselves in the present moment or enjoy greater satisfaction from reminiscing about these experiences later (Dunn & Weidman, 2015; Kumar et al., 2024). These ideas align with research showing that people enjoy free time more when they experience less goal conflict between obligations and desirable activities and when they can be present in the moment (Etkin et al., 2015; West et al., 2021). Future research should explore how time-saving purchases enhance the anticipated, in-the-moment, and retrospective experience of various time-use activities for dual-income couples.

Practical Contributions: Leveraging Time-Saving for Relationship Satisfaction

Our findings offer practical advice for individuals, couples, and organizations seeking to maintain and enhance relationship satisfaction in the context of busy modern lifestyles. Across studies, only 48% of respondents who arguably could afford to make time-saving purchases reported making these purchases on a regular basis. These findings highlight a critical opportunity for intervention and education. This gap between the potential benefits of time-saving purchases and actual use suggests a need for targeted interventions to shift mindsets about the value of buying time. Relationship counselors could incorporate discussions about time-saving purchases into their

practice, helping couples view these purchases as investments rather than as nonessential spending.

Our research also suggests avenues for employee benefits and work–life balance initiatives. Employers could offer time-saving services as part of their total rewards packages. For example, providing vouchers for meal delivery or housecleaning services during demanding work periods could alleviate stress for employees and their romantic partners. This approach could address work–life balance issues and indirectly support employees' relationship satisfaction, potentially increasing job satisfaction and reducing turnover (see [Fassiotto et al., 2018](#)).

Companies could extend this idea by offering time-saving vouchers that employees could gift to their partners during business trips or peak work seasons. This approach could demonstrate a company's commitment to employees' personal lives and provide a tangible means for employees to support relationships during stressful periods ([Flynn & Leslie, 2023](#)), potentially predicting relationship satisfaction even if members of dual-income households are unable to spend this influx of time together.

Our findings on quality time may also provide practical advice for members of dual-income couples. To experience quality time and relationship satisfaction, dual-income couples could focus deliberately on spending time together in ways that promote positive mood and enhance perceptions of support (see also [Johnson et al., 2006](#) for related arguments). These strategies could help couples leverage time-saving purchases to enhance their relationship satisfaction, predicting greater relationship benefits from their shared experiences and improving overall well-being.

Exploring Demographic Variations in Time-Saving Benefits

While our primary analyses focused on the overall effects of time-saving purchases on relationship satisfaction, we also explored potential demographic variability in these benefits.

Initial analyses across Studies 1–6 revealed no consistent interactions between gender, income, and the effects of time-saving purchases on relationship satisfaction. See online [Supplemental Section 6](#) for the full presentation of these analyses. The absence of consistent demographic moderators aligns with cross-sectional research by [Lok and Dunn \(2022\)](#), which found no interactions between income and gender to predict the mood benefits of time-saving purchases.

However, given the well-documented disparity in household labor, where working women often bear a greater share of chore demands compared to their male counterparts ([Giurge et al., 2021](#)), we hypothesized that a more detailed examination of gender differences might reveal important insights. To investigate this possibility further, we conducted an additional exploratory study with 193 dual-income couples (see online [Supplemental Study S4](#) for the full presentation of these results). In this study, we were able to collect survey data from both partners simultaneously, allowing us to more deeply understand gender and household dynamics.

This exploratory dyadic study revealed intriguing gender differences in the effects of time-saving purchases on relationship satisfaction. Women's time-saving purchases, whether made for themselves or their partners, predicted higher relationship satisfaction for both partners. This finding suggests a positive spillover effect: When women invest in time-saving purchases, these purchases benefit their own and their partners' relationship satisfaction. In contrast, men's time-saving

purchases showed a more limited influence. When men made time-saving purchases primarily to benefit their female partners, they reported higher levels of relationship satisfaction, but their partners did not report similar increases. The benefits of time-saving purchases were strongest when couples, particularly women, experienced higher levels of stress.

These findings indicate that women may benefit most from making time-saving purchases in their relationships, while men may derive satisfaction from providing time-saving support to their female partners, even if these purchases do not directly impact their partner's relationship satisfaction. This asymmetry points to potential differences in how men and women perceive and value these purchases within their relationships.

Taken together, these findings highlight the fact that the interactions between gender, income, and time-saving purchases are nuanced and require further research to fully understand the conditions that moderate the benefits of buying time within romantic relationships.

Limitations and Future Directions

Our studies, including recall experiments and longitudinal evidence, provide compelling support for the relationship benefits of time-saving purchases. Despite the complementary strengths of our diverse methodological approaches, this investigation is not without limitations. Below, we discuss the importance of conducting additional research—including experimental studies, surveys with more nuanced chore measures, and studies using more diverse samples—to more fully understand the boundary conditions and mechanisms underlying these results.

Additional Causal Evidence

To strengthen our causal claims, future research should use behavioral experiments. Randomly assigning dual-income couples to receive funds for time-saving purchases would allow for the examination of real-world relationship benefits (building on [Whillans & West, 2022](#); [Whillans et al., 2017](#)). This approach would reinforce our established conceptual relationships and show how couples implement time-saving solutions when given a new opportunity to do so. Such studies could reveal moderators and boundary conditions, including the current frequency of use of time-saving purchases and preexisting divisions of household labor.

Based on the results of Study 1, it is possible that only couples who already make time-saving purchases would benefit in these settings. These couples might avoid the additional burden of deciding what or how to outsource. This proposition dovetails with the results of Study 1 and Study 6, which showed that chore rumination can undo some of the benefits of time-saving purchases. For couples who are experienced with making time-saving purchases, they may ruminate less about time-saving purchase decisions and derive greater satisfaction as a result. Additional behavioral research could explore this possibility. Combining time-saving interventions with longitudinal follow-ups and collecting detailed information about past experiences with time-saving purchases would provide a comprehensive understanding of the immediate and sustained effects of buying time on relationship dynamics and the factors—like experience—that predict these benefits.

Expanded Measurement

Study 3 provided valuable insights by capturing a range of time-use activities (e.g., cooking and cleaning) and subjective quality time measures using gold standard approaches (Kahneman et al., 2006; Smeets et al., 2020). Future research could combine these approaches to study how time-saving purchases shape couples' perceptions of specific daily activities like chores and childcare over time. This type of longitudinal exploration would help to elucidate how time-saving purchases predict relationship satisfaction and quality time over various time scales—from days to weeks, months, and years. Specifically, it could reveal how these purchases affect couples' subjective experiences of daily demands in the context of their ongoing relationship. For instance, do time-saving purchases predict sustained improvements in how couples perceive and manage their daily responsibilities? If so, how? Do these effects accumulate over time, or do couples adapt to the benefits, necessitating new strategies? By examining these questions over time, researchers could gain a more nuanced understanding of the long-term impact of time-saving purchases on relationship dynamics and satisfaction.

To capture the full complexity of household dynamics, studies should also assess current satisfaction with chore division, perceived fairness, and the emotional valence of chore-related discussions. These nuanced measures would provide a detailed overview of how time-saving purchases shape couple interactions around domestic labor and relationship satisfaction.

Diverse Samples

Our focus on U.S. and U.K. respondents limits the generalizability of these results. Cross-cultural research is needed, particularly in countries with different work–life priorities (Macchia & Whillans, 2021). For instance, future studies should explore whether our results extend to countries like Italy, where people already prioritize leisure (Bellezza et al., 2017). Such cross-cultural investigations would reveal how cultural norms and values interact with the effects of time-saving purchases on relationship satisfaction, uncovering universal principles or culturally specific nuances.

While our emphasis on dual-income households provides ecological validity, future research should explore boundary conditions. The COR model suggests that people who feel less pressed for time may benefit less from time-saving purchases (see Sharif et al., 2021). We observed results consistent with this proposition. A more systematic exploration of resource-based differences in the benefits of time-saving purchases across couples could further illuminate these boundary conditions.

Additional Mechanisms

Finally, future research should explore additional mechanisms underlying the association between time-saving purchases and relationship satisfaction. One promising avenue is the role of appreciation and gratitude. Members of dual-income couples who feel appreciated by their partners are less negatively affected by the unequal division of household chores (Gordon & Diamond, 2023; Gordon et al., 2022). Time-saving purchases, when perceived as gestures of appreciation for a partner shouldering more household

responsibilities, could mitigate the negative impact of chores on relationship satisfaction.

Furthermore, time-saving purchases may serve as signals of commitment to the relationship. When couples allocate hard-earned discretionary income to save time, this decision could demonstrate each partner's commitment to the relationship and desire to invest in shared time. This investment could foster gratitude and enhance relationship satisfaction through the purchase sending a signal of commitment (Gordon et al., 2022; Joel et al., 2013).

To deepen our understanding of these dynamics, future studies should examine whether felt appreciation and gratitude mediate the association between time-saving purchases and relationship satisfaction. Studies could investigate whether time-saving purchases are received more positively when explicitly framed as gestures of appreciation, particularly for partners who consistently handle a larger share of household duties. Additionally, research should explore whether time-saving purchases are perceived more favorably when partners report feeling grateful for the additional time that these purchases provide.

The impact of perceived commitment, as signaled by time-saving purchases, on relationship dynamics and satisfaction also warrants investigation. Researchers could employ longitudinal designs to track how perceptions of commitment evolve over time in relation to time-saving purchase patterns, and how these perceptions correlate with relationship satisfaction.

While our exploratory study of 193 dyads did not yield strong evidence for the role of perceived partner commitment, these areas merit further examination. Future research should build on our initial results to more deeply examine the complex relationships between time-saving purchases, perceived partner appreciation and commitment, and relationship satisfaction.

Conclusion

Our research, encompassing seven studies and nearly 40,000 participants, demonstrates the positive influence of time-saving purchases on relationship satisfaction for working adults in committed romantic relationships. By applying the COR model to consumption behavior, we reveal how external purchases can be used to manage internal relationship demands. This work extends the COR model in a new domain, illustrating how market resources can be strategically leveraged to support interpersonal relationships. We show that time-saving purchases can protect against stress when they enable constructive discussions about chores and facilitate quality time together, contributing to enhanced relationship satisfaction. Our findings highlight the importance of subjective experiences of time spent together, rather than just the quantity of time or specific activities undertaken. This insight extends conventional wisdom about quality time and offers new perspectives on how couples can enhance their romantic relationships.

Overall, this research uncovers an underused path to relationship satisfaction through time-saving purchases. This research suggests new avenues for research and interventions in relationship science, with potential applications in couples therapy, workplace benefits, and personal financial planning. By bridging the gap between consumer behavior and relationship science, our work provides a foundation for future studies to explore how external resources can be used to strengthen intimate relationships. This work offers

practical implications for couples seeking to navigate the challenges of daily life while maintaining satisfying relationships.

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