



Eisa Sahabeh Tabrizi

# **Valuation and Allocation of Bought Time**

A PhD dissertation in  
**Marketing Management**

© Eisa Sahabeh Tabrizi

USN School of Business  
**University of South-Eastern Norway**  
Drammen, 2019

**Doctoral dissertations at the University of South-Eastern Norway no. 53**

ISSN: 2535-5244(print)

ISSN: 2535-5252 (online)

ISBN: 978-82-7860-406-9 (print)

ISBN: 978-82-7860-408-3 (online)



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Print: University of South-Eastern Norway

## Acknowledgements

My PhD dissertation benefited from the wisdom, support, and encouragement of many wonderful people. First and foremost, I would like to thank my supervisors Marit Gundersen Engeset and Luk Warlop for their academic guidance and intellectual brilliance. You both led the way and you continue to inspire me every day.

Marit, your unwavering support and pertinent insights shaped up my dissertation. Thank you for your constant encouragement and your caring mentorship. In addition to giving me thorough feedback on my research, you provided me with numerous opportunities to grow; trusting me with teaching responsibilities and opening the doors for the initiation of the experimental lab. You have been a wonderful supervisor and a great friend. I am infinitely and eternally grateful to you.

Luk, you have generously mentored me from the beginning. Thank you for taking me on as an apprentice and for artfully sculpting my ideas into research projects. I will never forget our brainstorming conversations in which you patiently endured my often bizarre ideas one after another. The clarity that you brought to our discussions taught me the importance of conceptual labor. I am also deeply grateful to you for teaching me the value of research rigor, making it interesting, and above all making the process fun. With as much sincerity as I can put behind this statement, thank you.

I would like to thank the members of the assessment committee Vicki Morwitz and Bob Fennis. I am truly honored and fortunate to have my research evaluated by you. Thank you for offering incisive feedback that has helped me along the way and will greatly improve my work. Thanks are also due to Kåre Sandvik for his constructive feedback, leading the PhD program, and chairing the assessment committee. I would like to thank Page Moreau and Ajay Kohli for their continuous intellectual support. I also want to thank the leadership of the business school, especially Hans Anton Stubberud, Birger Opstad, Therese Dille, and Jan Velvin.

I am grateful to the faculty and administration of USN for their warmth, understanding, and constructive feedback: Bjørn Ove Grønseth, Einar Breivik, Pia Gulbrandsøy, Etty Nilsen, Halgeir Halvari, Håvard Ness, Karen Stendal, Martha Clabby, Per Egil Pedersen, Radu Dimitriu, Sinem AcarBurkay, Øystein Sørebo, Ingunn Elvekrok, Lise Feirud, Jon Hovland Honerud, Frøydis Maurtvedt, Live Rykkje, Mari Bogen Sparby, and Thomas Bogen. I also want to express my gratitude to the faculty and administration at the Department of Marketing at BI. Thank you to Luk Warlop, Fred Selnes, Line Lervik Olsen, Klemens Knöferle, Sissel Berg, Kristine Nielsen Seeberg, Carlos Velasco, Nina Veflen, Rutger van Oest, Peter Jarnebrant, and Henrik Jensen, for warmly hosting me as a visiting PhD candidate.

I am extremely thankful to my PhD friends Mehrad Moeini-Jazani, Sumaya AlBalooshi, Daoyan Jin, Emanuela Stagno, Delphine Caruelle, Ivan Korsak, Iryna Shekhovstova, Ajmal Hafeez, Chi Hoang, Masoud Vardast, Audun Reiby, Kateryna Maltseva, and Aleksandra Jbara. You have supported me throughout this process, and I am deeply grateful. I would also like to thank Farhana Tabassum, Olga Ungureanu, Espen Jütte, Ruohao Sun, Afra Koulaei, Adeel Tariq, Chen Chen, Kristin Bentsen, Mesay Monges Menebo, Huy Tran, Mesay Sata Shanka, Monica Hagen, and Richard Reinsberg. My PhD was a fantastic adventure only because of the wonderful people that I met and the lifelong friends that I made.

None of this would be true if it weren't for my family to whom I owe the greatest debt of gratitude. Saleh, you are much more than a brother. You inspired me to pursue a PhD and you taught me to laugh through the seemingly endless scientific pain. Baba Behrouz, you supported me from day one and you taught me to approach life with an incredible sense of wonder. Maman Azita, your endless love and care keeps me going. Believe it or not, the more I learn to appreciate science, the more I realize how much of a true scientist you are, maybe not by profession but surely by character. Sarah, you continually supported and encouraged me through these years, and you gave me the confidence to pursue an academic career. Without your companionship, I cannot imagine where I would be now. Words cannot express how much I love you all.

## **Abstract**

Time is one of the most important resources that consumers gain and spend. It is also a conceptually unique resource. I review the existing literature on time as a resource and discuss time in relation to other resources. In the empirical chapters, I explore this topic in three different ways. First, I investigate the role of exchange perspective in the context of interpersonal exchange of time, showing that receivers of time underestimate the benefits of their time gain. Furthermore, building on the existing conceptualizations, I discuss two necessary features of buying time, namely consumers' capability of completing a task and their ability to allocate their gained time from outsourcing the task to other activities. Each of these aspects are examined in a separate chapter. The results of four studies in Chapter 3 indicate that an increase in consumers' domain self-efficacy leads to a decrease in their valuation of time-saving services within the same domain, lowering their willingness-to-pay and increasing their perception of price unfairness. I argue and show that time-saving services may gain by shifting away from an emphasis on time benefits in their marketing communications. Moreover, across three studies in Chapter 4, I find a novel consequence of buying time for consumers. The results indicate that buying time impairs consumers' enjoyment from the activity that replaces the outsourced task. I explore one of the underlying mechanisms for this effect and address alternative explanations. The theoretical and practical implications of the findings are discussed in the final chapter.

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# 1 Conceptual Framework

## 1.1 Introduction

Time is an undeniable aspect of human life. Consumers not only live through time, they also spend, save, and manage their time. Time influences consumer behavior in multiple ways and the existing studies in consumer research investigate the role of time from various perspectives. This dissertation focuses on how consumers view, value, and exchange time as a resource. In particular, I explore what buying time is, how it can influence consumer experiences, how consumers value services that save their time, and how they exchange time in the marketplace.

The concept of *exchange* is the core foundation of marketing (Bagozzi, 1975; Hunt, 2014). There are at least two parties to an exchange and each party has something that might be of value to the other party (Houston & Gassenheimer, 1987). Therefore, (1) the exchange role, (2) transfer of value from buyer to seller, and (3) transfer of value from seller to buyer are the fundamental elements of an exchange.

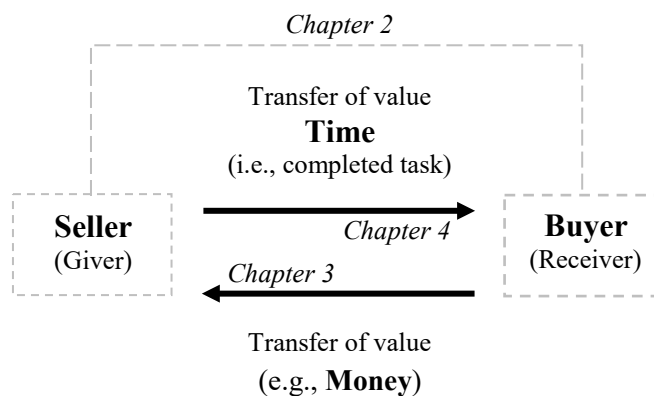


Figure 1 - Overview of the Empirical Chapters

I investigate each of these elements for situations in which, as a result of exchange, the buyer gains discretionary time. I focus on how the exchange role influences judgements of the exchanged value (Chapter 2), how the value transferred to sellers is influenced by features specific to the exchange of time (Chapter 3), and how buyers perceive the value

transferred to them (Chapter 4). Therefore, my dissertation seeks to build on existing knowledge about time as a resource and extend empirical findings related to buying time and time-saving services, thereby contributing to the theoretical and practical understanding of time in behavioral marketing. This chapter reviews the relevant existing research and establishes a theoretical framework for my dissertation.

## **1.2 Theoretical Background**

In this section, I first review the broader concept of resources and how time has been studied within consumer research as a resource construct. The discussion outlined below gives the reader an overview of the field of study to which this dissertation is connected, situates time as a resource within the broader perspective of resources, and builds the foundations for the theoretical development that will follow in the next chapters.

### **1.2.1 Resources**

Consumers gain and spend resources to satisfy their desires and achieve their goals. Different theoretical perspectives draw on different conceptualizations of the construct of resources. Within business contexts, resources were traditionally regarded as tangible objects involved in transactional exchange (Alderson & Martin, 1965; Kotler, 1972). With the growth in academic interest in relational exchanges, social perspectives broadened the definition of resources to include non-economic (i.e., social) resources as well as economic resources (Dwyer, Schurr, & Oh, 1987; Morgan & Hunt, 1994).

The economic view of resources has been modified within marketing to reflect not only the features of a product itself, but also the “value-in-use.” In this view, resources involve exchangeable competencies (operant resources) and assets that are acted upon (operand resources) in order for a consumer to achieve their goals and desires (Vargo & Lusch, 2014). Furthermore, the majority of existing studies in psychology and social psychology, explore resources from a personal perspective. For example, social exchange theory (Emerson, 1976; Foa, 1971) broadly defines resources to encompass anything that can be transmitted from one person to the other. From this perspective, personal characteristics such as traits, and environmental conditions such as time are not categorized as resources.

In contrast, recent resource perspectives within psychology, expand the definition of resources to include anything that a person perceives as helpful for achieving their goals. Importantly, this definition includes personal traits and environmental conditions (Gorgievski, Halbesleben, & Bakker, 2011; Halbesleben & Wheeler, 2015; Hobfoll, 2002).

#### *1.2.1.1 Resource Dimensions*

Resources can be classified depending on multiple dimensions based on the inherent features of the resource or the situation in which it is used. Resource stickiness, fungibility, divisibility, and depletion are among the dimensions laid out by Dorsch, Törnblom, and Kazemi (2017). Resource stickiness refers to the speed at which the amount of a resource can change. For example, status is thought to be stickier than financial resources. Moreover, if a resource can be partitioned into smaller portions without losing its value, then it is considered highly divisible. Resource fungibility refers to the degree to which the units of a resource are essentially interchangeable and each of its parts indistinguishable. The value of fungible resources is less dependent on the identity of its provider. For instance, money is highly fungible while social support is not. Resource depletion is the dimension that relates to the mechanism through which an expended resource is replenished. Internal resources such as knowledge and attention are considered renewable resources since a person can organically renew them. On the other hand, more tangible resources are nonrenewable once used up, they cannot be organically replaced (Dorsch et al., 2017).

Time cannot be stored or stockpiled unlike money, and it is difficult to analytically evaluate and account for time relative to money (Ebert & Prelec, 2007; Zauberaman & Lynch, 2005), which is why people often rely on heuristics to evaluate time (Saini & Monga, 2008; Soman, 2001). When it comes to resource depletion, total discretionary time is non-renewable. Moreover, while time is non-fungible and is divisible up to a certain point depending on the activities that fill time, it is less divisible than money.

Within the context of interpersonal behavior, Social Resource Theory (Foa & Foa, 1976) classifies resources in terms of two important dimensions: particularism-universalism and concreteness-abstractness. The dimension of concreteness-abstractness tracks the extent

to which a resource can take on a material shape. Meanwhile, particularism-universalism reflects the degree to which an individual uniquely determines the value of a resource. Using these two dimensions, Foa (1971) maps six distinct resource categories: 1) emotions and expressions of affection, care, fondness, warmth, or comfort are classified as *Love*; 2) *Status* refers to judgements that reflect a level of prestige, respect, or importance; 3) knowledge, education, skills, know-how, opinion, and instructions are classified as *Information* (cognitions related to love or status do not qualify as information); 4) activities performed towards one’s self (body, mind, possessions, etc.) are situated as *Services*, including the necessary effort, energy, and attention that the activities require; 5) material objects, goods, supplies, and equipment are classified as *Goods*; and 6) any legal format created to serve as the universally accepted norm to determine exchange value is considered *Money* (Dorsch et al., 2017).

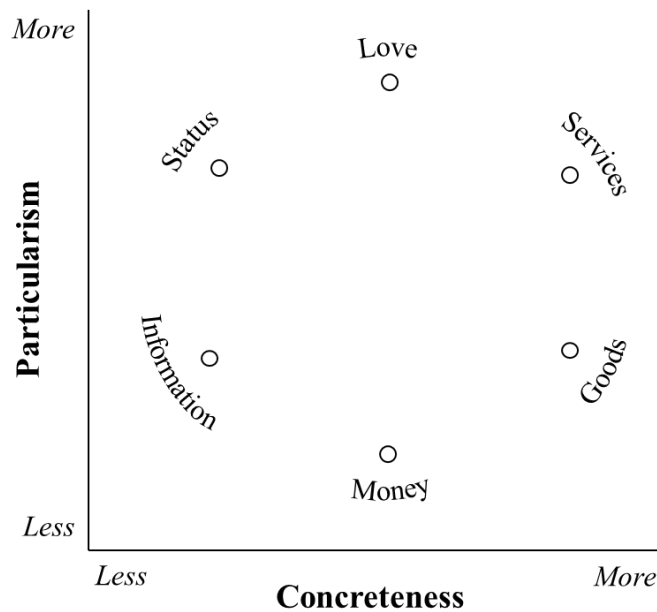


Figure 2 - Map of Resources from Foa (1971)

Within this conceptual framework, resource categories that are mapped closer together are considered to be more readily exchangeable. More concrete and less particular resources are transferred with greater ease by economic transactions. However, as one moves on the diagram toward the more particular and less concrete resources, transfer through economic transaction becomes less likely.

Highly particular and less concrete resources can be grouped together as psychosocial resources. Psychosocial resources include social relationships and individual differences that improve mental outcomes and physical health. The contribution of personality traits and social relationships to psychological well-being has been the focus of many personality and social psychologists (Antonovsky, 1979; Damian, Su, Shanahan, Trautwein, & Roberts, 2015; Hobfoll, 1989; Taylor, 1983). For example, social power (Guinote, 2017), optimism (Carver, Scheier, & Segerstrom, 2010), mastery or psychological control (e.g., Pham, Taylor, & Seeman, 2001), self-affirmation (Albalooshi, Moeini-Jazani, Fennis, & Warlop, 2019), self-control (Duckworth, Taxer, Eskreis-Winkler, Galla, & Gross, 2019; Hofmann, Luhmann, Fisher, Vohs, & Baumeister, 2014; O'Donoghue & Rabin, 1999), and social support (Cacioppo & Patrick, 2008; Quoidbach, Taquet, Deseilles, de Montjoye, & Gross, 2019; Taylor, 2011) are among the many examples of the studied constructs that accentuate the role of psychosocial resources. Due to the moderate intercorrelation between psychosocial resources, they are usually studied as composite variables (Taylor & Broffman, 2011).

Taylor and Broffman (2011) assert that psychosocial resources improve well-being through two pathways, namely by increasing *positive affect* and imparting *coping* strategies. Early family environment and socioeconomic status are among the main determinants of psychosocial resources (Taylor & Broffman, 2011). People strive to acquire, sustain, protect, and increase their resources. People with psychosocial resources encounter fewer stressful circumstances, are more likely to constructively respond to stressful circumstances, and are less negatively affected by inevitable resource drain of such situations (Hobfoll, 2002). This discussion begs the question: is time an economic resource or a psychosocial resource? The answer depends on the activity that fills or requires time. When the activity that occupies time is considered to be easily exchangeable with economic resources (e.g., the labor market), time can be considered an economic resource. However, when the activity that fills time is highly particular, less concrete, and less exchangeable with economic resources (e.g., family time), time is better situated as a psychosocial resource.

In this dissertation, I refer to resources as any property that a person values for its characteristics or as a means to achieve a desired end-state. The word *property* in this definition captures both meanings of the expression. It includes *assets* such as possessions and objects over which one has control, as well as *features* of a condition, personality traits, knowledge, competence, etc. (Dorsch et al., 2017; Hobfoll, 2002). Within this framework, property is categorized as a resource when a consumer views a property either as a goal or as a means to accomplish a goal. In other words, resources are goal-based concepts. Adopting such a broad definition of resources is particularly constructive for the study of time as a resource because it allows the investigation of the topic from multiple perspectives, especially since consumers can value time both inherently and instrumentally. In the next section, I review the various ways in which time as a resource has been studied within consumer research.

### **1.3 Time as a Resource**

Based on the previous discussion, time is a unique resource both in the way it is valued and the way it is used (Lallement & Gourmelen, 2018; Mogilner, Hershfield, & Aaker, 2017). A crucial conceptual distinction has to be made between two types of time, before I move on to existing findings related to time as a resource. Time can be viewed both as a necessary resource and as a contingent resource. This distinction is especially important due to the fact that my adopted definition of a resource encompasses anything an individual values for its particular characteristics or as a means to achieve a goal.

The resource categories discussed above such as status, services, and money, to name but a few, are contingent resources, in that they are determined by the general circumstances of an individual, and it is in principle possible to survive while having *zero*, or even a negative level, of any of these resources. Contingent resources are the set of resources that is possible for an individual to obtain or to value, but it is not certain that the individual will obtain or value them. On the other hand, necessary resources are essential conditions for existing. It is not possible to imagine a living individual at level zero of such resources. Consider energy, health, and safety as examples: a bare minimum of energy, health, and safety is necessary to sustain a living organism.

Therefore, time is both a necessary resource and a contingent resource. As a necessary resource, time is a *condition*. It is necessarily the mode of being through which individuals live. It is also a unique necessary resource because it cannot be limited to a maximum. It is possible to imagine a maximum level for energy, health, or safety, such that any intended improvement in the system would lower their levels. But time is unique because it is not bound by a maximum level. Time is also a contingent resource, in that it can be a *commodity* of exchange, and it is referred to as something that individuals can acquire or lack. Most importantly, as a contingent resource, time closely relates to an individual's perceived discretion. Therefore, in the following conceptual and empirical sections, I use *time* to refer to a duration over which an individual has discretion, considering time as a contingent resource.

The following analogy clarifies the way in which time differs from all other resources. Consider land as a resource. *Shrinking land* can be a fitting metaphor to understand time as a resource. Imagine that, due to a special form of contract, a landowner gradually loses control over an increasing portion of their land. The value of real-estate depends on many contextual factors. However, a defining feature of land as property is that an individual can have some degree of control over its use. The same is true for time. The total amount of available time for a person is ever decreasing, and it is the scope of the individual's discretion that determines the desirability of a block of time. In this sense, time is metaphorically similar to a piece of land over which an individual loses control at a fixed rate. This analogy will also prove useful in a discussion of the role of opportunity cost in valuation of time that the next sections unpack.

Psychophysically, time relates to the sense of the passage of objective physical time as well as temporal dimensions such as succession, duration, simultaneity, and the pace of internal and external events (Eagleman & Sejnowski, 2000; Zakay, 2016). Humans sense time even though no specific biological system exists as there are for sight, hearing, and taste (Merchant, Harrington, & Meck, 2013). Various psychophysiological models of timing seek to understand the mechanisms behind time perception. However, the general area of subjective time and time perception which spans from physics and philosophy (Mölder, Arstila, & Øhrstrøm, 2016; Rovelli, 2018) to psychology and neuroscience

(Arstila & Lloyd, 2014; Eagleman, 2008; for a review see Grondin, 2010) are out of the scope of this review, mainly due to the fact that the main matter of investigation in such studies do not conceptually examine time as a resource.

The same is true for other areas within consumer research. For example, the literature of intertemporal choice deals with the mechanism as well as the various antecedents and consequences of discounting the value of delayed options. People tend to discount the value of a delayed reward, especially when the delay is immediate (as opposed to an equal delay starting at a later point in time). However, areas such as intertemporal discounting (Malhotra, Loewenstein, & O'donoghue, 2002; Zauberman, Kim, Malkoc, & Bettman, 2009), planning fallacy (Buehler, Griffin, & Peetz, 2010; Lovallo & Kahneman, 2003), affective forecasting (Wilson & Gilbert, 2003), and temporal construal (Kim, Kang, & Choi, 2014; Trope & Liberman, 2003) are not included in the following overview. Although time is a central concept in these studies, they do not directly treat it as a resource. Therefore, the following section briefly reviews works in psychology and marketing that investigate time as a resource. In particular, I discuss the following seven areas: time-saving bias, signaling with time, goals in relation to time, differences between time and money, time affluence, valuation of time, and buying time.

### 1.3.1 Time-saving Bias

Estimating the amount of resource availability has important consequences for decision-making. However, people do not always accurately estimate the time they can save by increasing the speed of an activity. This area of the literature documents the systematic tendency to underestimate the amount of time saved by increasing the speed of the activity in the low end and overestimate the time saved by equally increasing the speed in the high end. For example, drivers underestimate the time saved when increasing a low driving speed and overestimate the time saved when increasing a relatively high speed (G. Eriksson, Svenson, & Eriksson, 2013; Peer, 2010). This misestimation is not limited to driving speed. De Langhe and Puntoni (2016) document that consumers show the same pattern of misestimation for other productivity metrics (e.g. internet connection speed and food processors).



### 1.3.2 Time as Signal

People use their resources to signal particular information about themselves. Time as a resource can also have signaling functions. *The Theory of the Leisure Class* by Veblen (1899) was a starting point for the increased academic interest in the examination of what causes people to consume luxury goods. More specifically, identity expression, signaling status and prestige, boosting self-esteem, and compensating for lack of power (Belk, 1985; Charles, Hurst, & Roussanov, 2009; Griskevicius et al., 2007; Han, Nunes, & Drèze, 2010; Rucker, Galinsky, & Dubois, 2012) are among the motivations for engaging in conspicuous consumption. The exclusivity of luxury products reflected in their premium price is used to signal the wealth and prestige of the buyer, which can yield functional utility in various social markets such as those related to finding a romantic partner (Bagwell & Bernheim, 1996; Griskevicius et al., 2007; Sundie et al., 2011).

Time as a resource can also have conspicuous functions. The amount of available free time a consumer has and the manner in which they spend that time can have signaling benefits for social interactions. Veblen recognized this and expected that wealthy consumers would tend to use time unproductively when seeking to signal their affluence. Since labor is associated with the need to work, people would conspicuously signal their superiority by living an idle life. However, recent research documents that busyness (i.e., long hours of work and lack of leisure time) may sometimes be interpreted as a strong sign of status (Bellezza, Paharia, & Keinan, 2016). Bellezza et al. (2016) show that lack of leisure time can have conspicuous functions when the focus of exclusivity and scarcity is no longer on possessions but on an individual's human capital such as skills, expertise, ambition, etc. In other words, people make positive status inferences by interpreting a busy person as having in-demand characteristics. Bellezza et al. (2016) show that under the cultural value of high social mobility (i.e., the belief that hard work yields success and social affirmation), busyness and lack of leisure time is used to signal socioeconomic status.

Other than conspicuous signaling, the amount of time an agent takes to complete an activity also emerge as informational signaling. For example, Van de Calseyde, Keren, and Zeelenberg (2014) show when people observe decision-making of others, they

interpret the time the decision-maker took to decide as reflective of the degree of doubt that the decision-maker experienced. In other words, decision time signals the doubtfulness of a decision-maker, which also influences whether others choose to collaborate or negotiate with the decision-maker (Van de Calseyde et al., 2014).

Time may also signal effort. Spending more time on an activity is often equated with more effort (e.g., Moreau, Bonney, & Herd, 2011). It has been shown that consumers may use effort as a heuristic for quality. Especially when the quality of the object under evaluation is ambiguous, people are more likely to judge effort by relying on the duration of time that the producer spent on the object, and are willing to pay more for an object that took longer to produce (Kruger, Wirtz, Van Boven, & Altermatt, 2004). However, Cho and Schwarz (2008) show that this heuristic is only present when people associate high quality with high efforts by the producer—this disappears when an association between high quality and talent is made salient. Similarly, Yeung and Soman (2007) show that as a simplification strategy, consumers may rely on the duration of a service to evaluate its desirability. Furthermore, human time spent on the production of hand-made objects is interpreted as a signal of care and love, which has been found to result in higher purchase intention and willingness to pay (Fuchs, Schreier, & van Osselaer, 2015).

### 1.3.3 Time and Goals

In the previous discussion of resources I highlighted the importance of goals. Time as a resource has widely been studied in relation to goals. Indeed time is one of the main dimensions of goals both in terms of goal-setting and goal-pursuit. Consumers commonly feel pressed for time as conflicting goals compete for their limited time. Perceptions of available time impact goals. For example, if a future point is viewed as similar rather than dissimilar to the present moment, people are more likely to initiate tasks that will bring about their desired outcome in the future (Tu & Soman, 2014). An illusion of expiration creates a feeling of urgency which induces people to shift from a more important task to a less important one (Zhu, Yang, & Hsee, 2018), and long deadlines increase perceptions of task difficulty, resulting in lower commitments to a goal (Zhu, Bagchi, & Hock, 2018). The goal gradient effect shows that accumulated progress increases motivation such that

people tend to work harder towards a goal when they are closer to achieving it than when they have made little progress (Kivetz, Urminsky, & Zheng, 2006; Nunes & Dreze, 2006).

However, goals also can impact the perception of available time. Being close to achieving a goal (i.e., goal proximity) decreases the perceptions of available spare time (Jhang & Lynch Jr, 2014). Etkin, Evangelidis, and Aaker (2015) show that when goals are perceived to be highly conflicting, people feel more time constrained even when the actual time requirements of the goals are identical. Etkin (2019) outlines three ways in which time influences goals: people use time to define their goals, people pursue the goals over time, and are people confined by time constraints.

#### *1.3.3.1 Defining Goals in Time*

Goals are defined in time with regards to three aspects of temporal specificity, temporal boundedness, and temporal duration (Etkin, 2019). A temporally vague goal does not specify a deadline for achieving the goal. For example, the goal to pay all debts in six months is temporally specific while the goal to pay all debts is temporally vague. Goals can also be defined in terms of temporal boundedness. In other words, goals can be temporally finite or ongoing. For instance, a goal to save one-hundred dollars every month for a year is temporally bounded while a goal to save one-hundred dollars every month is on-going. Furthermore, specific goals can vary in terms of temporal duration, that is, based on whether they are short-term or long-term. “Saving one-hundred dollars every month for three months” is a short-term goal relative to a goal “to save one-hundred dollars every month for three years,” which is, in this case, a long-term goal (Etkin, 2019).

Another important aspect of goals in relation to time is the perceived conflict between one’s goals (Etkin et al., 2015). Consider the two goals of “regularly donating to charity” and “saving one-hundred dollars a month.” Both of these goals compete for the same financial resources. However, the degree of perceived conflict between them depends not only on the total availability of the resource, but also on the priorities of the person. If one goal is prioritized differently from the other goal, the degree of perceived conflict would be lower. The same is true for time as a resource, especially since the rate of its availability is similar for everybody (i.e. everyone has 24 hours in a day).

### *1.3.3.2 Pursuing Goals in Time*

The prevalence of time scarcity in modern societies is a well-known phenomenon. Nearly half of the respondents to a recent Gallup Poll report having too much to do and not enough time to do it (Newport, 2015). Intense feelings of time scarcity are associated with unpleasant consequences such as stress and anxiety (Malkoc & Tonietto, 2019). Tendencies such as the planning fallacy (Buehler, Griffin, & Ross, 2002), overestimating future slack of time (Zauberman & Lynch, 2005), procrastination (Ariely & Wertenbroch, 2002), and salience of high economic value of time (DeVoe & Pfeffer, 2011) can contribute to the feeling of time scarcity.

Nevertheless, numerous methods to increase the number of activities in a given period, such as scheduling and multi-tasking have been proposed. An implicit assumption of these strategies is that people prefer maximizing the number of activities in which they engage over achieving the desired outcome of each activity. While time management strategies aim to maximize the number of activities, they can sabotage the outcome of each activity (Tonietto & Malkoc, 2016). In other words, the performance of work tasks and the pleasure of leisure activities can be undermined if an activity maximization mindset is adopted (Etkin, 2016; Tonietto & Malkoc, 2016).

Moreover, multiple goals can be pursued by choosing one of the two following approaches with regards to time: efficiency planning or priority planning. Efficiency planning emphasizes squeezing all goals into the available time whereas priority planning emphasizes spending more time on the most important goals. Fernbach, Kan, and Lynch (2014) distinguish the psychological features of priority planning and efficiency planning alluding that efficiency planning avoids explicit consideration of opportunity costs, feels like accomplishing something, and involves trade-offs across resources, whereas priority planning involves explicitly considering opportunity costs, feels like giving something up, and involves trade-offs within a resource. Fernbach et al. (2014) show that although people tend to avoid the prioritization process, priority planning improves results and is more effective than efficiency planning. The distinction between efficiency planning and priority planning parallels activity maximization and outcome maximization. As such, in order to reduce feelings of time scarcity consumers are advised to adopt a mindset of

outcome-maximization-priority-planning as opposed to activity-maximization-efficiency-planning.

Lastly, in relation to long-term goals, socioemotional-selectivity theory (Giasson, Liao, & Carstensen, 2019), which examines motivation across the life-span, suggests that the prioritization of emotionally meaningful goals over knowledge-seeking goals depends on people's subjective time horizon. The amount of time an individual believes to have left in life shapes their prioritization of their goals. Multiple studies find that the subjective speed of the passage of time accelerates with age (Friedman & Janssen, 2010; Wittmann & Lehnhoff, 2005). This acceleration is especially pronounced from a retrospective stance. For example, age increases one's perceived speed of time when one reflects back on how quickly the last year has passed (Droit-Volet & Wearden, 2015). This effect is partly due to a stronger ability to group memories together as chunks of life stories with markers in time. In other words, increasing experience with life events is associated with an increasingly easy categorization of memories within temporal markers. Landau, Arndt, Swanson, and Bultmann (2018) show that when a group of respondents are instructed to mentally group events from the last year into broad chunks, they report a faster passage of time than respondents who did not group their memories.

In sum, people define and pursue their goals in time, and they use planning strategies to manage their time. Available time shapes peoples' goals and, in turn, goals shape perceptions of available time. Therefore, it is important to consider the role of goals while investigating time as a resource.

#### 1.3.4 Time vs. Money

The complex constructs of time and money have each received considerable academic attention in many disciplines. An emerging line of research integrates these constructs and argues that the psychological characteristics and consequences of spending time are considerably different than those of spending money. These psychological differences influence the allocation of time and money and the perceived benefits of these costs. To be sure, time and money are two of the most fundamental resources that people use to accrue utility and life experience. Both resources are finite and scarce (Becker, 1965;

Leclerc, Schmitt, & Dube, 1995) since only a limited amount of money and time can be spent on multiple aspects of life (Becker, 1976; Feldman & Hornik, 1981).

Taking an economic perspective, Becker (1965), in his classic paper entitled “*A Theory of the Allocation of Time*,” suggests that people must consider the costs of time analogous to the way they consider the costs of money, such that they account for the opportunity cost of spending the resource. He suggests that the opportunity cost of an hour can be based on one’s wage rate (Becker, 1965). However, existing literature suggests that people find it difficult to calculate the opportunity cost of time (Friedman & Neumann, 1980; Hoskin, 1983; Okada & Hoch, 2004). Although thinking about time in terms of equivalent money can have its advantages depending on the purpose of the calculation, behavioral research outlines noteworthy differences between the constructs of time and money above and beyond the mere difficulty of considering opportunity costs, even when both resources are economically equivalent (e.g., Zauberan & Lynch, 2005). I review these differences by taking them up across the following four themes.

#### *1.3.4.1 Time is Closer to the Self*

For instance, Leclerc et al. (1995) argue that losing time tends to be more painful than losing money, because it is not possible to make up for lost time. People report that how they spend their time is more reflective of their identity than how they spend their money. For example, within the context of charitable giving, when consumers are asked about donating time, people focus on the emotional meaning of the donation whereas when the donation solicits money, people focus on the economic utility of the donation (Reed, Aquino, & Levy, 2007). An important distinction between money and time is the fact that time requires the self as an essential precondition, while spending money is independent of the self. In other words, one’s self can simply be absent while one makes a monetary purchase, whereas the self as human capital is a prerequisite for spending time (George & Jones, 2000; Liu & Aaker, 2008; Reed, Kay, Finnel, Aquino, & Levy, 2016; So, 2018)

#### *1.3.4.2 Priming Time vs. Money*

If different psychological mechanisms are involved to process money and time, does merely mentioning time versus money have consequences for consumer evaluations? Given that time is closer to the self, Mogilner and Aaker (2009) investigate this question

and show that the activation of the construct of time increases personal connection with products and positively influences product decisions and attitudes. They manipulate the salience of time spent on the product relative to money spent and show that thinking about time leads to increased personal connection with the product. They rule out the possibility that this effect might be due to the positive valence of spending time to consume and the negative valence of spending money to purchase, by documenting instances in which time spent is purely a cost (e.g., waiting for a laptop repair).

Furthermore, priming time (vs. money) reduces cheating by increasing self-reflection (Gino & Mogilner, 2014). Self-relevant associations that are activated while thinking about time play a key role in these differences. For example, when people are first asked for their time rather than their money, they end up donating significantly more money to a charity (Liu & Aaker, 2008). It has also been shown that priming time leads consumers to adopt an alternative-based strategy to evaluate products, while priming money activates an attribute-based evaluation strategy (Su & Gao, 2014). Macdonnell and White (2015) show that in the domain of charitable giving, money is construed more concretely than time, which is construed more abstractly. They argue that the alignment of the construal level between the cause and the requested resource increases donations.

Although priming money has been considered to activate a self-sufficiency mindset, thought to decrease connection to other people who may need help (Vohs, Mead, & Goode, 2006), direct and systematic replications consistently fail to validate this effect (Caruso, Shapira, & Landy, 2017; Klein et al., 2014; Rohrer, Pashler, & Harris, 2019). Nevertheless, the literature suggests that time as a resource concept is closer to the self compared to money. Prioritizing time over money is associated with greater happiness (Hershfield, Mogilner, & Barnea, 2016; Mogilner, 2010; Whillans, Weidman, & Dunn, 2016), and higher donations to charity (Liu & Aaker, 2008). Priming time activates a mindset of self-reflection and emotional connection, which leads people to pursue more social contact (Mogilner, 2010).

#### *1.3.4.3 Mental Accounting of Time vs. Money*

People exchange time for money and vice versa, and engage in mental accounting of the units of each resource. Therefore, the differences in the mental accounting of time and

money form a central part of the conceptual development of my dissertation, especially in Chapter 4.

People view time and money as exchangeable to some extent (DeVoe & Pfeffer, 2007), and they use mental accounts to track expenditures of the resource (Rajagopal & Rha, 2009; Soster, Monga, & Bearden, 2010). People's mental categorization and budgeting of inflows and outflows of resources is the topic of inquiry in the literature of mental accounting. Such categorization and budgeting influence the way in which people realize benefits (Shefrin & Thaler, 1992; Thaler, 1999; Thaler & Johnson, 1990). As discussed in the earlier sections, one of the main characteristics of a resource is the degree to which it is fungible, that is, whether the resource can be replaced with similar units without changing its value. In this sense, money is completely fungible, meaning that from a rational perspective the way in which one comes about a sum of money should not normatively have any influence on how that sum is valued and spent compared to another sum of an identical amount.

However, mental accounting effects of money document the various ways in which mental categorization and budgeting influences people's valuation of the resource and what they spend it on. In other words, people violate fungibility of money. For example, people treat windfall income differently from an increase in their regular income (Shefrin & Thaler, 1992). A classic example by Tversky and Kahneman (1981) clarifies how mental accounting can cause violation of fungibility. Only 46% of respondents who imagined losing a pre-purchased refundable \$10 theater ticket were willing to buy another ticket on the spot as oppose to 88% of respondents who imagined losing a \$10 bill. Tversky and Kahneman (1981) argue that losing the ticket is mentally accounted for as a loss in the "theater account" and a repurchase would lower the balance of this account even further, whereas losing a ten-dollar bill is either not assigned to a specific mental account or it is assigned to a "pocket cash" account that will not influence the balance of the theater expenditure and its expected utility.

When consumers spend toward a purchase, they create a mental account related to the expected gain in utility. The way in which people designate an expense to a mental account can considerably influence how they choose to spend their money. This account



closes only when the benefits are received, which can depend on numerous variables. People are motivated to close such accounts in ways that sufficiently correspond to the costs of the account. Because of the desire to realize benefits associated with the cost, people may make unintended irrational choices. The well-established sunk-cost effect is an example of this type of decision (Arkes & Blumer, 1985). When the connection between costs and gains weakens, for example through decoupling (Gourville & Soman, 1998; Soman & Gourville, 2001), the effect of sunk costs is reduced. Mental accounts can also be viewed as a mechanism for self-control which helps consumers prevent exceeding a preset budget (Cheema & Soman, 2006).

Money is easier to measure as opposed to time. Therefore, people feel less accountability for the way they spend their time than their money (Okada & Hoch, 2004). However, losing time is considered to be more painful than losing money due to the non-fungible nature of time (Leclerc et al., 1995). Since it is more difficult to track costs of time than those of money, the sunk-costs of time are less likely to bias people's decision-making than those of money (Soman, 2001).

People also find it easier to discount costs of time in the context of search costs and rely more on heuristic decision making (Saini & Monga, 2008). Compared to money, they also show less sensitivity to the gained utility from spending time (Monga & Saini, 2009). Zauberaman and Lynch (2005) show that, consumers process money as a resource more analytically while time is processed more affectively. Moreover, people view the perceived surplus of time to be greater in the future than in the present. This perceived future surplus is consistently higher for time than for money.

Okada and Hoch (2004) show that consumers are more risk-seeking when an expenditure is in time. For example, they show that as the chance of winning decreases (increased risk of a bet), participants who pay with time are more willing to take part in riskier gambles. On the other hand, those in the monetary payment condition exhibit risk-averse behavior consistent with the predictions of prospect theory (Kahneman & Tversky, 1979).

However, it is not the case that people do not track the costs of their time altogether. Time is often divided into blocks such as a week, a semester, a quarter, etc. Soster et al. (2010)

show that when time is spent in the same accounting period within which the benefits of the expenditure are received, people tend to track their time costs. In contrast, when the benefits are received in another mental period, the costs of time are not tracked as often. Soster et al. (2010) show that this period-based mental accounting of time can increase the aversive influence of sunk costs on decision-making. Interestingly, they show that consumers find accounting periods (mental structures of time blocks) to be more important for costs of time than for comparable costs of money (Soster et al., 2010).

#### *1.3.4.4 Balancing Time and Money*

A state of satisfaction or fulfillment in several important domains is considered a balanced life (Sheldon, Cummins, & Kamble, 2010; Sirgy & Wu, 2009). People balance their monetary spending between utilitarian and hedonic purchases and diversify the domains in which they make purchases. The same is true for time. The need to balance daily activities is apparent in the commonly used phrase of “work-life balance”. In particular, people make an effort to balance between paid work, unpaid work (such as household work, self-care, etc.), leisure, and rest (Holbrook & Lehmann, 1981). Balanced spending involves making trade-offs between choices that compete for the same resource constrained by a budget (Feldman & Hornik, 1981; Spiller, 2011).

In sum, although time and money are commonly exchanged in the labor market, they have distinct features in terms of their psychological underpinnings. Both resources are normally scarce, can be spent to accomplish a goal, and can be exchanged for each other. For example, a person’s wage rate can be considered the opportunity cost of their time, which can influence how the person values their time. Time is a less precise resource compared to money, because its value can change more easily depending on the situation. People do not account for time as thoroughly as they do for money. The higher ambiguity of the valuation and accounting of time increases reliance on heuristics by making it more difficult to systematically weigh the nuances of a decision.

Previous research has established that valuing time over money is associated with greater social connection (Whillans & Dunn, 2019) and higher levels of well-being and happiness (Mogilner, 2010; Whillans et al., 2016). Time is precious not just because it is impossible

to regain, but also because our overall temporal expenditure literally shapes our life and who we are (Van Boven & Gilovich, 2003).

### 1.3.5 Time Affluence

People's motivation to buy time can be directly related to their general feeling of time availability. If people think the time they need to complete their necessary or desired activities exceeds their available time, they can feel varying degrees of time scarcity (Etkin et al., 2015; Perlow, 1999; Rudd, Vohs, & Aaker, 2012), similar to the feeling of scarcity they may experience when encountering the financial constraints of a budget that limits the purchases they have to or want to make (Sharma & Alter, 2012; Tully, Hershfield, & Meyvis, 2015). The ever increasing feeling of time pressure marked by the increasing speed of modern life (Gleick, 1999; Grigsby, 2004) is evident in the myriad of manuals, books, workshops, and techniques offered to manage and maximize one's use of time. Time pressure is associated with negative consequences such as anger (Schieman, 1999), depression (Roxburgh, 2012), stress (Hamermesh & Lee, 2007), and anxiety (Schieman, Whitestone, & Van Gundy, 2006).

A growing subset of the literature suggests that time availability has strong associations with quality of life. Concepts such as time affluence and time poverty predict life satisfaction more than GDP per capita or household income (Kalenkoski, Hamrick, & Andrews, 2011; Kantanbacher, 2015; Kasser & Sheldon, 2009). Manolis and Roberts (2012) show that time affluence correlates with high subjective well-being and is associated with lower levels of materialism and compulsive buying. Furthermore, Kasser and Brown (2003) show a negative correlation between number of work hours and life satisfaction. The perception of being time poor is more common among particular demographics (Rudd, 2019): prior studies point out that women, working couples, working parents, the wealthy, and highly educated consumers are more likely to report time scarcity (Aguiar & Hurst, 2009; Jacobs & Gerson, 2005; Mattingly & Sayer, 2006).

Time affluence and time poverty are two side of the same coin. Kalenkoski et al. (2011) suggests that the concept of time poverty can be viewed either in terms of the absolute lack of discretionary time below a preset threshold or relative to the subject's population.

Here, it is helpful to mark that Schor (2010) notes that American annual working hours have increased by more than 400 hours over the past three decades.

Meanwhile, time affluence is the other side of the coin. Recent research on the impact of time affluence on well-being take one of two common perspectives on the definition and measurement of time affluence: that based on time units (e.g., hours) and that based on consumers' subjective assessments. Initially defined based on paid hours of work, people with higher time affluence were considered those who work for fewer hours (Kasser & Brown, 2003). This definition, however, neglects non-paid work. Thus consumers with substantial unpaid work were categorized as highly time affluent. Subtracting paid work, household work, and self-care tasks, Eriksson, Rice, and Goodin (2007) equate time affluence with discretionary time. More recent studies use the subjective assessment of time affluence which refers to the amount of available time one perceives they have, based on their satisfaction with the speed of their life as well as their control over their free time (Kasser & Sheldon, 2009; LaJeunesse & Rodríguez, 2012; Mogilner, Chance, & Norton, 2012; Mogilner et al., 2017).

Similar to time pressure, time affluence is concerned with time availability. However, time pressure is mostly conceptualized for the short-run and specific situations. In other words, time pressure is a state variable, while time affluence refers to the degree of time availability that an individual generally feels they have in their life, including their perception of their current amount of spare time as well as the expansiveness of their future (Kasser & Sheldon, 2009; Mogilner et al., 2012). Therefore, time affluence measures more persistent aspects of time availability than time pressure.

Previous research shows that time affluence increases when people spend time on others (Mogilner et al., 2012) or when they experience awe (Rudd et al., 2012). On the other hand, time affluence decreases when people experience goal conflict (Etkin et al., 2015), as well as when their hourly wage increases (everything else being equal) (DeVoe & Pfeffer, 2011). It should be noted that although higher time affluence is associated with higher levels of happiness and well-being, data shows that people can have too much discretionary time; in such cases, time affluence reduces life satisfaction after a certain

point (Kantenbacher, 2015; Sharif, Mogilner, & Hershfield, 2018). This can be explained by the network characteristics of time.

#### *1.3.5.1 Time as a Network Resource*

People can view time as a simple quantity of which they do not have enough. This view assumes that more is always better. However, from a different perspective time is also a network resource. An important feature of time as a resource that Young and Melin (2019) point out, is that time can be viewed as a network good. Many of the activities for which people would like to have more time are in fact activities that require interacting with other people. Therefore, the schedule and availability of other people must also be taken into consideration for spending time.

Young and Melin (2019) argue that time is a network resource such that similar to other network goods it derives its value, at least in part, from how widely it is shared. For example, the value of the weekend can be attributed to the freedom an individual gains from the obligations of work. But using large-scale emotional well-being reports, Young and Melin (2019) suggest that the value of weekend days is largely due to the social coordination of spare time, that is, having free time with others as opposed to a solitary break from work. They compare the days of the week for workers and the unemployed. Although emotional well-being is on average lower for those in unemployment, both groups report more positive emotions and less negative emotions on weekends. Young and Melin (2019) attribute this observation to the fact that available time is valued more in the company of other people who also have available time. In other words, people who have time off work every day of the week await the weekend as much as working people. Existing research also shows that, especially in the presence of others, people think about the experiential pleasure and emotional meaning of an interaction when deciding to spend time, as opposed to considering the utilitarian benefits (Lee, Lee, Bertini, Zauberger, & Ariely, 2015; Liu & Aaker, 2008; Reed et al., 2007).

### 1.3.6 Valuation of Time

Relatively few articles address the valuation of time and the factors that may influence it. Becker (1965) approaches this topic by developing an economical model that assumes that consumers behave as if unwanted ways of spending time (such as waiting) have real economic costs, corresponding to the objective duration of the time and their weighted wage rate. However, the valuation of time is more closely related to the perceived duration and less to actual duration (Hornik, 1984; Katz, Larson, & Larson, 2003). Moreover, thinking about time in terms of money can have aversive consequences, such as decreased socializing outside of work and decreased volunteering (DeVoe, 2019).

Nevertheless, an important determinant of the value of time spent on an option is the forgone utility of the second best alternative use of the time, also known as the opportunity cost of the choice. Issues related to opportunity costs have been studied from multiple perspectives such as labor-market decisions, search costs, investment, and saving decisions, to name but a few. Although consideration of opportunity cost can be applied to any form of resource spent toward a goal, there is a nuanced difference between the opportunity cost of time and the opportunity cost of other resources (Spiller, 2018). Referring back to the *shrinking land* analogy, the fact that time naturally and incessantly keeps being spent, results in a highly volatile opportunity cost of, for example, an hour of discretionary time.

As a result, Festjens and Janiszewski (2015) approach the question of how people value time more directly and show that the valuation of a block of time is mainly determined by its *opportunities for usage*. Contrary to existing models of diminishing marginal utility for other resources, they document increasing marginal utility for moderate time gains and increasing marginal disutility for moderate time losses (Festjens & Janiszewski, 2015).

Therefore, the meaningfulness of an activity (Becker, 1965), perceived enjoyment of the activity, an individual's wage rate (Marmorstein, Grewal, & Fische, 1992; Monga, May, & Bagchi, 2017), and opportunities for usage (Festjens & Janiszewski, 2015) have been shown to influence how people determine the value of a given block of time.

### 1.3.7 Buying Time

Graham (1981) notes that although in principle it is impossible to buy time, our perception and handling of time (i.e., slices allocated to specific activities) situate it as a consumer commodity. Over five decades ago, Garretson and Mauser (1963) asserted that “the affluent citizen of the next century will be oriented to buying time rather than product. He will take the myriad of sophisticated products at his disposal for granted. His chief concern will be to provide himself with free time in which he can conveniently use products that function to conserve time for leisure and pleasure. It is scarcity which creates value. Hence as scarcity of product disappears the scarcity of time ascends the value scale”, as cited by Schary (1971, p. 51).

Marketing activities that revolve around saving consumers time, such as advertising that introduces an offering based on its time-oriented appeals, are increasingly used to target time-poor consumers (Berry, 1979; Gross & Sheth, 1989; Jacoby, Szybillo, & Berning, 1976; Nickols & Fox, 1983).

A relatively recent study shows that buying time is associated with greater levels of happiness and well-being (Whillans, Dunn, Smeets, Bekkers, & Norton, 2017). They show that individuals who spend money on time-saving services report higher life satisfaction. In addition to the correlational evidence, the authors report a two-week within-subject field experiment showing that spending money on time-saving services reduces time pressure and improves daily mood (Whillans et al., 2017). The rationale behind this effect is two-fold. Firstly, buying time through outsourcing disliked tasks enables consumers to do more of the activities that they most enjoy. Secondly, it would reduce negative emotions, such as stress and anxiety, resulting from not having performed disliked but necessary tasks.

In addition to increased happiness (Whillans et al., 2017), buying time also increases couples' relationship satisfaction (Whillans, Pow, & Norton, 2018). However, despite the evidence for the benefits of buying time, this decision is not always a top priority in a consumer's list of purchases. Whillans and Dunn (2018) show that one reason for consumers' hesitation to buy time may be the feeling of guilt that some people experience

when they outsource their own tasks to an identifiable service provider. Furthermore, Whillans, Dunn, and Norton (2018) show that reminding consumers about their future busyness can enhance their willingness to buy time.

Buying time is a central concept in my dissertation. Therefore, I will further discuss these findings throughout this dissertation after elaborating and expanding the existing conceptualization of buying time in the next section.

## **1.4 Defining the Scope**

I argue that consumers can pay to gain time in three conceptually distinct ways: they can exchange any resource for time, either by extending a deadline, increasing speed, or outsourcing a task.

### **1.4.1 Extending Deadlines**

For example, consumers can gain time by paying a fine to postpone a deadline for a given task. This form of time gain is conceptually different because the focal task is still performed by the consumer. The temporal location of the time allocated to the task may change due to the new deadline, but the duration of the allocated time and the consumer's involvement with the task will not be substantially reduced.

### **1.4.2 Increasing Speed**

People can also gain time by increasing the speed with which they perform a given task. For example, paying for a faster mode of transportation would decrease the duration of a task and free up time. Within this conceptualization, all forms of automation and autonomous products are also attempts to increase speed. Although automation reduces consumers' involvement in task performance, it still requires some level of involvement. More importantly, automation can rapidly change the time consumers estimate a given task will require, resulting in a quickly fading perception of saving time. For example, innovations in devices that help people perform household chores have enabled them to increasingly switch from chore time to leisure time (Aguiar & Hurst, 2007; Hamermesh, 2019). When people employ devices that assist them to achieve a task outcome more



quickly, their reference point for the time that a similar task would take changes accordingly. Consider a consumer who is used to washing dishes by hand as an example. Assume a typical washing task takes 45 minutes of time. When this person acquires a dish-washer, the duration of his involvement with the task is reduced to, for example, 5 minutes in order to accomplish comparable washing outcomes. Although the consumer pays for the 40 minutes they gain by purchasing the device, I argue that they would not construe every use of the dishwasher as a time gain. In other words, the reference duration for a task decreases as soon as the speed of task performance increases, which in turn results in construing the gained time as normal time as opposed to bought time.

### 1.4.3 Outsourcing Tasks

However, when a consumer pays to outsource a task, their involvement with task performance is substantially reduced but their duration estimation of future similar tasks is not influenced. Therefore, this form of time gain entails buying services that would perform consumers' disliked tasks. In sum, time gain through increasing speed (and automation) lowers duration estimations for similar future tasks, whereas gaining time through outsourcing does not influence duration expectation of a similar task in the future.

Therefore, building upon the conceptualization of Whillans et al. (2017), my conceptualization of buying time in this dissertation also refers to the third type of time gain, namely outsourcing of time-consuming tasks and activities to services that perform these tasks in exchange for money. Importantly, I expand this conceptualization by distinguishing between two features that buying time entails. A decision should have two main features to be considered buying time. First, consumers themselves should be capable of fulfilling the task that is being outsourced. Second, the outsourcing should allow them to use the available time for another activity. For example, when a person who needs to fix a broken laptop sends their laptop for repair, they not only buy the time required to repair the laptop, but also pay for other benefits including the expertise required (non-time components) to fix the device. Therefore, for this person purchasing of the repair service is not a decision to buy time. However, if another person who is trained in and capable of repairing their laptop decides to send their broken laptop to a repair shop, then they do decide to buy time, given that this decision makes some time

available for other activities. Outsourcing basic activities that the majority of consumers are capable of, such as tasks related to clothing, cleaning, organizing, caregiving, etc. can naturally qualify as buying time. The second feature is also important. If the purchase does not allow the consumer to allocate the time to another activity, it cannot be categorized as buying time. I address each of these features in Chapters 3 and 4.

The goal of this chapter was to clarify the concept of resources and how time is a unique resource. I presented an overview of the findings related to consumer time, and expanded the conceptualization of buying time, which is the main topic of my dissertation. In the following three empirical chapters, I approach an exchange of time focusing on three aspect of the exchange: the role of exchange perspective, the value transferred from buyer to seller, and the value transferred from seller to buyer.

## **1.5 Overview of Empirical Chapters**

In Chapter 2, I develop a set of hypotheses to investigate the interpersonal exchange of time. I show that the exchange role influences consumer perceptions of transferred value. In other words, receivers of time value their gain differently from how givers of time value their loss. I also explore the role of relationship norms as a moderator of the proposed effect. In Chapter 3, I return to buying time from the perspective of marketing managers. Specifically, I focus on the first feature of the decision to buy time (i.e. consumers' capability to fulfil a task). I hypothesize and show that when a purchase is construed as buying time, it may compel consumers to lower their valuation of a service offering, evident in lower willingness-to-pay and higher perceptions of price unfairness. Moreover, I investigate some of the ways in which a firm can address this issue in order to enhance consumer valuations. In Chapter 4, I look at buying time from the perspective of the consumer, with a particular focus on the activity that replaces an outsourced task. I examine how consumer perceptions of an activity that was determined prior to outsourcing the task may change. In particular, I show the effect of buying time on consumers' anticipated enjoyment of activities performed in bought time as opposed to normal time. Finally, in Chapter 5 I discuss the theoretical and practical implications of my findings, the limitations of my studies, and directions for future research.

## ***2 Interpersonal Exchange of Time: The Role of Perspective***

### **2.1 Conceptual Development**

Previous research finds that consumers' valuation judgements are partly based on perceived resources invested in the production of an offering, which has been shown to shape their fairness perception of price (Bolton, Warlop, & Alba, 2003). Therefore, time spent as an input resource in a commercial offering may also contribute to forming valuation judgements. The amount of input resources can also influence interpersonal exchange in social relationships. For example, a gift-giver's time spent as the input resource on a gift can influence how the receiver evaluates it (Moreau et al., 2011). In this chapter I focus on situations in which time is the main input resource in an exchange, and I examine the role of exchange perspective (i.e., giver vs. receiver, or buyer vs. seller) in evaluations of the exchanged time.

As previously discussed, consumers' estimation of their opportunity cost is an important determinant of how they value a block of time. However, Okada and Hoch (2004) show that opportunity cost estimation of time is inherently more ambiguous than money. We argue that opportunity cost estimation of time is also influenced by the perspective of a person in an exchange of time. When a consumer allocates time to a particular activity, they have first-hand knowledge about the alternative ways that they could have spent the time on and the expected utility of their second best option. On the other hand, a consumer is not equally aware of the alternative ways in which other people could spend their time. In other words, people are assumed to prioritize consideration of their own opportunity cost compared to consideration of others' opportunity costs, because their possible alternatives are more readily available.

I argue that this asymmetry in opportunity cost estimation can result in a discrepant evaluation of time as the input resource of an exchange. Due to higher self-awareness of opportunity cost, people are expected to attribute higher value to their time spent on a task compared to the exact amount of time that other people spent on the same task.

Higher awareness of an individual about how they could have filled a given block of time compared to another person's available alternatives leads to discounting the opportunity cost of others, which may lead givers to place higher value on their own time. In particular, I argue that when one person spends time in order for another person to gain time, the receiver is likely to value the exchanged time less than the giver, mainly because the receiver is unlikely to adequately account for the giver's opportunity cost. This hypothesis is also in line with loss aversion (Tversky & Kahneman, 1992), which underlines that the disutility of a loss is higher than the utility of an equal gain. Therefore, I hypothesize that in an exchange of time,

*H<sub>1</sub>*: givers evaluate their spent time more favorably than receivers evaluate their gained time.

## 2.2 Study 1

### *Method*

This study used a one factor between-subject experimental design with three main conditions: self, giver, and receiver. My hypothesis does not clarify whether receivers over-evaluate gained time or givers under-evaluate spent time. Therefore, I also compare similar expenditure of time without the presence of an exchange, that is, time spent on one's self as a control condition to more accurately investigate the role of exchange perspective.

I aimed to recruit 70 native English-speakers as respondents for each condition of this study from Amazon Mechanical Turk (M-Turk), who participated in the online experiment in exchange for a fixed monetary compensation in addition to the possibility of gaining extra bonus (210 participants in total). As an attention check, participants were instructed to select "somewhat disagree" on one of the items in the measurements of control variables. Excluding the participants who failed the attention check, the sample consists of a total of 191 participants (60.2% female,  $M_{age} = 38.8$ ).

***Procedure***

In order to mirror the real-life decision of exchanging time, I created a situation in the experiment that would allow receivers of time to spend it on another more desirable activity. Since this study is concerned with the value of time as the input resource, it is important to keep the level of invested effort and skill required to complete the task to a minimal amount. Therefore, I designed a focal task and a performance task in order to create a conflict between an unrewarding time-consuming task and a rewarding performance task.

In the beginning of the survey, respondents were informed to wait in order to be paired with another online participant who was completing the same survey. After five seconds, respondents were told that they were successfully paired with another participant. Next, participants wrote their initials and completed a sentence construction task knowing that they would be able to see their partner's initials and sentences. This part was implemented for two main reasons. First, I wanted to emphasize the presence of the paired online participant, and second, it helped us to justify the pairing for the *self* condition in which no further exchange was carried out. After the pairing section, every respondent read the following description for the main tasks of the experiment.

“There is a time limit for the following section. You will receive exactly 7 minutes to complete this section which consists of two parts. Below you find an overview of the tasks:

Part 1 - Highlighting: Read a text and highlight all the words referring to a month or a country.

Part 2 - Vocabulary: Provide an opposite for as many words as you can.

There is no extra bonus payment for part 1 (the highlighting task). You will, however, receive extra bonus based on the number of correct responses you can provide in the second part. More correct answers in part 2 results in higher bonus”.

The highlighting task included two pages of text describing summer holidays in different countries (see Appendix A). To set the time limit, I pretested the duration of the highlighting task using a different sample ( $N = 30$ ,  $M = 3.27$  minutes,  $SD = 0.96$ ). The vocabulary task consisted of 100 words and participants were instructed to type one opposite word for each word in this series. The reason behind the long list of words was

that participants could continue working on this task for as long as the time limit allowed. Furthermore, given the time limit and the incentive to work on the vocabulary task, participants were encouraged to complete the highlighting as quickly as possible.

Before starting the tasks, participants in the receiver and giver condition read that a virtual coin toss would determine whether they would complete the highlighting for their partner (i.e., giver) or whether their partner would complete the highlighting for them (i.e., receiver). To emphasize the interpersonal nature of the exchange, participants assigned to the giver condition, were told they were completing the highlighting task on behalf of their partner as a favor. Participants assigned to the receiver condition were told to skip the highlighting task since their partner was completing it on their behalf as a favor. After the time limit was over, receivers could see the text completely and correctly highlighted. As a baseline control group, participants in the self condition did not exchange any part of the survey, which means that they completed the highlighting task and spend their remaining time on the opposite-words task. All participants saw a “time is up!” alert when the seven-minute time limit was reached and were automatically moved to the next section of the survey regardless of how many opposite words they had managed to write. The next section included measures of the dependent and control variables. It is important to note that in this experiment participants were led to believe they were partnered with another respondent and were briefed at the end of the experiment that no real pairing was done in the online survey.

The design of the study incentivized participants to write as many opposite words as possible against a long list of words within their remaining time after the highlighting task. I then asked participants in the self and giver conditions to indicate how many extra words they believe they could have written if they did not have to spend time on the highlighting task. Participants in the receiver condition indicated how many extra words they believe they have written because they did not have to spend time on the highlighting task. I measured the objective time that each participant spent on the performance task (i.e., opposite words). I then calculated Estimated Exchanged Time (EET) as a function of participants’ estimated extra words that they attributed to the time gained from the highlighting task, or their estimated lack of extra words that they attributed to the time

spent on the highlighting task. EET is the main dependent variable of this study and was calculated using the following equation:

$$EET = \frac{W_e}{W_c/t}$$

where  $W_e$  refers to the number of extra words that each participant attributed to the time gained or lost due to the highlighting task,  $W_c$  refers to the number of completed opposite words each participant managed to write in the performance task, and  $t$  denotes the objective time spent on the performance task. Therefore, EET is measured in seconds and is based on participants' attributed performance gain or loss from the time exchange. We chose this variable because it is weighted by the perceived performance loss from spending time, or the perceived performance gain from not spending time on the highlighting task. Therefore, EET is a direct temporal reflection of performance loss or gain, especially because there was no significant difference between the pace of completing the opposite words task ( $\frac{W_c}{t}$ ) across experimental conditions ( $M_{\text{Self}} = .165$ ,  $M_{\text{Giver}} = .160$ ,  $M_{\text{Receiver}} = .168$  words per second,  $p = .79$ ).

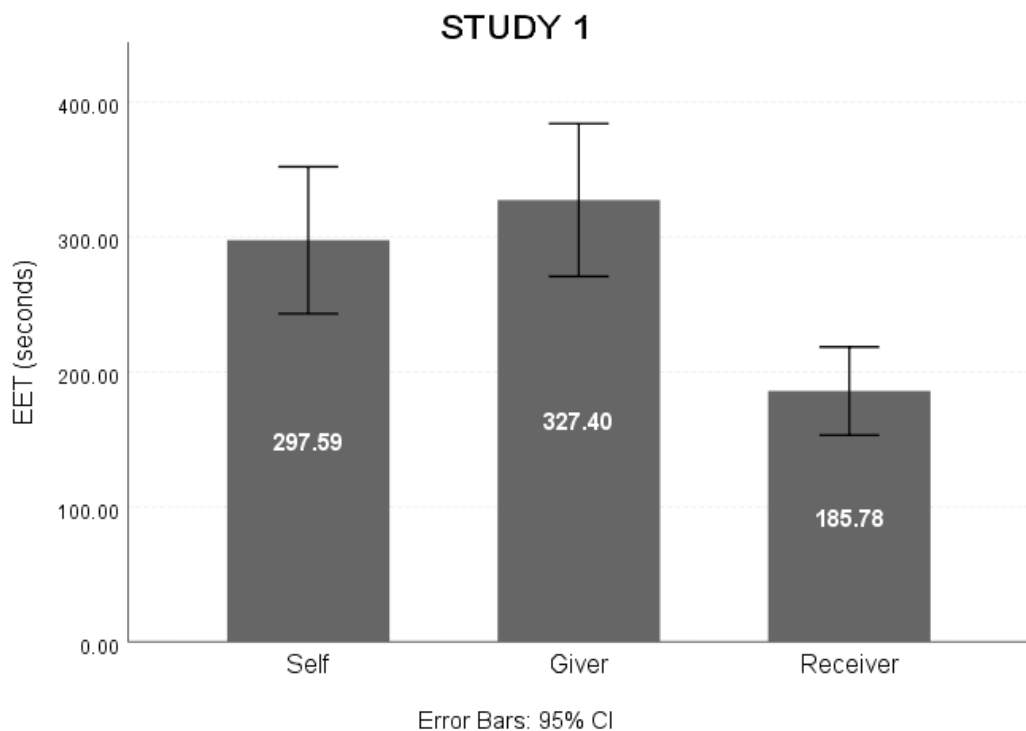


Figure 3 - Role of Perspective in Exchange of Time (Study 1)

## **Results**

A one-way ANOVA revealed a significant main effect of condition EET,  $F(2, 188) = 9.14, p < .001$ . EET was significantly lower for participants who received time ( $M = 185.78$ ) compared to participants who gave time ( $M = 327.40, p < .001$ ) and participants who performed the highlighting task for themselves ( $M = 297.59, p = .001$ ). It is important to note that although participants in the *self* condition did not exchange time, EET captures their expected performance gain had they exchanged time.

The results indicate that for receivers, not doing the highlighting task resulted in a perceived performance gain equivalent to 185.78 seconds, while for those in the giver and self conditions, the perceived performance loss resulting from doing the highlighting task was considerably higher. There was no significant difference in EET between the self and giver conditions ( $p = .46$ ).

In addition, I used a one-item measure to assess participants' evaluation of time spent on the focal task. I asked participants to indicate the extent to which they *valued* the time that they (or their partner) spent on the highlighting task, from "not valuable at all" to "extremely valuable" on a 7-point Likert scale. For this measure, the pattern of results was the opposite of EET. Receivers reported that they highly valued the time that their partner spent on the highlighting task for them ( $M = 5.30, F(2, 188) = 8.08, p < .001$ ), while givers did not overvalue their time ( $M = 4.03$ ) relative to respondents in the self condition ( $M = 4.08$ ). Although the results of this measure seem to contradict the hypothesized relationship between exchange perspective and evaluation of time, it is possible that the measure captures a sense of appreciation and gratitude in the receiver condition. In other words, my question framing for this measure does not distinguish between expressing appreciation to givers and stating the perceived gain of value due to the exchange. I address this concern in the following study.

None of the control variables of the study changed the pattern of results reported in this section. The measures were social value orientation (Murphy & Ackermann, 2014; Murphy, Ackermann, & Handgraaf, 2011), level of education, income, gender, occupation, and time affluence. Moreover, there was neither a significant difference in perceived effort nor enjoyability of the highlighting task among experimental conditions.



### ***Discussion***

This study has two important findings. First, it shows that receivers of time attribute lower performance gain to the exchanged time as opposed to givers who report higher performance loss as a result of the exchange as captured by EET. Second, I found that estimated loss from spending time on another person is not significantly more than their estimated loss from spending time on oneself, which suggests that receivers underestimate the exchanged time and givers do not overestimate the exchanged time.

Furthermore, even though the valuation measure in this study seems to suggest that receivers over-appreciate givers' time, I argue that this may not be due to the belief that the favor they received effectively resulted in more benefit to them compared to the benefit that givers lost. Similar to studies by Flynn (2003), which document the overestimation of helpers' efforts on the receiving end, I find that people report valuing received time more than given time. The observed pattern, however, may be due to an implicit interpretation by the subjects that social norms such as politeness should govern their relationship with their online partner. Although the type of relationship was not explicitly specified in this experiment, my use of the term *favor* in both exchange conditions may have implied a social relationship. Furthermore, the assignment to either role of giver or receiver was based on a virtual coin flip and receivers did not compensate givers for their time in any way. Therefore, I argue that the observed pattern of results for the valuation measure can be due to the assumed social norm of the relationship. I address this possibility in Study 2. Therefore, the purpose of the next study was to test the effect of the relationship type in order to gain further insight into the results of Study 1. Overall, this study provides initial evidence that exchange perspective influences evaluation of time as the input resource in interpersonal exchanges.

## **2.3 Study 2**

### ***Method***

The experimental design of this study was similar to that of Study 1 in terms of the tasks included in the survey. However, this experiment utilized a 2 (perspective: giver vs. receiver)  $\times$  2 (relationship type: social vs. commercial) between-subject design in order

to clarify the impact of relationship type on the evaluation of exchanged time. I recruited 210 native English-speakers through M-Turk to participate in this study in exchange for a fixed monetary compensation and the possibility of earning extra bonus. I also retained the attention-check item from Study 1. After excluding participants who failed the attention check, the sample consisted of 196 participants ( $M_{\text{age}} = 44.12$ , 68.9% female).

### ***Procedure***

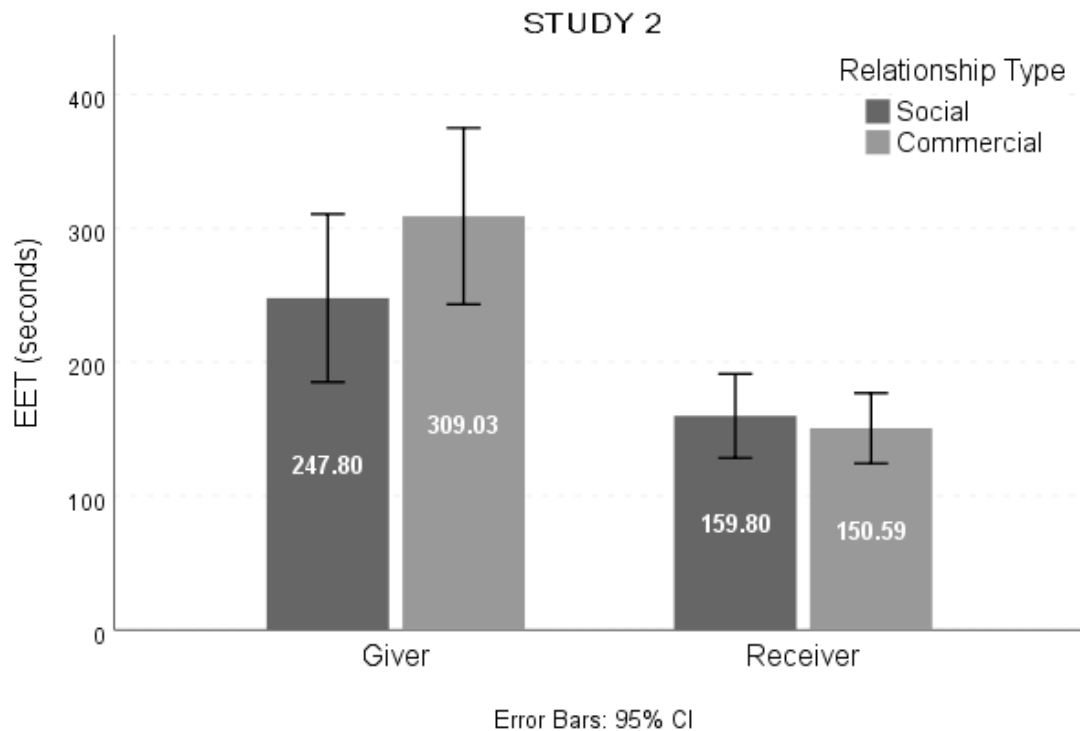
The procedure was identical to that of Study 1, except for the following differences. First, the manipulation specifically defined the type of relationship. Participants in the social conditions read the identical instructions described in Study 1. However, participants in the commercial conditions read the following text in the description of the virtual coin toss:

“You and your partner will collaborate in this section. A virtual coin toss determines whether you do the highlighting task for your partner or whether they do it for you. If you are assigned to do the highlighting task, your partner (the client), will pay you 0.3 U.S. dollars from their earnings in part 2. If your partner (the seller) is assigned to do the highlighting task, you will pay them 0.3 U.S. dollars from your earnings in part 2.”

I expected a more transactional exchange relationship in commercial conditions. Furthermore, I reduced the time limit in which both tasks were performed (highlighting and opposite words) from 7 to 5 minutes in order to reduce the total time of the experiment.

### ***Results***

This study replicated the main finding of Study 1 for both social and commercial conditions. Participants who received time attributed less performance gain to the exchange of time than the attributed performance loss from participants who gave time;  $F(1, 192) = 5.13, p = .002$ . A two-way ANOVA revealed a main effect of exchange perspective on Estimated Exchanged Time (EET);  $F(1, 192) = 10.50, p = .001$ . The main effect of relationship type on EET was not significant;  $F(1,192) = 1.91, p = .16$ .



*Figure 4 - Role of Perspective in Exchange of Time (Study 2)*

For social exchange, participants in the giver condition attributed more performance loss ( $M_{\text{giver}} = 247.80$  seconds) than receivers' attributed performance gain ( $M_{\text{receiver}} = 159.80$ ,  $t(192) = 2.59$ ,  $p = .01$ ) to the exchanged time. Similarly, participants in the commercial exchange attributed more performance loss when they gave time ( $M_{\text{giver}} = 309.03$  seconds) compared to the attributed performance gain when they received time ( $M_{\text{receiver}} = 150.59$   $t(192) = 4.75$ ,  $p < .001$ ). Furthermore, contrasts revealed a difference between relationship types within the giver conditions, although this difference was not statistically significant on an alpha-level of .05 (Mean Difference = 61.23, SE = 34.67,  $p = .08$ ).

In addition, I assessed participants' evaluation of time spent on the focal task using the same one-item measure from the previous study, asking participants to indicate the extent to which they *valued* the time that they (their partner) spent on the highlighting task on a 7-point scale. I found a main effect of perspective exchange and relationship type on this measure ( $F(1, 192) = 10.15$   $p < .001$ ). Similar to Study 1, I observed the same pattern of valuation in the social conditions ( $M_{\text{giver}} = 3.85$ ,  $M_{\text{receiver}} = 5.78$ ,  $t(192) = 5.31$ , 95% CI = [1.21, 2.64],  $p < .001$ ).

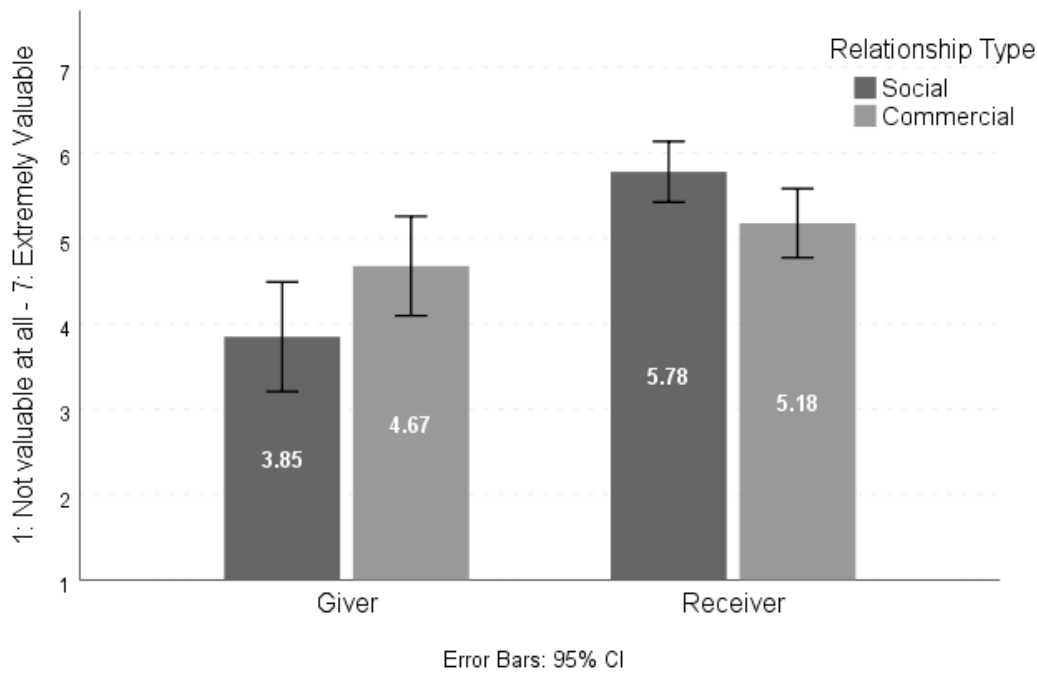


Figure 5 - Role of Relationship Type (Study 2)

However, a moderation analysis showed that relationship type moderates the effect of exchange perspective on valuation ( $\beta_{\text{relationship type} \times \text{perspective}} = -1.42$ ,  $SE = .51$ ,  $p < .01$ ). In particular, this effect was attenuated in the commercial condition and was no longer statistically significant ( $M_{\text{giver}} = 4.67$ ,  $M_{\text{receiver}} = 5.18$ ,  $t(192) = 1.36$ ,  $95\% \text{ CI} = [-.022, 1.22]$ ,  $p = .17$ ). The results suggest that this secondary measure is partly driven by the norms of the relationship, such that participants may be expressing more appreciation and gratitude for the received time while responding to this item in the social condition, but not in the commercial condition.

## 2.4 Discussion

In summary, the experiments in this chapter created a framework to differentiate between two activities: a time-consuming non-rewarding task, and a financially rewarding task on which participants would be willing to spend more time. When subjects gained the opportunity to skip the time-consuming task, they spent their time gain on the rewarding task. This design parallels the fact that people must spend their gained time in one way or another. I examined the role of exchange perspective (receiver or buyer vs. giver or seller)

on subjects' evaluations of the effectiveness of the time exchange for their performance task.

The results of both studies indicated that buyers and receivers estimate their effective time gain from the exchange to be lower than sellers' and givers' estimated effective time loss. Importantly, comparing givers' estimated loss to those participants who completed the same task for themselves (Study 1) suggested that receivers underestimate their gain from the exchange of time. My studies do not examine time gain when the replacing activity is more pleasant and enjoyable. In other words, although the opposite words task was designed to financially reward the respondents for each additional answer, it is possible to argue that the task would still be construed as work. However, this design enabled me to measure the attributed performance gain of the time exchange, which would not have been possible with a hedonic activity.

Furthermore, in line with previous findings related to self-other differences (e.g., Frederick, 2011; Kurt & Inman, 2012), the results reported in this chapter indicate a discrepancy between the exchange roles. My studies are the first to examine such discrepancies in an exchange of time. In particular, they show that the exchange role is an important determinant of how consumers value time. In the next chapter, I concentrate on commercial exchange of time and examine consumers' valuation of services that save their time.



### ***3 Valuation of Bought Time***

#### **3.1 Conceptual Development**

Buying time through outsourcing entails the exchange of the duration and effort required to perform a task. Consumers' belief about their own competence to perform a task is the main focus of this chapter. As discussed in Chapter 1, the first necessary criterion for categorizing an outsourcing decision as buying time is the capability of the outsourcer to complete the task. In other words, when a consumer outsources a task while lacking the necessary skills, expertise, knowledge, etc. to complete the task themselves, I do not classify this decision as buying time. As a result, buying the same service can be experience by one individual as buying time but not for another. Therefore, I argue that if consumers perceive themselves as possessing the necessary capability for performing a task, their main motivation for outsourcing the task would be to gain time as well as to get the task done. However, when the consumer does not have the necessary capability, the main motivation to buy the service would be to compensate for the absence of competence as well as to get the task done.

This shift in the motivation to buy the service does not necessarily correspond to the consumer's objective capability for performing the task. Instead, I argue that as soon as a consumer subjectively perceives themselves as capable, their motivation to buy the service will be altered. Thus I emphasize the subjective aspect of competence, that is, the consumer's belief about themselves rather other's evaluations of the consumers' competence.

##### **3.1.1 Domain Self-efficacy**

Self-efficacy is a personally held belief about one's capability for producing attainments (Bandura, 1997). Meanwhile, domain self-efficacy is a task-specific belief about the degree of capability for performing the task (Bandura, 2006). When consumers buy time, they view themselves as sufficiently efficacious in performing the task that they outsource.

Although an individual's subjective judgements of their own capability in a domain are expected to correspond to their objective capability, previous research shows that domain self-efficacy can be highly subjective and malleable (Kruger & Dunning, 1999). More specifically, those with a lower level of expertise in a given domain can (be easily led to) believe that they are highly capable, partly due to the fact that they cannot recognize their deficits (Dunning, 2011; Kruger & Dunning, 1999). People do not evaluate their knowledge only based on direct examination of their cognitive and mental capabilities, but they also rely on a feeling of knowing (Reder & Ritter, 1992), which can result in inflated judgements. For example, self-perceived experts can confidently claim impossible knowledge (Atir, Rosenzweig, & Dunning, 2015). Kardas and O'Brien (2018) show that merely watching others perform a task can create an illusion of skill acquisition. Particularly, beginners with basic information about a domain can quickly feel overconfident in their knowledge and ability (Sanchez & Dunning, 2018). Overall, consumers' domain self-efficacy seems to be upwardly biased, especially for non-experts.

### 3.1.2 Hypotheses

How can consumers' level of domain self-efficacy influence their valuation of a time-saving service within that particular domain? This is the first research question of this chapter for which I postulate two competing predictions. On one hand, the state of feeling highly capable in a given domain can result in a short-lived general feeling of self-efficacy (Pelham & Swann, 1989). Given that skilled people are in-demand in the labor market (Bellezza et al., 2016) and work more hours (Kuhn & Lozano, 2008), feeling skillful is thus expected to increase the value one ascribes to their time (Becker, 1965). As a result, a service that saves this valuable time must intuitively be rated as more valuable by a highly capable person as opposed to a person who feels less capable. However, I hypothesize and show that the opposite is the case. In other words, I argue that consumers with high domain self-efficacy would value a time-saving service less than those with low domain self-efficacy. Below, I explain how I arrive at this prediction.

A service offering is comprised of multiple components. For example, companies sometimes separate these components in order to utilize a partitioned pricing strategy



which helps them increase demand through reducing consumers' recalled total cost (Morwitz, Greenleaf, & Johnson, 1998). From the perspective of a consumer, I categorize these various service components into two broad categories. The first category is the time-saving benefit. The second category contains non-time elements such as skills, expertise, attention, knowledge, labor, etc. Both of these categories are transferred by purchasing the service regardless of the motivation of the consumer. Whether their level of domain self-efficacy is low or high, people are always paying for both time and non-time requirements of performing a task when they buy a service. I propose that consumers with high domain self-efficacy, who primarily buy the service to gain time, will not construe non-time components as something that they need, since they believe they are already in possession of those components. As a result, they will attribute lower salience to non-time components of the exchange, which in turn will lower the total value attributed to the service.

In sum, I argue that the benefits that are transferred to the consumer come in two categories: the time-saving benefit and non-time components such as skill, expertise, and effort. I predict that consumers with high domain self-efficacy would be willing to pay less to redeem their time, because they attribute lower value to non-time components of the service they receive due to the lower salience of these elements. As a result, they are expected to attribute lower total value to the service package than consumers who are less capable of performing the task themselves. More formally, I hypothesize that:

*H<sub>1</sub>*: An increase in domain self-efficacy leads to a decrease in the valuation of a service that completes a task in the same domain.

I operationalize service valuation using two key outcome variables that are relevant to marketing managers, namely willingness-to-pay (WTP) and perception of price unfairness. I argue that high domain self-efficacy leads to lower willingness-to-pay and increases perceived price unfairness. In other words, compared to other service customers, time-buyers are compelled to pay less for the service and are more likely to find the price of the service unfair.

Moreover, service providers whose offering is marketed as saving consumers' time may potentially suffer from an inherent low valuation in the eyes of their time-buying

customers. An online examination of how such services target their consumers reveals that time-saving appeals are vastly commonplace. Given that a focus on time may not be the optimal marketing strategy, I explore one of the ways in which such service providers can increase their consumers WTP and decrease their perception of price unfairness. In line with the salience mechanism, I propose that a shift in the marketing communications of the service, from focusing on time-saving benefits to focusing on expertise should increase WTP and decrease perceptions of price unfairness.

*H<sub>2</sub>*: When the expertise benefits of a time-saving service are salient, consumers value the service more than when gaining time is the salient benefit.

Given that domain self-efficacy is assumed to be an upwardly biased subjective judgement, I expect that reminding consumers of the aspects of a service task that requires some form of expertise would calibrate their subjective judgement of their efficacy and result in a higher valuation of the service.

### 3.1.3 Overview of studies

I test these hypotheses across four studies. First, I report an exploratory correlational study on the effect of domain self-efficacy, WTP, and perceptions of price unfairness. Then, in Studies 2 and 3, I experimentally manipulate domain self-efficacy to test H<sub>1</sub>. In study 4, I examine H<sub>2</sub>, testing whether a shift in the marketing communication of services from time-saving benefits to expertise benefits can reduce time-buyers tendency to value the service lower than other consumers.

## 3.2 Study 1

### *Method*

I first conducted a correlational study (N = 330) to investigate whether domain self-efficacy is associated with lower willingness to pay and higher perceptions of price unfairness. The surveys instructed participants to imagine that they had to complete a given task. Each participant imagined having to complete either of the following tasks in the upcoming days: *preparing your annual taxes* (N = 99, 52.5% female, M<sub>Age</sub> = 37.45), *copy-editing a five-page essay about climate change* (N = 110, 56.4% female, M<sub>Age</sub> =

37.97), or *washing inside and outside of your car* ( $N = 121$ , 68.6% female,  $M_{Age} = 37.56$ ). Domain self-efficacy (DSE) was measured as the independent variable using a 7-point scale with 7-items from the Intrinsic Motivation Inventory (McAuley, Duncan, & Tammen, 1989). Sample items include “I feel confident in my ability to copy-edit the essay” or “I am pretty skilled at preparing my annual taxes” (Cronbach’s  $\alpha = .94$ , a complete list of measure items and covariates can be found in Appendix B). Each task was administered in a different survey randomly assigned to respondents from the United States recruited through M-Turk in exchange for monetary payment.

Respondents were instructed to imagine outsourcing their task to a service company that would perform their given task for them. As the primary dependent variable, I measured WTP in U.S. dollars by averaging the following two open-ended questions as formulated by Marbeau (1987): (1) above which price would you definitely not buy the service, because you cannot afford it or because you do not think it is worth the money? And (2) below which price would you say you would not buy the service because you would start to suspect the quality? WTP is an unobservable construct (Kovalsky & Lusk, 2013; Voelckner, 2006). Although I acknowledge that incentive-aligned WTP elicitation methods would have resulted in more accurate measures, previous research has shown that despite the often overstated amounts of WTP in open-ended questions they are an adequate measure of valuation, especially when the items serve to measure the difference between experimental groups (Miller, Hofstetter, Krohmer, & Zhang, 2011).

As a secondary dependent variable, I measured perception of price unfairness for each service by calculating the difference between a stated price in the survey and respondents perceived fair price. I based this measure on the following open-question adapted from Bolton et al. (2003): “The service provider charges consumers  $P$ \$ for this service. What do you think is the fair price for the service provider to charge?”  $P$  was the stated price determined as 50% more than the average prices of the first five starting quotes found by an online search for each service in the U. S. The averages were then rounded up to the nearest 5 or 10 to form the stated price.

## Results

As predicted, an increase in domain self-efficacy was negatively correlated with WTP,  $r(97) = -.27, p < .01$  for preparing annual taxes,  $r(108) = -.37, p < .001$  for copy-editing an essay, and  $r(119) = -.21, p = .01$  for washing the inside and outside of a car.

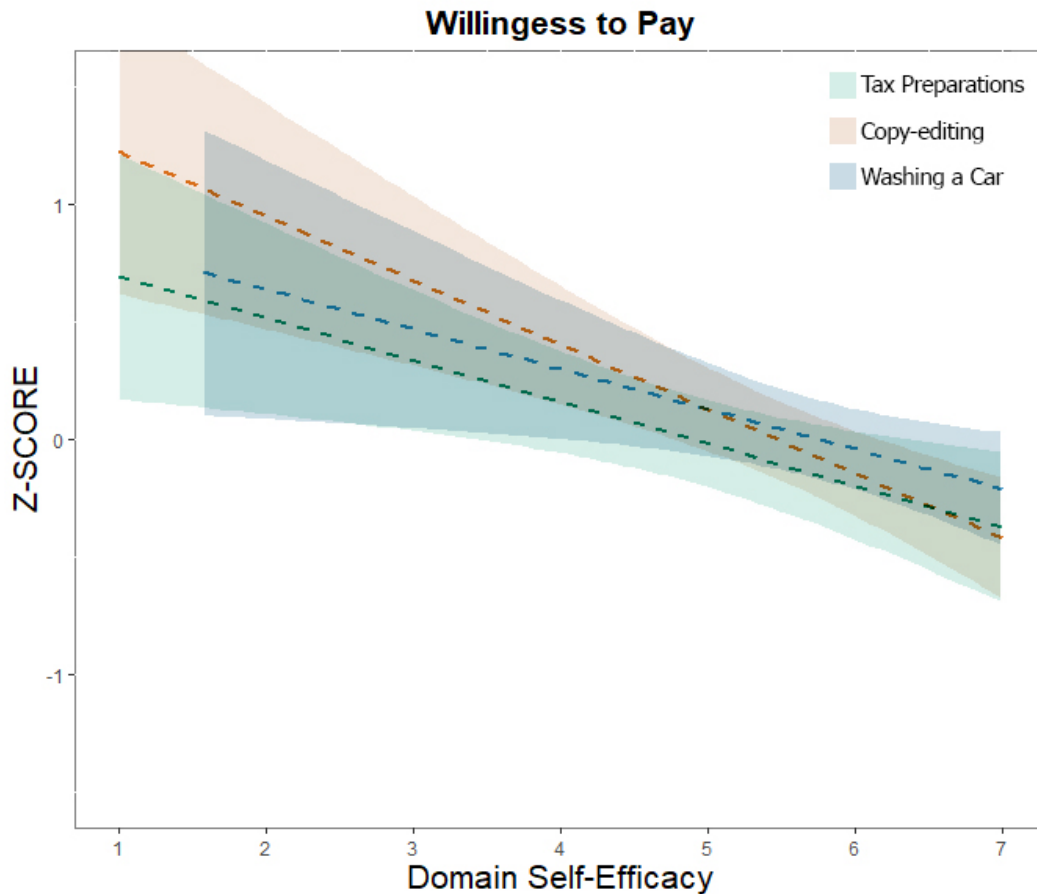


Figure 6 - Domain Self-efficacy correlates with WTP

I also measured perceived task enjoyability, perceived task difficulty, interest in task, and time affluence as control variables. After controlling for these variables, the negative correlation between domain self-efficacy and WTP remained significant for tax preparations ( $r(93) = -.27, p < .001$ ) and copy-editing ( $r(104) = -.27, p < .01$ ), but no longer for washing a car ( $r(115) = -.10, p = .2$ ). All VIFs were  $< 3$ , indicating that multicollinearity was not a problem (Bailey, 2017). Yet, given that my independent variable correlates with enjoyability, difficulty, and interest (see Appendix C for all correlations among variables in Study 1), I also ran another model controlling only for time affluence ( $r_{\text{tax-preparation}}(96) = -.26, p < .001$ ;  $r_{\text{copy-editing}}(107) = -.36, p < .001$ ,

$r_{\text{car-wash}}(118) = -.20, p = .02$ ). Including age and gender as covariates in the model did not influence the results.

These findings provide initial correlational support for the hypothesized negative relationship between domain self-efficacy and WTP for services that perform time-consuming tasks.

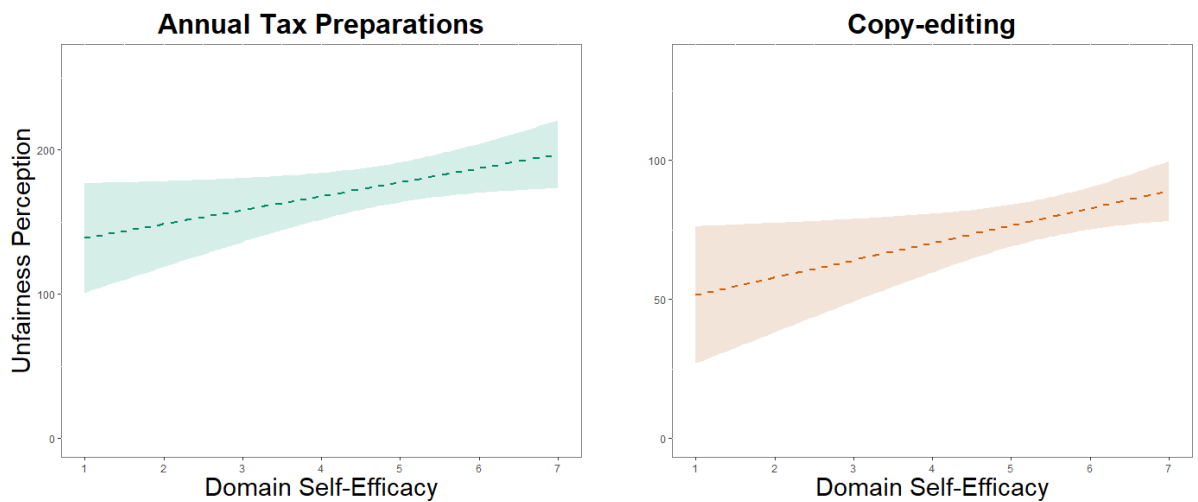


Figure 7 - Domain Self-efficacy Correlates with Perception of Price Unfairness

Furthermore, an increase in domain self-efficacy was significantly correlated with an increase in perceived price unfairness,  $r(97) = .21, p < .05$  for preparing annual taxes, and  $r(108) = .22, p < .05$  for copy-editing an essay. This correlation was not significant for washing the inside and outside of a car. I speculate that the reason is due to the fact that many participants (60.3%) found the stated price of USD 35 to be fair for washing the inside and outside of a car. Therefore, the unfairness measure resulted in much lower variability compared to annual tax preparations and copy-editing an essay, for which the stated price was mostly perceived as unfair.

Study 1 provides preliminary evidence that domain self-efficacy can influence service valuation. However, to address endogeneity and identify the role of DSE independent of other observed and unobserved variables, I experimentally manipulate domain self-efficacy in Studies 2 and 3.

### 3.3 Study 2

I hypothesized a causal relationship between domain self-efficacy and service valuation. In this study I sought to experimentally manipulate self-efficacy in the domain of a transcribing task (i.e., writing out words from speech).

#### *Method*

I used a one-factor between-subject design with three levels. I chose to manipulate domain self-efficacy using relative feedback based on previous research (McAuley, Duncan, & Tammen, 1989; Vancouver & Tischner, 2004). The experiment consisted of two control groups (no feedback and moderately positive feedback) and a treatment group (highly positive feedback). I predetermined a sample size of 50 per condition. Due to the fact that the manipulation requires attention to displayed information, I prespecified minimal inclusion criteria based on the seconds each respondent spent on key pages of the survey experiment. For example, participants who would not spend at least three seconds on a page that instructed them to read and imagine the focal task (the text was 40 words) would be excluded from the study (see Appendix D for detailed inclusion criteria). Therefore, I recruited slightly more than 50 respondents per condition ( $N = 175$ ) from M-Turk to participate in this experiment in exchange for monetary payment.

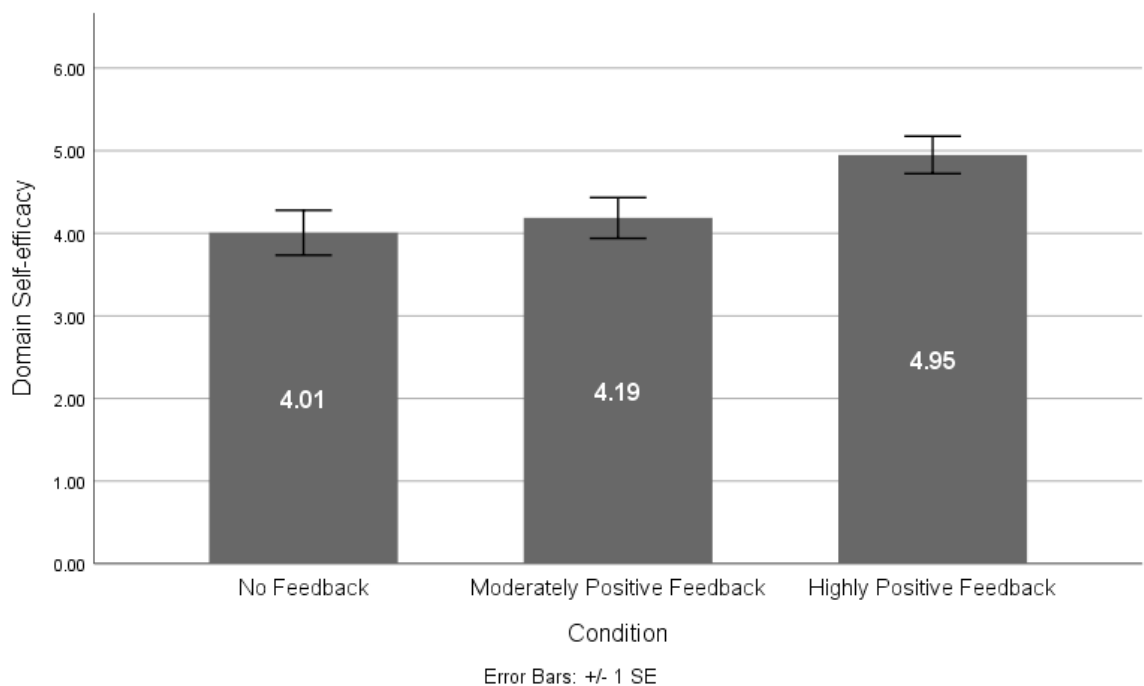
#### *Procedure*

All participants first completed a transcribing assessment in which they typed the content of a short audio file into the survey. The audio file consisted of 43 seconds of speech about medical prescriptions. Participants in the feedback conditions were informed that the surveying software would perform a private assessment based on the accuracy of their sample transcribing. After submitting the transcribed text, participants in the feedback conditions waited for a few seconds for the system to perform the assessment. Then, participants in the moderately positive feedback condition read that “based on your transcribing, the software has determined that you did better than 60 percent of the 621 other respondents who have completed this task so far.” Participants in the highly positive feedback condition read the same feedback which indicated that they performed better than 95 percent of other respondents. No sample assessment was performed in the no

feedback condition. Next, I measured participants' transcribing self-efficacy as a manipulation check and their willingness-to-pay for a service that would complete a transcribing task as the main dependent variable. I did not include a condition with negative feedback in this study to keep the focus on buying time. In other words, if people feel incompetent in fulfilling a task, their outsourcing of the task cannot be considered as buying time based on the conceptualization in made in Chapter 1. Therefore, study 2 only compares participants WTP in three conditions of moderately positive feedback, highly positive feedback, and no feedback.

### **Results**

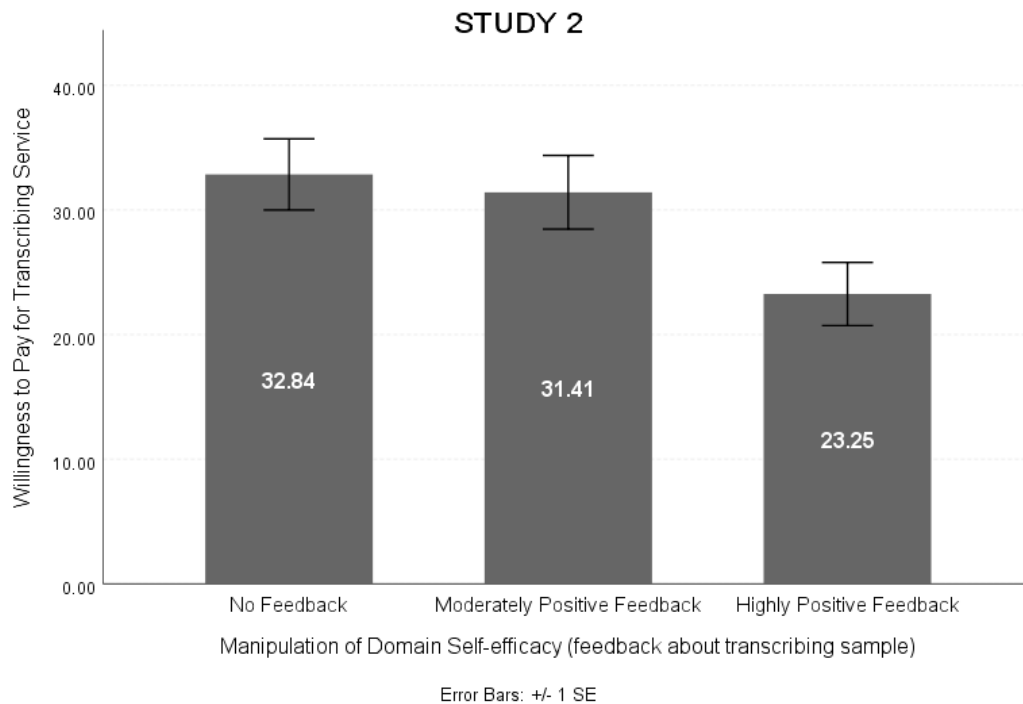
As manipulation check, I asked participants to report their transcribing self-efficacy using three items on a 7-point scale ( $\alpha = .96$ ). Results indicated that the manipulation of domain self-efficacy was successful. Participants in the highly positive feedback condition reported significantly higher transcribing self-efficacy ( $M = 4.94$ ,  $SD = 1.62$ ) than those in the moderately positive feedback condition ( $M = 4.18$ ,  $SD = 1.77$ ,  $p = .02$ ) or those in the no feedback condition ( $M = 4.01$ ,  $SD = 1.86$ ,  $p < .01$ ).



*Figure 8 - Manipulation Check (Study 2)*

A one-way ANOVA with domain self-efficacy as the independent variable and WTP as the dependent variable showed a significant main effect of domain self-efficacy ( $F(2,$

148) = 3.47,  $p = .03$ ). The items for WTP measure were identical to Study 1, and the assumption of homogeneity of variances was met as assessed by Levene's test for equality of variances.



*Figure 9 - Domain Self-efficacy decreases WTP*

Contrasts revealed that WTP was significantly lower in the highly positive feedback condition ( $M = 23.25$ ,  $SD = 18.26$ ) compared to moderate feedback ( $M = 31.41$ ,  $SD = 21.34$ , Mean Difference = 8.16,  $SE = 3.87$ ,  $p = .03$ ) and no feedback condition ( $M = 32.84$ ,  $SD = 19.58$ , Mean Difference = 9.59,  $SE = 3.98$ ,  $p = .013$ ); which is smaller than the Bonferroni-corrected  $\alpha$ -level for three contrasts i.e. .016). There was no significant difference between the moderate feedback and no feedback conditions, as expected by the manipulation check (all reported  $p$ -values are 2-tailed).

Similar to Study 1, I measured time affluence to be included in the analysis as a covariate. A one-way ANCOVA with time affluence as covariate revealed that the experimental condition had a significant effect on WTP ( $F(2, 147) = 4.03$ ,  $p = .02$ ).



Table 1 - ANCOVA (Study 2)

Adjusted and unadjusted means and variability for WTP with time affluence as covariate

	Unadjusted		Adjusted	
	M	SD	M	SD
No Feedback	32.84	19.58	32.67	2.86
Moderately Positive Feedback	31.41	21.34	32.06	2.74
Highly positive feedback	23.25	18.26	22.75	2.73
	Pairwise comparison		Mean Difference	SE
Highly positive feedback	No feedback		-9.92*	3.95
	Moderate Feedback		-9.30*	3.89

Note. \*  $p < .05$ , Bonferroni-adjusted for multiple comparisons

Study 2 provides experimental evidence for the prediction that higher domain self-efficacy leads to lower WTP for services that complete a task in the same domain. However, an important alternative explanation for the observed results can be based on duration estimation of task performance. In other words, the possibility that people who view themselves as highly capable may feel that the task will take them substantially less time than those who are less capable, may be the reason why high domain self-efficacy leads to lower WTP. It is a possibility that those who score high in domain self-efficacy are willing to pay less because their estimated amount of time gain is objectively lower. I address this alternative account in Study 3 and seek to replicate the main findings of Study 2 in another context.

### 3.4 Study 3

#### *Method*

Since the feedback manipulation in the previous study showed no significant difference between no feedback and moderate feedback, I decided to use the moderate feedback condition as the only control group in this study. Similar to the previous study, I used feedback to manipulate domain self-efficacy but in a different context. Therefore, this study uses a one-factor between-subject design at two levels.

### ***Procedure***

Online respondents ( $N = 90$ ,  $M_{\text{Age}} = 42.9$ , 56.7% female) from M-Turk participated in this study in exchange for monetary payment and were randomly assigned to either moderate feedback condition or a highly positive feedback condition. Participants first completed a set of ten assessment questions presented as “General Knowledge about Copy-Editing”. The questions were multiple choice items about common grammatical mistakes and copy editing practices (see Appendix E for all items). Participants were informed that the surveying software would make a private assessment about their copy editing knowledge. After submitting their answers, participants waited for a few seconds for the assessment results to load. Depending on their condition, they read that they performed “better than 60 percent (95 percent) of the 621 other respondents who have completed the assessment so far”.

After the assessment, participants completed three items measuring their domain self-efficacy as manipulation check. Next, participants were instructed to imagine that they had to copy edit a 5-page essay about climate change. They were then instructed to imagine that they did not have the time to complete the task themselves, so they decided to pay a service company to perform the copy-editing. The WTP measure was similar to previous studies. To examine the alternative account of duration discussed in Study 2, I added a slider measure of duration estimation with half-hour increments from 0 to 10 hours, in which participants indicated their estimation of how long the task would take them if they were to complete it themselves.

### ***Results***

Copy-editing self-efficacy was successfully manipulated by the assessment feedback ( $t(88) = 2.03$ ,  $p = .02$ , Figure 10). A  $t$ -test comparing WTP between experimental conditions reveals the main effect that participants were willing to pay significantly less ( $M = 28.31$ ,  $SD = 21.9$ ;  $t(88) = 1.81$ ,  $p = .03$ ) in the high domain self-efficacy than in the low domain self-efficacy ( $M = 37.36$ ,  $SD = 25.2$ ) as shown in Figure 11.

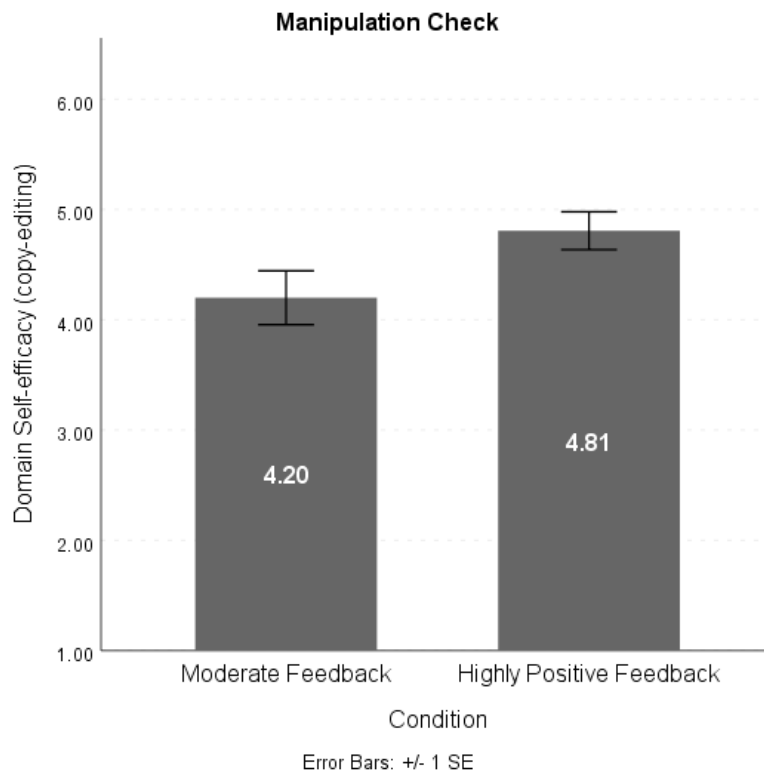


Figure 10 - Manipulation Check (Study 3)

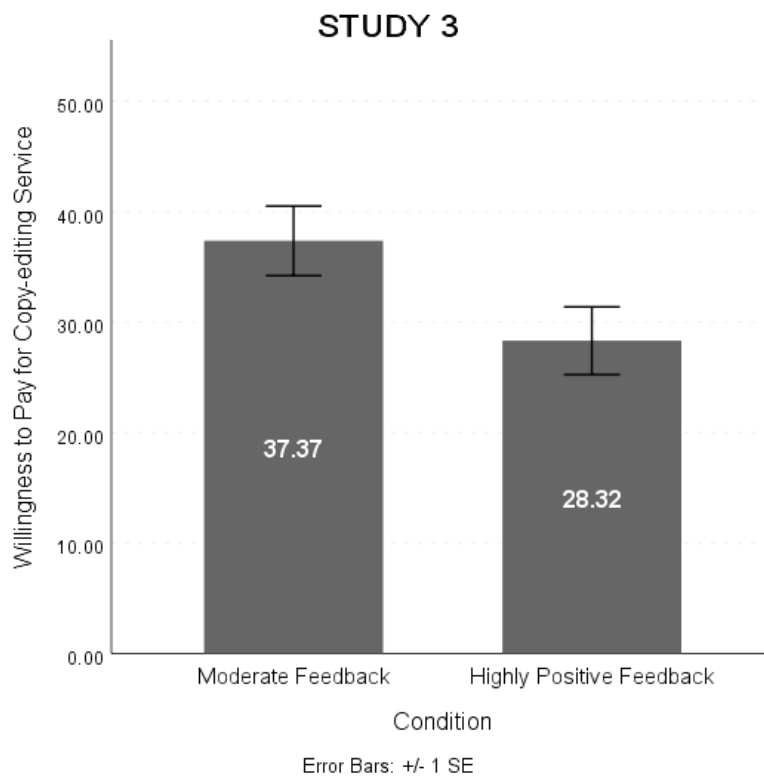


Figure 11 - Domain Self-efficacy decreases WTP

Furthermore, an ANCOVA with the experimental condition as the independent variable, WTP as the dependent variable, and duration estimation as the covariate, revealed a significant effect of condition on WTP,  $F(1,87) = 3.40$ ,  $p = .03$ . Adjusted means and variability statistics are reported in Table 2.

Table 2 - ANCOVA (Study 3)

Condition	Duration Estimation		Willingness-to-Pay			
	M	SD	M <sup>1</sup>	SE	95% CI	
					Lower Bound	Upper Bound
Moderate feedback	3.21	2.35	37.20	3.08	31.24	43.34
Highly Positive Feedback	3.01	1.81	28.48	3.18	22.65	35.24

<sup>1</sup> Estimated means from ANCOVA with Duration Estimation as covariate.

### Discussion

Studies 1–3 in this chapter intended to establish that consumers demonstrate lower valuation levels for services when they perceive themselves as more capable of fulfilling the tasks of the service (time-buying consumers). Therefore, I argue that companies offering typical time-saving services need to find marketing strategies to attenuate the lower levels of valuation arising from the fact that their customers are likely to feel highly self-efficacious in the domain of the task. Along these lines, I proposed (H<sub>2</sub>) that a shift in marketing communications, from a focus on time-saving benefits to a focus on other aspects of service delivery (such as expertise) can increase the valuation of a service. I test this hypothesis in Study 4.

## 3.5 Study 4

### Method

I used a 2 (marketing communication focus: time vs. expertise) × 2 (with vs. without elaboration) between-subject design for this online experiment. I predetermined a sample size of 75 per condition. Due to the instructional nature of the manipulation I incorporated prespecified inclusion criteria (see Appendix F for full details), expecting that a number of participants would fail the attention checks. Therefore, I recruited a total of 320 participants from M-Turk residing in the U.S. who completed the survey in exchange for

monetary payment. Participants were randomly assigned to one of four experimental conditions. Before running any analysis, I excluded participants who did not meet the inclusion criteria, which resulted in a total sample of 282 respondents ( $M_{Age} = 39.9$ , 48.3% female).

### ***Procedure***

I created a fictional brand (PureHome™) which was introduced as specialized in providing residential cleaning services. I designed the stimuli for this experiment as PureHome's marketing communication of its standard cleaning package. All participants saw a description of the service with a brand logo and a picture of cleaning personnel. All groups viewed the same main information about the service consisting of the following appeal items: "Highly Rated", "Satisfaction Guarantee", "Save Time", and "Leave it to the experts" (see Appendix G for complete stimuli).

Participants in the time no-elaboration condition saw "Save Time" as the prominent appeal which appeared in a larger font size and as the first item in a list of four appeal items. Meanwhile, participants in the expertise no-elaboration condition saw "Leave it to the experts" as the prominent appeal which appeared above other items with a larger font size. "Save Time" was the second item for participants in the expertise conditions, whereas "Leave it to the expert" was the second item for participants in the time conditions. All participants saw "Satisfaction Guarantee" and "Highly Rated" as the third and fourth appeal items.

I expected a minimal outcome difference arising from the subtle manipulation of emphasis, so I included two conditions that elaborated the focus of the marketing communication. Participants in the *time*-with-elaboration condition saw the same stimuli in addition to the following text: "Our company provides you with an outstanding cleaning job at an affordable price. PureHome™ offers a full range of cleaning services, consistently trusted by a large number of customers for more than two decades. If you dream of walking into an immaculate home, PureHome™ is ready to help. *Why spend time cleaning your place when you could give yourself the time to focus on what matters most to you? Using our cleaning services will ensure that you gain back your time, and*

*make it truly yours. You will have the opportunity to do the activities you enjoy most, knowing that you no longer have to worry about cleaning. We understand that you might be busy, that is why we love to help our customers free their mind from tasks like cleaning, so that they can do whatever they wish with their time. All our standard cleanings include dusting and washing of all reachable surfaces, wiping the outside of kitchen appliances & cabinets, basic cleaning of the bathrooms, and vacuuming and mopping of all floors.”*

Participants in the *expertise-with-elaboration* condition saw their corresponding stimuli in addition to the following text: “Our company provides you with an outstanding cleaning job at an affordable price. PureHome™ offers a full range of cleaning services, consistently trusted by a large number of customers for more than two decades. If you dream of walking into an immaculate home, PureHome™ is ready to help. *Our certified cleaners are true professionals trained to make sure your home is transformed into a spotless place. They systematically review the space, develop a strategy to perform the job, and diligently use the right material in removing dirt, sanitizing, vacuuming, mopping and cleaning areas that never receive attention. Domestic cleaning products are unable to efficiently remove stains, are toxic and can cause damage to the surface, and contain caustic chemicals. Our expert cleaners will thoroughly clean your furniture and appliances using non-caustic, non-toxic, eco-friendly cleaners. We work efficiently and ensure that the cleaning will produce almost no waste.* All our standard cleanings include dusting and washing of all reachable surfaces, wiping the outside of kitchen appliances & cabinets, basic cleaning of the bathrooms, and vacuuming and mopping of all floors.”

After seeing the stimuli, all participants were presented with an open-ended question. Participants in time conditions were asked to write a few sentences about the time they could save and about what they could do with this gained time if they used the cleaning services. Participants in expertise conditions were asked to write a few sentences about how things could go wrong while cleaning and how using professional experts could improve the outcome. This writing task corresponded to the marketing communication focus and was intended to mentally reinforce the shift in marketing communication, especially given the subtlety of the manipulation.

I then used the same WTP measure as previous studies to elicit consumers' willingness-to-pay for a standard cleaning package from PureHome. As a secondary dependent variable, I then instructed participants to imagine calling PureHome to ask for the price of cleaning their home and that the company had replied that it will charge USD 189 for its standard cleaning package. Similar to Study 1, this price was determined as 50% more than the average prices of the first five starting quotes found by an online search for standard cleaning packages in the U. S. If participants indicated that this price was unfair, I asked them to indicate the price that they thought would be fair for the service provider to charge using a slider scale ranging from USD 0–370. dollars. As main covariates, I asked for the size of participant's living place and their duration estimation if they were going to completely clean their place of living to a comparable degree (slider item with half-hour increments ranging from 0–10 hours). I also measured time affluence and general demographics.

### **Results**

*Willingness-to-Pay.* I performed a two-way ANOVA to examine the effect of marketing focus and elaboration on WTP. We checked the assumptions through box-plot inspection for outliers, normality using Shapiro-Wilk's test, and homogeneity of variance using Levene's test. There was a significant effect of condition on WTP,  $F(1, 278) = 3.10, p = .02$ . Results revealed a significant main effect of marketing focus on WTP with higher willingness-to-pay in the expertise conditions ( $M_{\text{expertise}} = 68.89, SD = 26.92, SE = 2.32$ ) than the time conditions ( $M_{\text{time}} = 60.94, SD = 26.87, SE = 2.20, p = .01$ ). I observed no main effect of elaboration condition ( $p = .09$ ) and no significant interaction between marketing focus and elaboration ( $p = .6$ ). Within the conditions with no-elaboration, planned contrasts revealed a significant difference between time ( $M_{\text{time-no-elaboration}} = 57.52, SD = 29.16$ ) and expertise ( $M_{\text{expertise-no-elaboration}} = 67.09, SD = 26.32, p < .05$ ) as the focus of marketing communication. The difference between time and expertise communication in the with-elaboration conditions was not statistically significant ( $p = .17$ ), nor was the difference between the expertise conditions ( $p = .43$ ). However, there was a significant difference between the time-no-elaboration ( $M = 57.52$ ) and expertise-with-elaboration ( $M = 70.75, SD = 27.61, p < .01$ ) conditions.

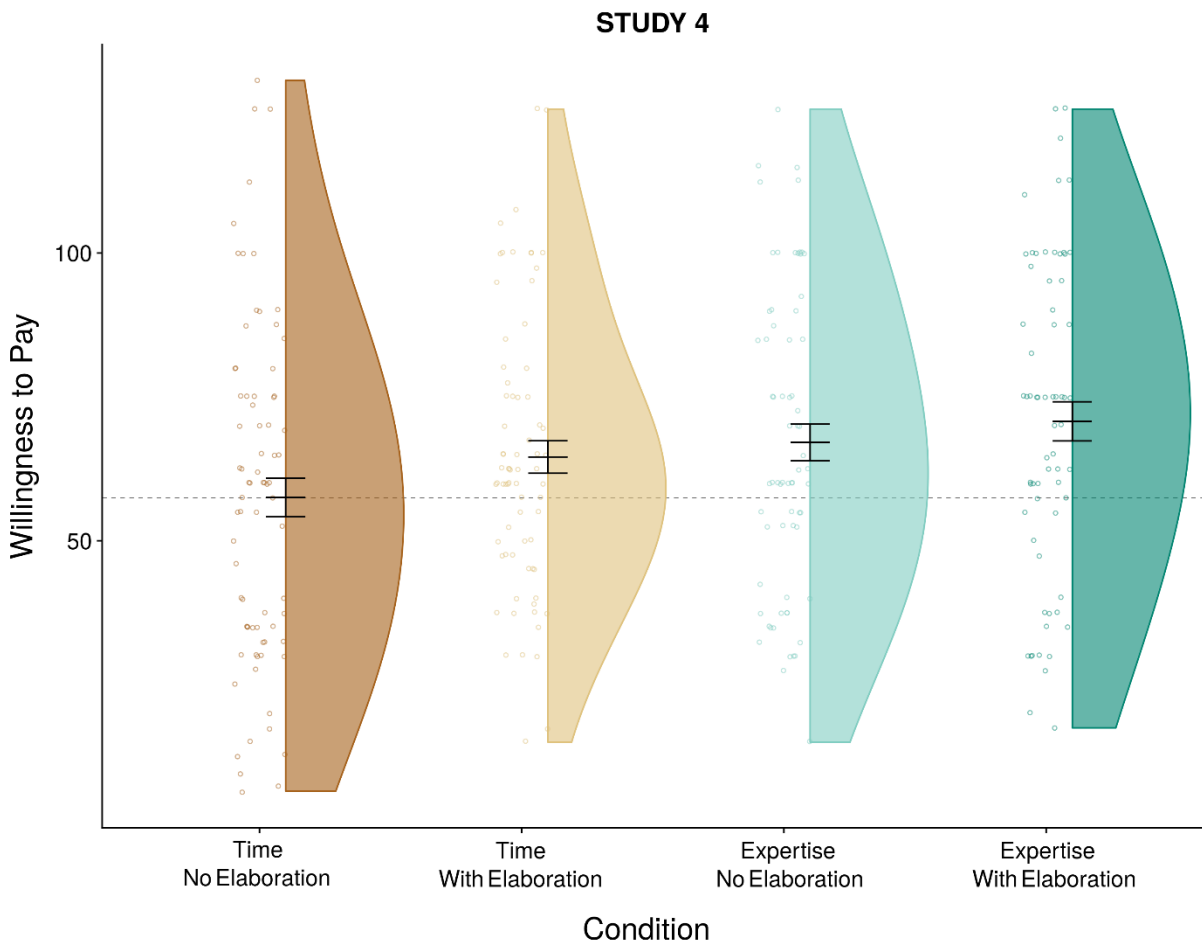
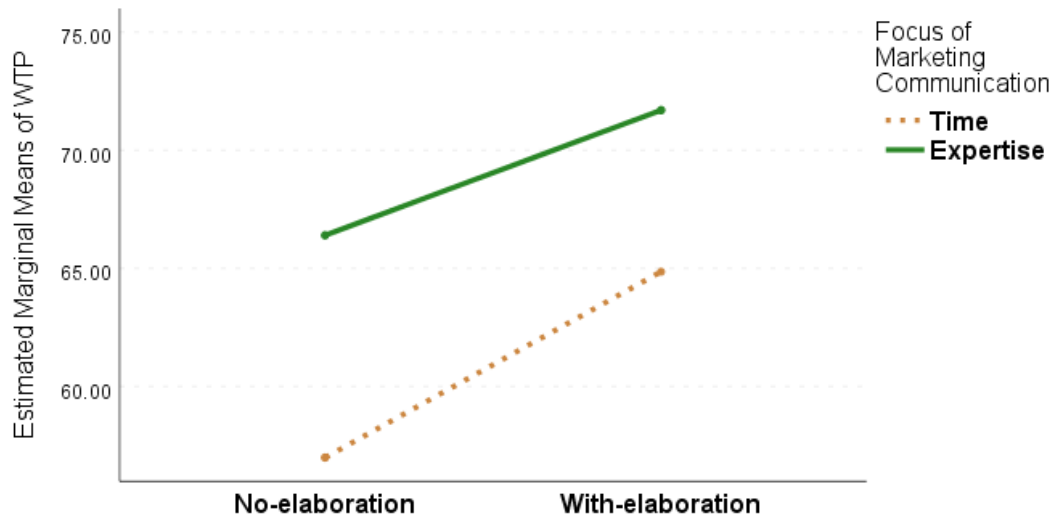


Figure 12 - Marketing Communication and WTP

I also performed a two-way ANCOVA, including place size and duration estimation of self-performing the task as covariates. The results indicate a main effect of place size ( $F(1, 275) = 6.10, p = .01$ ), but no significant effect of duration estimation ( $p = .13$ ). The main effect of marketing communication focus (time vs. expertise) remained significant ( $p = .01$ ). More importantly, the main effect of elaboration condition was also statistically significant ( $F(1, 275) = 4.23, p = .04$ ). There was no interaction between the experimental factors.



Figure 13 - ANCOVA



ANCOVA - Covariates appearing in the model: Place Size and Duration Estimation of Self-performing the Task

*Role of Time Affluence.* Although I did not hypothesize the role of time affluence before conducting the experiment, I found a note-worthy pattern in my results. I measured participants' time affluence using seven items on a 5-point scale ( $\alpha = .91$ ) which are intended to measure the general feeling of time availability (see Appendix H for all measure items).

I conducted a moderation analysis using PROCESS (Hayes, 2017) Model 1, and learned from the data that a significant interaction exists between marketing communication and time affluence (overall model  $F(3, 278) = 3.17, p = .02$ ) with WTP as the dependent variable. The main effect of marketing communication on WTP was significant ( $t(278) = 2.52, SE = 10.05, p = .01$ ), while there was no significant main effect of time affluence. However, the interaction term (marketing communication focus  $\times$  time affluence) was marginally significant ( $t(278) = -1.83, SE = 3.2, p = .06$ ). I used the Johnson-Neyman technique to identify the range of time affluence for which the marketing focus significantly influenced WTP (Figure 14). For a complete table of the conditional effects of marketing communication focus at different values of time affluence, see Appendix I.

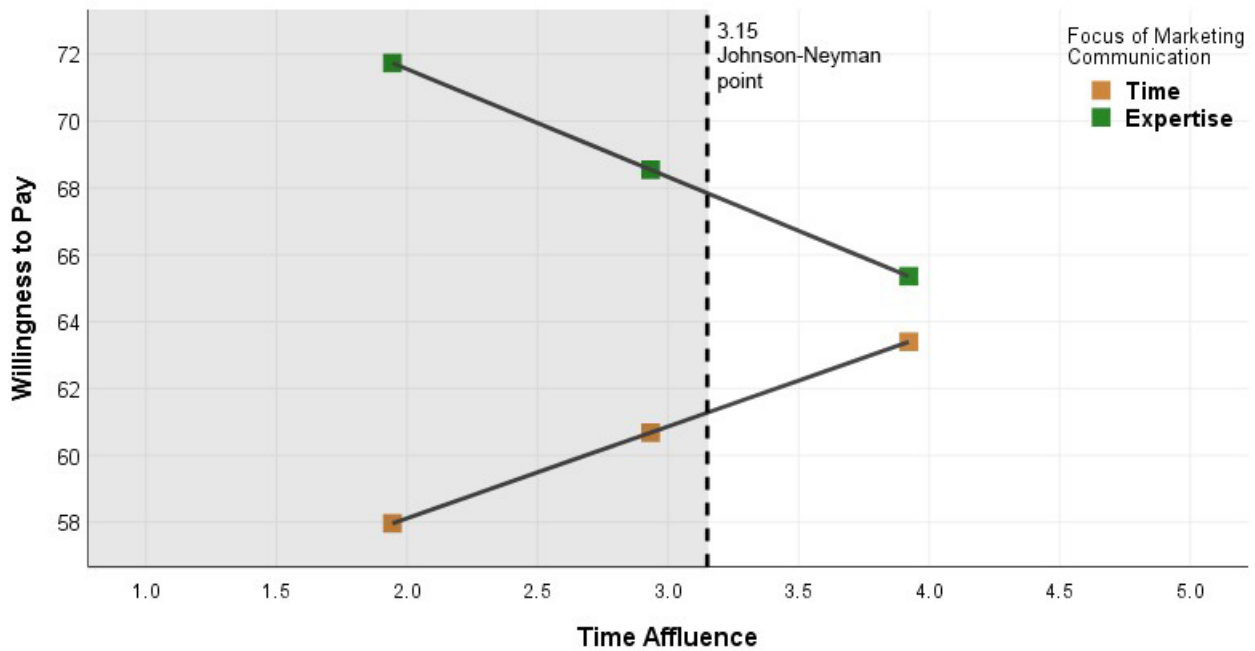
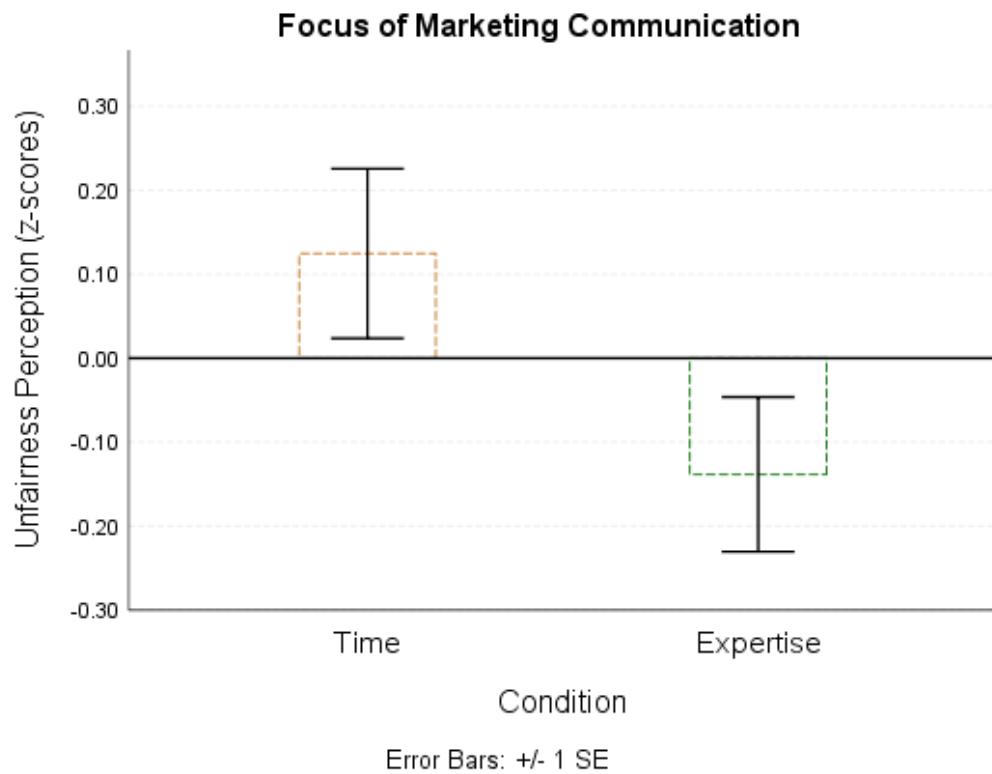


Figure 14 - Moderating Role of Time Affluence

This is an important finding because it indicates that the effect of marketing communication on service valuation is more pronounced for those respondents who feel that they do not have enough discretionary time. Assuming that time-saving services primarily target consumers with low time affluence, I show that focusing on the time benefits of the service as a marketing strategy, might in fact hurt the company more than targeting consumers with high levels of time affluence.

*Perception of Price Unfairness.* After seeing the stated price for the service, participants indicated whether they found the price fair. A chi-square test of homogeneity revealed no significant difference between the proportion of participants who indicated that the stated price was fair across four conditions ( $p = .37$ ). Participants who indicated that the stated price was unfair (74.1% of participants), were prompted with a slider measure to indicate the price they believed to be fair. To form a measure of price unfairness, I standardized the result of subtracting respondents' fair prices from the stated price. A two-way ANOVA revealed the main effect of marketing communication ( $F(1, 205) = 3.75$ ,  $M_{\text{time}} = .12$ ,  $SD = 1.05$ ;  $M_{\text{expertise}} = -.13$ ,  $SD = .91$ ;  $p = .05$ , see Figure 15). The main effect of elaboration as well as the interaction term were not statistically significant.



*Figure 15 - Perception of Price Unfairness*

### 3.6 Discussion

Overall, the studies reported in this chapter provide converging evidence in support of the hypothesis that domain self-efficacy decreases valuation of services that perform tasks within the same domain. In Chapter 1, I argued that high levels domain self-efficacy are a feature of buying time. Therefore, time-saving services may suffer from persistently low value perceptions and must find a way to increase consumers' valuation of their offering. I proposed that shifting the marketing communication from time to other aspects of service delivery could increase consumers' valuation, and I showed an example of this shift in Study 4, which resulted in higher valuation of the service.

I demonstrated that changing the marketing focus of the same service from time benefits to expertise benefits results in higher WTP and lower perceptions of price unfairness. However, shifting consumers' attention from time benefits to expertise benefits is not the only possible instrument for time-saving services to address this problem. If it is buying

time that lowers consumers' valuation, then focusing on other non-time components of acquiring the service (such as status signaling) would also increase consumers' valuations. In other words, the effectiveness of changing the focus of marketing communications can be extended to other benefits of service delivery, which remains to be tested in future studies. In this chapter I approached buying time from the perspective of the marketing manager. In the following chapter, I investigate buying time from the perspective of the consumer.

## ***4 Allocation of Bought Time***

### **4.1 Conceptual Development**

Buying time has been linked to higher levels of life satisfaction (Whillans et al., 2017), and prioritizing time over money is associated with greater happiness (Hershfield et al., 2016; Whillans et al., 2016). Some consumer researchers suggest that buying time is one of the main purchase strategies that would help consumers maximize the utility of spending their money (Aaker, Rudd, & Mogilner, 2011; E. Dunn & Norton, 2014; E. W. Dunn, Gilbert, & Wilson, 2011). Frequent time-saving purchases are also associated with higher relationship satisfaction among couples (Whillans, Pow, et al., 2018). The rationale behind the buying-time advice is two-fold. First, by avoiding extrinsically motivated tasks through outsourcing, consumers are able to engage in more intrinsically enjoyable activities, thus increasing their total level of happiness. Second, outsourcing reduces time-stress related to the extrinsically motivated tasks which can also boost subjective well-being.

Consumers often pre-determine the activity that will replace an outsourced task. This planned activity may as well have formed the consumers' motivation to buy time in the first place. In other words, people may outsource their tasks to external service providers because they would like to engage in another activity. Given that mental accounting influences people's attitudes and preferences, in this chapter I focus on whether consumers treat the duration of time that they gained through outsourcing differently from other durations of time. Particularly, the main research question of this chapter is whether and how buying time can change the way in which people experience the replacing activity. Put differently, does consumers' perception of an activity change depending on whether it occurs within a bought block of time as opposed to normal time?

#### 4.1.1 Mental Accounting of Time

As discussed in Chapter 1, an individual's mental categorization and budgeting of the inflows and outflows of their resources is the basis for creating mental accounts of a resource. For example, people mentally differentiate between regular income versus windfall income and assign them to different mental accounts (Kivetz, 1999). Levav and McGraw (2009) document a process of emotional accounting in which even within windfall gains of money, people consider the source of the gain and affectively tag inflows as positive and negative depending on the situation, which influences their subsequent spending behavior. In particular, people strategically avoid hedonic spending if the source of windfall money is affectively negative.

When it comes to time as a resource, any activity can be viewed in terms of the time spent on the activity (Navarro & Fantino, 2009). However, although people often account for the costs of money, they do not routinely create rigid mental accounts for costs of time in the same way (Soman, 2001; Soster et al., 2010). Focusing on mental accounting of time costs (i.e. outflows), Soman (2001) shows that people are less likely to track and assign costs of time to relevant mental accounts.

However, focusing on mental accounting of time gains (i.e., inflows), the existing literature distinguishes between two broad categories of mental accounts which people use to manage and budget their activities: the work-like category, which includes paid and non-paid work, and the non-work category, which includes rest and leisure (Rajagopal & Rha, 2009; Tonietto & Malkoc, 2016). An example of this mental distinction is apparent in the shared understandings of the terms *workday* and *weekend*.

Rajagopal and Rha (2009) show that when people gain time, the account from which they gained the time is taken into consideration. In other words, if people receive windfall time from the work-time account, they use it differently than if the windfall happens within a non-work block of time. Importantly, Rajagopal and Rha (2009) show that people use these two broad mental accounts to satisfy the strong motivation to balance the allocation of their time between long-term and short-term goals. Therefore, similar to mental accounting of money inflows (Kivetz, 1999; Levav & McGraw, 2009), gains of time are

assigned to their source categories, broadly defined as work-like and non-work accounts. Furthermore, consumers commonly use calendars to manage their time by scheduling different activities, which can also include hedonic activities related to leisure or resting. Tonietto and Malkoc (2016) show that the mere act of scheduling hedonic activities can undermine the benefits of leisure by shifting the perception of the activity from a free-flowing state to a work-like state. They show that scheduling reduces anticipated excitement and experienced enjoyment of leisure activities, due to its association with work activities. Tonietto and Malkoc (2016) find that people described hedonic leisure activities as more effortful, chore-like, constraining, and work-like when they scheduled the activity in their calendar. All in all, these studies suggest that although mental accounting of time costs may not be as detailed and elaborate as that of money, people still consider the source of the time that they spend on their activities and distinguish between the two broad mental accounts of work-like time and non-work time.

Moreover, people assign the required time to complete an extrinsically motivated task to the work-like mental account. In other words, a task that is outsourced would usually occupy the work-like time budgeting. Given people's tendency to mentally account time inflows, I suggest that when consumers buy time by outsourcing their work-like activities to service providers in order to engage in non-work activities, a conflict arises between the source of time and the activity that it is spent on. In other words, buying time may result in spending time from the work-like account on non-work activities, which could result in perceptions of an imbalance between the two mental accounts of time. For example, Epp and Velagaleti (2014) and Whillans and Dunn (2018) assert that people report experiencing feelings of guilt induced by outsourcing tasks that are within their capabilities and responsibilities. Whillans and Dunn (2018) show that such feelings of guilt are increased when the employees of the time-selling service are providing their services visible to consumers. I propose that this feeling of guilt may reduce consumers' perceptions of the hedonic aspects of an activity if it is performed in bought time as opposed to other types of time gain.

### 4.1.2 Overview of studies

In Study 1, I examine whether buying time influences hedonic and utilitarian expectations from daily activities. Study 2 anchors the replacing activity to a similar event across all conditions, reframing hedonic expectations to anticipated enjoyment from the event. It also rules out the alternative account of mood by adding a baseline control condition. Additionally, in Study 2, I provide process evidence by testing the mediating role of guilt. In Study 3, I delineate alternative sources of the guilt, and rule out the possibility that the observed effect is solely due to paying, accentuating the point that the effect is due to paying for time.

## 4.2 Study 1

This study explores whether consumers' perception of the replacing activities change depending on whether the activities occur in bought time. I performed two pretests on the elements of the main experiment before conducting the study. First, I pretested ratings of various daily activities that would function as the replacing set of activities. The second pretest performed a manipulation check of the scenario instrument for manipulating the type of time gain.

### 4.2.1 Pretest I – Daily Activities

I pretested 25 daily activities in terms of their hedonic and utilitarian benefits. Using a separate sample from the main study, I asked 180 participants to rate the activities using the hedonic-utilitarian items from Voss, Spangenberg, and Grohmann (2003). Each participant rated five activities from one of the five batches of daily activities. The pretest provided us with mean hedonic and utilitarian ratings for each activity on a 7-point scale. Figure 16 summarizes the activity ratings (for means and SDs, see Appendix J)



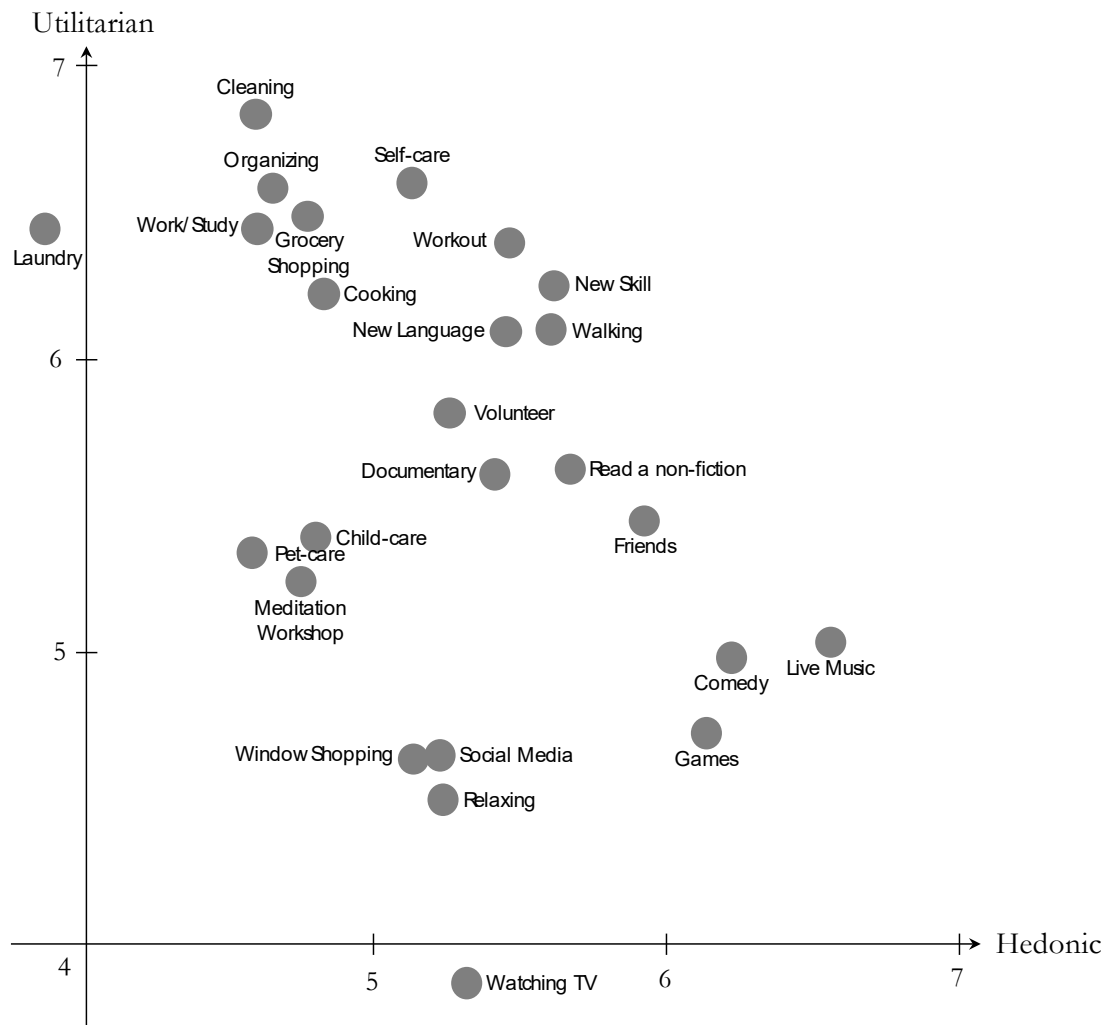


Figure 16 - Pretest of Daily Activities

#### 4.2.2 Pretest II – Manipulation Check

I designed a scenario instrument to manipulate the type of time gain. Because the main study did not include a manipulation check, I pretested the scenario using a different sample of 100 participants from M-Turk. All participants imagined gaining two hours of time either by buying a service or as windfall. In addition to text, the scenario also included a depiction of a calendar in both conditions before and after the time gain in order to facilitate participants' imagination (see the next section for the complete scenario). The results indicated that the scenario instrument successfully manipulated the sense of costliness related to time gain ( $M_{\text{bought time}} = 2.89$  vs.  $M_{\text{windfall time}} = 1.94$ , 5-point scale;  $t(1, 98) = 5.02, p < .001$ ).

### ***Method***

I used a one-factor between-subject experimental design with type of time gain as the independent variable (bought time vs. windfall time). For the primary dependent variable, I used three items to measure the hedonic aspects of the replacing activities. I also measured utilitarian aspects using three items without making an a priori prediction.

I recruited 150 participants from M-Turk to participate in this experiment in exchange for monetary payment. Based on the participants' self-reports, I excluded six cases in which the participants indicated having been interrupted during the survey or having been completely inattentive while responding to the survey. Therefore, the sample consists of 144 participants ( $M_{age} = 33.09$ , 57.6% female).

### ***Procedure***

Before the manipulation of time gain, participants were instructed to read the list of daily activities from the first pretest. They then chose three to four activities from the list that they would "most likely do on a typical Saturday from the morning until noon." They were then presented with their chosen activities and were asked to prioritize the activities from the most common to the least common.

I then presented participants with a scenario and asked them to imagine the described situation. Participants were instructed to imagine that "*you need to transcribe an interview from an audio file. You have already spent some time and completed the task, but unfortunately the text file is accidentally deleted and it seems impossible to recover, which means that you have to do the transcribing task again. Therefore, you plan to re-do this the next Saturday before noon. However, since you have transcribed the interview once, you are confident that you will not need to spend more than four hours on the job this time. Imagine that it is now Saturday morning and before getting started with the transcribing task, you are telling the story of losing the file to your friend.*"

After this part of the scenario, participants were randomly assigned to one of the time gain conditions (i.e. bought time or windfall time). In the bought time condition, they imagined paying a service company introduced by their friend to perform the transcribing for them. In the windfall condition, they imagined that their friend introduced them to a free software that successfully recovered the deleted file. Therefore, in both conditions

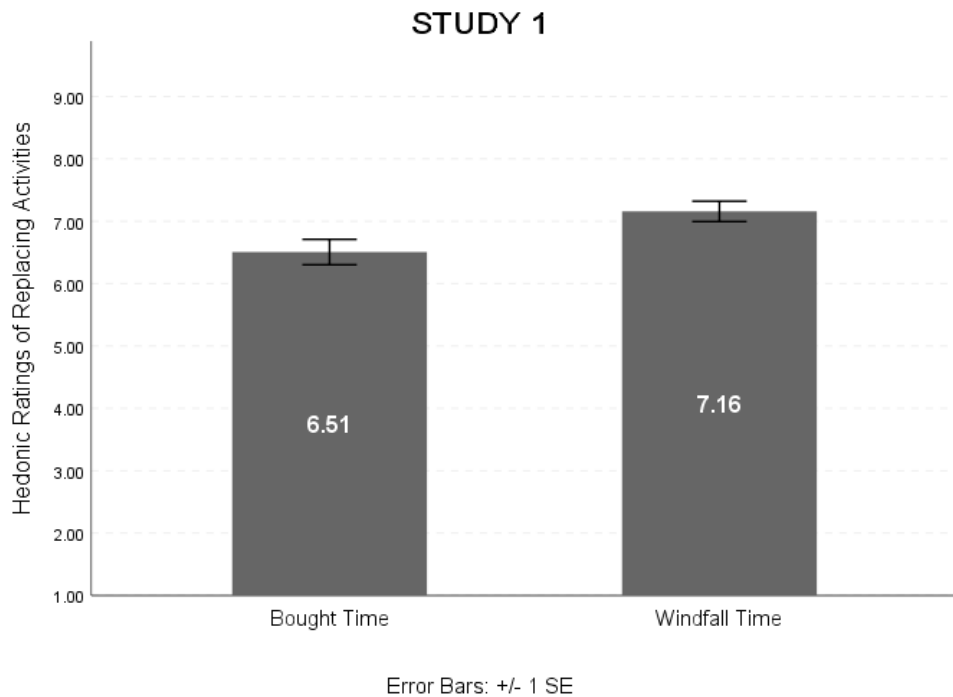
participants gained four hours of time and the transcribed text. The only difference between this scenario and that of the manipulation check pretest was that the length of time gain was increased from two hours in the pretest to four hours in the main study.

Similar to the pretest, I included a depiction of a calendar in both conditions before and after the time gain in order to facilitate participants' imagination of the scenario (see Appendix K). After the time gain manipulation, participants read the following sentence: "Now that you do not have to spend the extra 4 hours on the transcribing task, you decide to do the following activities that you indicated earlier". Each participant saw their own prioritized choices of typical Saturday activities. I then asked "How would you expect your Saturday morning to be like when you do these activities?", using a 9-point bipolar scale with six items (fun, delightful, and enjoyable for the hedonic aspects, and practical, necessary, and functional for the utilitarian aspects). As control variables, I measured perceived difficulty and enjoyment of transcribing as well as general time affluence. Participants responded to demographic measures before finishing the study.

### ***Results***

There was a significant main effect of type of time gain on hedonic ratings of the activities. As predicted, activities performed in bought time were rated as less hedonic ( $M_{\text{bought time}} = 6.51$ ,  $SD = 1.78$ ) than activities performed in windfall time ( $M_{\text{windfall time}} = 7.16$ ,  $SD = 1.33$ ;  $t(1, 142) = 2.45$ ,  $p = .01$ ). There was no significant difference between the conditions for the utilitarian aspects of the activities ( $M_{\text{bought time}} = 6.70$ ,  $M_{\text{windfall time}} = 7.01$ ,  $p = .25$ ).

I ran an ANCOVA to determine the effect of type of time gain on ratings of the hedonic aspects of the replacing activities after controlling for time affluence. The effect of time gain remained significant,  $F(1, 141) = 14.35$ ,  $p = .01$ , partial  $\eta^2 = .04$ , 95% CI = [.10, 1.16]. Furthermore, including difficulty and enjoyability ratings of transcribing in the ANCOVA did not influence the significance of the main effect of time gain,  $F(1, 139) = 6.01$ ,  $p = .01$ , partial  $\eta^2 = .04$ , 95% CI [.12, 1.18].



*Figure 17 - Study 1*

Additionally, I used the hedonic and utilitarian ratings of all activities from the pretest to form an index of participants' chosen activities in the main study to ensure that the content of the chosen activities did not differ across experimental conditions. As expected, there was no difference in the content of the replacing activities chosen by participants across the conditions (hedonic:  $M_{\text{bought time}} = 5.20$ ,  $M_{\text{windfall time}} = 5.23$ ; utilitarian:  $M_{\text{bought time}} = 5.61$ ,  $M_{\text{windfall time}} = 5.54$ ,  $p_s > .35$ ).

Study 1 documents that consumers expectations of their activities change depending on their mental accounting of the time in which they complete those activities. It thus provides preliminary evidence for the main effect that buying time decreases anticipated enjoyment from daily activities.

### 4.3 Study 2

I argued that the observed effect in Study 1 is driven by a mental accounting effect. Particularly I argued that the increased conflict between the source of time and the activity that it is spent on would result in feelings of guilt, which in turn could reduce enjoyment

of the replacing activity. In this study I seek to replicate the main effect of Study 1 in another context and test my proposed mechanism for the effect of time gain on anticipated enjoyment of the replacing activity. This study keeps the replacing activity constant across conditions and asks participants to rate their expectations of the replacing activity.

### ***Method***

I used a one-factor between-subject experimental design and manipulated type of time gain using a scenario. In addition, I added a baseline condition with no manipulation of time gain to provide a point of comparison for the replacing activity independent of type of time. Therefore, this study consists of three conditions: bought time, windfall time, and baseline. I determined the minimum sample size a priori using G\*Power (v3.1; Faul, Erdfelder, Buchner, & Lang, 2009) to have a power of 0.80 and an  $\alpha$ -error probability of .05 to detect the hypothesized main effect. Particularly, an a priori power analysis yielded a minimum sample of 269 to detect a medium-sized effect (effect size  $f = 0.25$ ) for the hypothesized relationship between type of time gain and anticipated enjoyment.

Considering the exclusion rate in scenario-based experiments, I recruited 300 students through Prolific to participate in this study in exchange for monetary payment. I pre-specified and pre-registered the exclusion criteria based on the time participants spent on instruction pages of the survey and a question that checked for their attention (see Appendix L for details). After the exclusions, the sample consisted of 261 respondents ( $M_{\text{age}} = 25.23$ , 66.7% female).

### ***Procedure***

The replacing activity in this study was a music festival organized at a university. All participants viewed and read the flyer of the event before reporting their anticipated enjoyment from participating in the music festival. However, prior to the dependent variable, participants in the time gain conditions read the following scenario:

*“Imagine that you have to submit a term-paper for a course you are taking this semester. Students could choose to write the term paper either individually or together with another student. You and a classmate decided to write the assignment as a team.*

*Together, you have prepared the essential parts of the term-paper such as data collection, analysis, discussion, etc. Most of the tasks related to writing the term-paper are complete, and it is almost ready for the deadline, which is next Saturday by 09:00 a.m.*

*Because your classmate had done considerably more for the data collection, you agreed that you will do all of the following remaining tasks and submit the paper before the deadline:*

- (1) References: adding in-text citations and making the reference list,*
- (2) Transcribing 30 minutes of an interview for the appendix,*
- (3) Reformatting footnotes and adding the table of content,*
- (4) Proofreading for grammatical errors and punctuation.*

*Later, while you are at the university, you see the following flyer:*

*(see Appendix M for event flyer)*

*Imagine that you decide to join this event. So you register and schedule the activity in your calendar.”*

Participants in both time conditions then imagined that “*it is now Friday at 13:30*”. In the bought time condition, participants then read that:

*“As you are getting ready to join the music festival in time, you receive a message from your classmate asking whether you have submitted the assignment. This message suddenly makes you realize that you had mixed up the dates for the deadline. By mistake, you had thought that the deadline is on the following Saturday, while it is actually this Saturday morning. This means that in order to be able to deliver the paper, the tasks have to be done immediately.*

*Furthermore, you realize that you will not be able to join the music festival now that the finalizing tasks of the term-paper must be completed.*

*Learning about this situation, your roommate who has taken this course in the previous semester, introduces you to an online service to which you can outsource the tasks by uploading the instructions. You quickly look into the service and based on the reviews from previous customers you expect high-quality delivery.*

*You quickly contact the service's online support to describe the tasks. They assure you that they will deliver the finalized paper in time for \$40. They guarantee that you will receive the completed job in your email. So you are sure that you can submit the paper on time the next morning before the deadline.*

*After a bit of thinking, you decide to pay the price and send the tasks to service company."*

In the windfall time condition, participants read that:

*"As you are getting ready to join the music festival in time, you receive a message from your classmate asking whether you have submitted the assignment.*

*This message suddenly makes you realize that you had mixed up the dates for the deadline. By mistake, you had thought that the deadline is on the following Saturday, while it is actually this Saturday morning.*

*This means that in order to be able to deliver the paper, the tasks have to be done immediately.*

*Furthermore, you realize that you will not be able to join the music festival now that the finalizing tasks of the term-paper must be completed.*

*Learning about this situation, your roommate who has taken this course in the previous semester, suggests you to contact the course teacher to explain the situation and ask to check if it would be possible to deliver the paper over the weekend. You sign-in to your university's online system in order to contact the course instructor, and to your relief, there is already a new announcement informing all students that since many have asked for an extension, the deadline is postponed for three more days."*

All participants were then instructed to vividly imagine themselves as they were entering the music festival. I then asked participants to indicate their anticipated enjoyment from the festival using three items on a 9-point scale similar to Study 1. To test the proposed mechanism, I asked participants in the time gain conditions to indicate how much guilt they would feel thinking about not doing the tasks on a 0–100 scale (measure adapted from Whillans and Dunn, 2018).

## Results

Similar to Study 1, the items measuring anticipated enjoyment asked participants to rate the extent to which they expected that attending the music festival would be fun, delightful, and enjoyable ( $\alpha = .93$ ). There was a significant main effect of experimental condition on anticipated enjoyment from the music festival. Participants in the bought time condition anticipated less enjoyment from the event ( $M_{\text{bought time}} = 5.16$ ,  $SD = 2.37$ ;  $F(2, 258) = 20.25$ ,  $p < .001$ ) than participants in the other conditions ( $M_{\text{windfall time}} = 6.77$ ,  $SD = 1.77$ ;  $M_{\text{baseline}} = 6.91$ ,  $SD = 1.70$ ). The difference in anticipated enjoyment was not statistically significant between the windfall and baseline conditions ( $p = .59$ ). The observed difference in anticipated enjoyment between time gain conditions replicates the finding in Study 1.

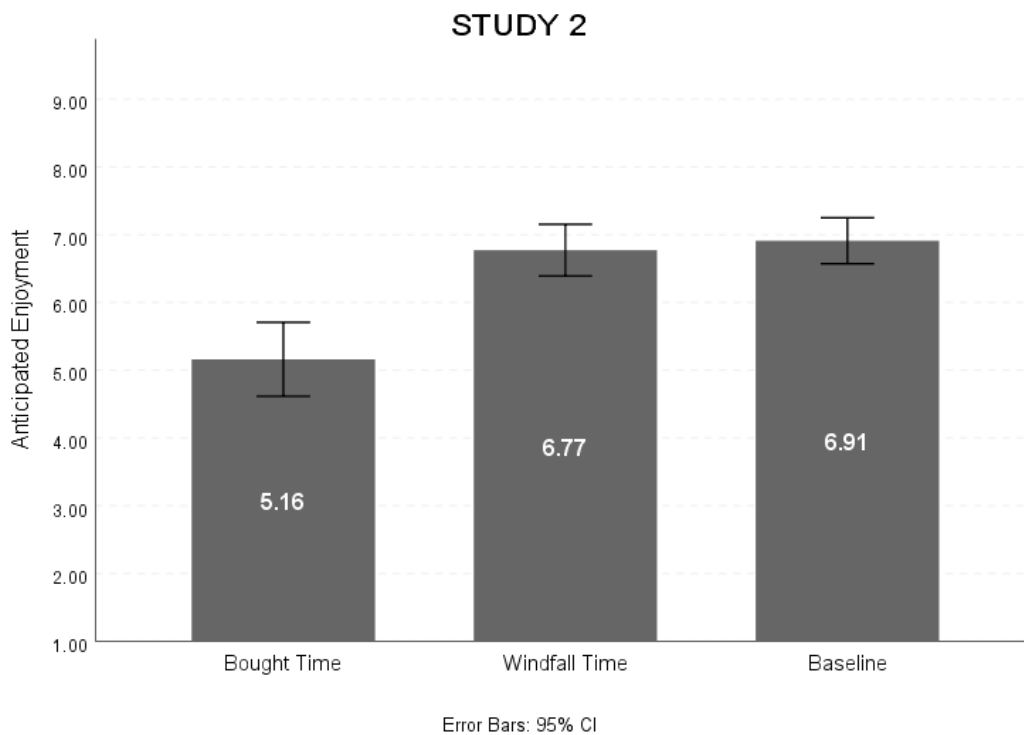


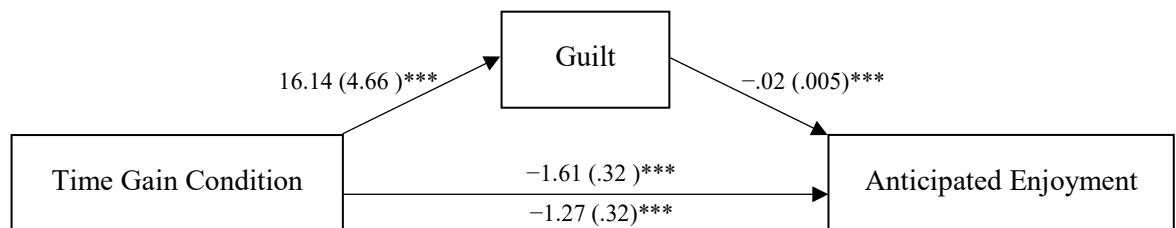
Figure 18 - Study 2

I ran an ANCOVA to determine the effect of type of time gain on anticipated enjoyment from the music festival after controlling for time affluence. Time affluence did not influence anticipated enjoyment ( $p = .74$ ), and the effect of time gain remained significant,  $F(1, 158) = 23.54$ ,  $p < .001$ , partial  $\eta^2 = .13$ , 95% CI = [.94, 2.25].



### Mediation Analysis

I measured participants' reported guilt arising from not doing the tasks across the time gain conditions. There was a significant difference in reported guilt between participants in the bought time conditions compared to windfall time ( $M_{\text{bought time}} = 76.13$ ,  $SD = 27.59$ ;  $M_{\text{windfall time}} = 59.98$ ,  $SD = 31.13$ ,  $t(159) = 3.45$ ,  $p < .001$ ). I predicted that the feeling of guilt would mediate the effect of time gain on anticipated enjoyment. A bootstrapping analysis with 5000 samples using Model 4 of Hayes's (2018) PROCESS indicated a significant indirect effect of type of time gain on anticipated enjoyment through higher reported guilt. I found that the 95% bias-corrected confidence interval (CI) for the size of the indirect effect excluded zero (indirect effect =  $-.33$ ,  $SE = .14$ , 95% CI =  $[-.66, -.09]$ ); buying time increased participants' feeling of guilt ( $a = 16.14$ ,  $p < .001$ , which in turn decreased their anticipated enjoyment of the music festival ( $b = -.02$ ,  $p < .001$ ). Once I included reported guilt in the model, the relationship between time gain condition and anticipated enjoyment ( $c = -1.61$ ,  $p = .001$ ) became smaller but not insignificant ( $c' = -1.27$ ,  $p < .001$ ), a result suggesting partial mediation.



*Notes.* Unstandardized coefficients are shown, and standard errors are presented in parentheses. The coefficient above the path from time gain condition to anticipated enjoyment represents the total effect without the mediator in the model; the coefficient below the path represents the direct effect when the mediator was included in the model. Coefficients significantly different from zero are indicated by asterisks ( $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ ).

Figure 19 - Mediation Analysis

To elaborate the mechanism of the main findings, I measured reported guilt arising from not doing the tasks, which partially mediate the observed effect. As opposed to my mental accounting explanation, an alternative possibility for the observed difference in guilt can be based on aversion to unfairness. In other words, participants in the bought time condition could feel more guilty because they may find the situation to be unfair that someone else (i.e., the service provider) would fulfill the tasks that they are capable of

completing themselves. Therefore, I measured participants' belief in a just world (BJW) which consists of the two aspects of distributive justice and procedural justice (Lucas, Zhdanova, & Alexander, 2011). I expected this variable to moderate the relationship between time gain, guilt, and anticipated enjoyment if aversion to unfairness was causing the effect. Neither aspects of belief in a just world moderated the main effect. They also did not moderate the mediating role of reported guilt. An ANCOVA with time gain condition as the independent variable and anticipated enjoyment as the dependent variable controlling for distributive and procedural belief in a just world showed that neither facets of BJW influenced anticipated enjoyment ( $ps > .30$ ), and the effect of time gain remained significant,  $F(1, 157) = 24.47, p < .001$ , partial  $\eta^2 = .13$ , 95% CI = [.97, 2.26]. I observed similar results in an ANCOVA with time gain condition as the independent variable and reported guilt as the dependent variable controlling for distributive and procedural BJW ( $F(1, 157) = 11.83, p = .001$ , partial  $\eta^2 = .07$ , 95% CI = [6.87, 25.40]). Thus, the observed increase in guilt is more likely to be due to conflicts between the mental accounts of the source of time and the activity that the time is spent on.

Furthermore, I conducted the analyses again without excluding any respondents to check whether the main findings of this study are robust to my pre-registered exclusion criteria. The results were unchanged. Participants in the bought time condition anticipated less enjoyment from the event ( $M_{\text{bought time}} = 5.38, SD = 2.30; F(2, 297) = 17.71, p < .001$ ) than participants in the other conditions ( $M_{\text{windfall time}} = 6.69, SD = 1.78; M_{\text{baseline}} = 6.89, SD = 1.69$ ). and controlling for time affluence did not influence the effect. Similarly, reported guilt partially mediated the effect of time gain on anticipated enjoyment (indirect effect =  $-.24, SE = .11, 95\% CI = [-.50, -.05]$ ).

## **Discussion**

Study 2 replicates the main finding of the previous study, showing that people anticipate lower enjoyment from the replacing activity when they buy time compared to windfall gains of time. Moreover, Study 1 did not address the possibility that the observed difference could stem from the possibility that participants' mood in the windfall gain condition was improved (i.e., feeling lucky and positive), thereby increasing their

anticipated enjoyment from subsequent activities. In this study, I included a baseline condition and I did not observe a significant difference in anticipated enjoyment between the windfall and baseline condition, suggesting that the observed effect is not due to heightened anticipated enjoyment in the windfall condition. Furthermore, this study provides initial evidence for the underlying mechanism of the effect of buying time on subsequent expectations. In particular, I showed that feelings of guilt partially mediate the negative effect of buying time on anticipated enjoyment.

#### **4.4 Study 3**

In order to further elaborate the underlying mechanism behind the main finding that buying time reduces anticipated enjoyment of the replacing activity, in this study I added a factor to manipulate the sense of responsibility toward the outsourced tasks. The addition of this factor enabled me to disentangle interpersonal guilt arising from a sense of responsibility from my proposed mechanism of mental accounting of time. If guilt arising from sense of responsibility begets the effect, then I expect to see a difference between the conditions that manipulate participants' sense of responsibility. However, if my proposed mechanism of conflict between the mental accounts of time begets the effect, then I do not expect sense of responsibility to have an impact.

Furthermore, attendance in the music festival was free in all conditions similar to the previous study. However, an alternative account of my observed effect could be constituted by the presence of *paying* in the bought time conditions, because participants in bought time conditions incur a cost in order to be able to attend the music festival. To control for the cost associated with the music festival, I added an additional control condition in which the music festival was not free. I label this condition as *Ticket*. Particularly, in the *Ticket* condition, the cost of entry to the music festival equals the amount that participants in the buying time conditions pay to outsource their tasks. If the reduction in anticipated enjoyment is due to the costliness of attending the music festival, I expect to observe a similar reduction in the ticket condition.

### ***Method***

I used a 2 (type of time gain: bought vs. windfall) × 2 (responsibility: external vs. internal) between-subject design in this study. In addition, I added two control groups. I created a baseline condition similar to Study 2 in which participants rated the music festival with no time gain or responsibility manipulations. I also added the ticket condition in which participants rated the music festival while imagining that they paid to attend the festival (see Appendix N).

As a result, there were six conditions in this study and participants were randomly assigned to one of each of these conditions. I aimed for 60 participants per condition. However, considering the exclusion rate of scenario-based experiments, I recruited 400 students to participate in this study in exchange for monetary payment. I used prespecified exclusion criteria identical to that of Study 2. After the exclusions, the sample consisted of 362 respondents ( $M_{\text{age}} = 23.92$ , 59.4% female).

### ***Procedure***

I manipulated time gain for the internal responsibility conditions using scenarios identical to those of Study 2. In the external responsibility conditions, participants imagined a similar situation with some changes in the reason for having to do the tasks. In particular, participants in the external responsibility read that:

*“... Because you had done considerably more for the data collection, your classmate agreed to do all of the following remaining tasks and submit the paper before the deadline:*

- (1) References: adding in-text citations and making the reference list,*
- (2) Transcribing 30 minutes of an interview for the appendix,*
- (3) Reformatting footnotes and adding the table of content,*
- (4) Proofreading for grammatical errors and punctuation.*

*... As you are getting ready to join the music festival in time, you receive a message from your classmate informing you that he/she has decided to drop the course and will not do the remaining tasks to finalize the assignment, since he/she is no longer going to take the exam.*

*The deadline to deliver the term paper is actually this Saturday morning.*

*This means that in order to be able to deliver the paper, the tasks have to be done immediately.*

*Furthermore, you realize that you will not be able to join the music festival now that the finalizing tasks of the term-paper must be completed.”*

After the first part of the scenario which manipulated sense of responsibility towards the tasks, participants continued with the second part of the scenario which manipulated type of time gain identical to the previous study. After reading the scenario, participants were instructed to vividly imagine themselves as they were entering the music festival. I then asked participants to indicate their anticipated enjoyment from the festival using the same three items from the previous studies.

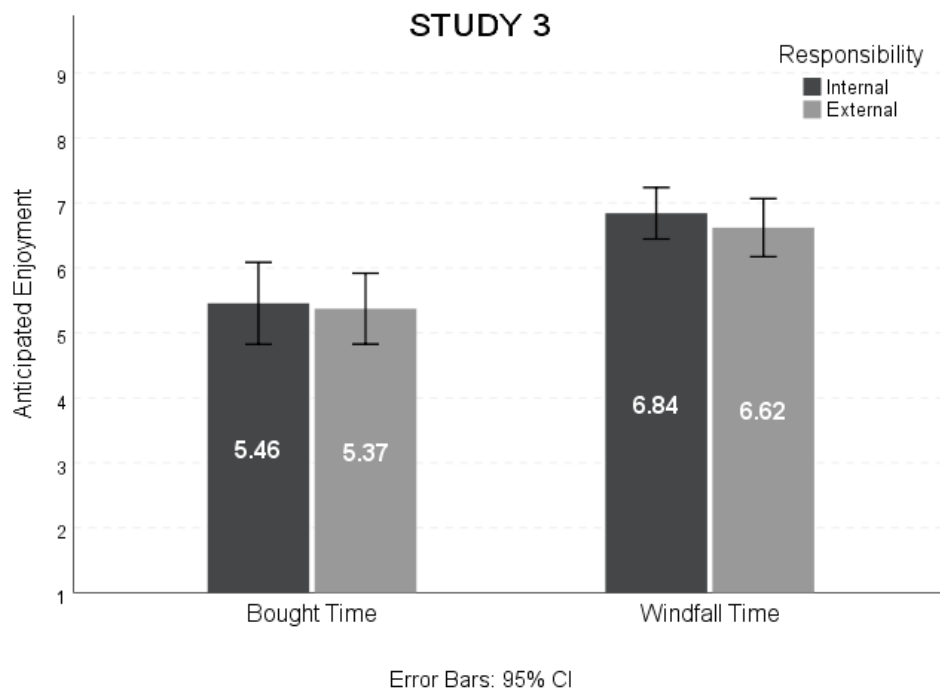


Figure 20 - Study 3

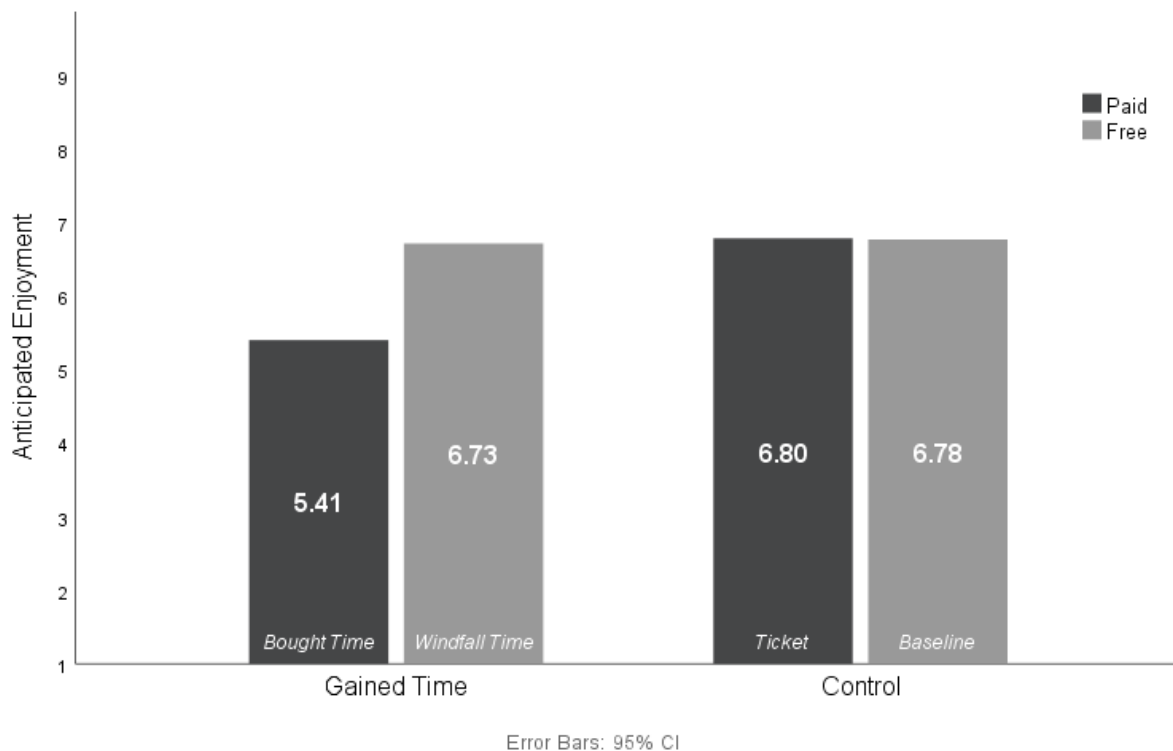
### **Results**

The items measuring anticipated enjoyment asked participants to rate the extent to which they expected that attending the music festival would be fun, delightful, and enjoyable ( $\alpha = .90$ ). I ran a two-way ANOVA consisting of the four conditions with manipulated factors.

Type of time gain had a significant main effect on anticipated enjoyment ( $M_{\text{bought time}} = 5.41$ ,  $SD = 2.16$ ;  $M_{\text{windfall time}} = 6.72$ ,  $SD = 1.68$ ,  $F(1, 234) = 27.54$ ,  $p < .001$ , partial  $\eta^2 = .10$ ). However, there was no significant main effect of responsibility ( $F(1, 234) = .36$ ,  $p = .54$ ) and no significant interaction between type of time gain and responsibility ( $F(1, 234) = .07$ ,  $p = .77$ , Figure 20).

Similar to Study 2, planned contrasts from a one-way ANOVA revealed no significant difference between the windfall time conditions and the baseline ( $t(356) = .18$ ,  $p = .85$ ). More importantly, participants in both bought time conditions reported significantly lower anticipated enjoyment from the music festival compared to participants in the ticket condition ( $t(356) = 4.72$ ,  $p < .001$ ). This finding suggests that the costs related to attending the music festival cannot explain the reduction of anticipated enjoyment when consumers buy time.

Figure 21 - Study 3



Note. Because there was no significant difference between the responsibility conditions the figure shows the groups collapsed into their respective time gain (For a figure depicting six conditions separately, see Appendix O)

### *Discussion*

Study 3 replicates the main finding that buying time reduces anticipated enjoyment from the replacing activity. It also rules out important alternative explanations for the underlying mechanism. The results indicate that anticipated enjoyment is not lowered by costliness factor of paying in order to attend the event, suggesting that the observed effect is specific to paying for time. Another alternative explanation could also be that subjects in bought time condition may experience negative affect due to realizing that they had not planned their tasks and activities well enough. The poor planning explanation is ruled out by the inclusion of the external responsibility condition. If negative affect from poor planning was causing the effect, I expected to see less of a reduction in the bought time external responsibility condition. Study 3 also addresses different sources of the guilt that participants reported in Study 2, providing support for the explanation that mental accounting of time is the underlying cause of the effect. This hypothesis remains to be directly tested in future studies.





## **5 General Discussion**

### **5.1 Summary of Findings**

Time is one of the most fundamental resources that all consumers spend and gain. In Chapter 1, I discussed why time is a conceptually unique resource, and I reviewed the multiple perspectives from which the construct of time as a resource has been studied within behavioral marketing. In Chapter 2, I investigated the role of exchange perspective in the exchange of time, finding that receivers of time undermine the effectiveness of their time gain. Moreover, I expanded the conceptualization of buying time as a prevalent consumer decision. Particularly, I identified two defining aspects of buying time, namely consumers' capability in fulfilling a task and their ability to allocate gained time to another activity. I then examined the role of each aspect in Chapters 3 and 4.

I found that, contrary to expectations, higher *domain* self-efficacy is associated with lower valuation of a service that completes a task within that domain, and leads to a decrease in consumers' willingness-to-pay for the service. Using a variety of tasks to test my hypothesis, I found that buying time is intertwined with low valuations. I examined perception of price unfairness and willingness-to-pay as two managerially important consequences of service marketing, and demonstrated that a shift in marketing communication from a focus on time benefits to a focus on other benefits of the service such as expertise can improve consumers' valuation of time-saving offerings. Moreover, in Chapter 4, I uncovered a novel consequence of buying time for consumers. Results across three studies showed that buying time may impair enjoyment from the activity that replaces the outsourced task. This finding complements the existing research on the association between buying time and consumer well-being.

### **5.2 Theoretical and Practical Contributions**

The empirical chapters in my dissertation contribute to existing marketing research on the topic of buying time in several ways. As the first empirical investigation to elaborate the role of exchange perspective in the exchange of time, I found that receivers underestimate

the effectiveness of their time gains. The discrepancy between the exchange roles can have important implications for interpersonal exchange of time in terms of consumers' prosocial behavior and reciprocity.

Given the prevalence of time-saving services in the market and the ever-growing need of consumers to take back control of their time, I investigated buying time from the perspective of the marketing manager. In Chapter 3, I revealed an innate challenge of marketing time-saving services and offered a strategic solution. Consumers who buy time consider themselves as capable of fulfilling the task that they outsource. I found that counter to an intuitive prediction, consumers high in domain self-efficacy are willing to pay less to redeem their time. Furthermore, because of the low salience of non-time components, time-buying consumers may view the price of the service as unreasonably high, resulting in higher perception of price unfairness. My research is the first to examine the relationship between consumers' perceptions of their capability (domain self-efficacy) and their valuation of the services that perform tasks within the same domain. These results have important implications for marketing managers, as they expose an overlooked challenge and suggest a potential remedy. Managers can benefit from a shift in their marketing communications from time components to non-time components of the service.

I also investigated buying time from the perspective of consumers. Although the existing research suggests a positive correlation between time affluence and well-being (Kasser & Sheldon, 2009; Whillans et al., 2017), a crucial question remains unanswered. Is more time always better? Having more discretionary time enables consumers to engage in more intentional activities (Lyubomirsky, Sheldon, & Schkade, 2005) and consumer more experiential products (Van Boven & Gilovich, 2003), which have been shown to account for a considerable portion of the variance in happiness levels. Furthermore, buying time is expected to reduce chronic stress and allow consumers to engage in intrinsically rewarding activities (Whillans et al., 2017; Whillans, Pow, et al., 2018). However, recent evidence suggests that more discretionary time does not always result in higher life satisfaction (Kantenbacher, 2015; Sharif et al., 2018). Particularly, life satisfaction is reduced after the amount of discretionary time exceeds a certain point. The existing

research within this domain has taken a longer timeframe in its investigation of the relationship between time affluence and well-being, treating the former as a persistent characteristic and the latter as remembered happiness. However, remembered happiness and experienced happiness are both important aspects of life satisfaction (Kahneman, 2010; Mogilner & Norton, 2019). Therefore, I investigated this relationship in a shorter timeframe focusing on situational time gains and experienced happiness. My findings in Chapter 4 suggest a possible route along which acquiring time can impede enjoyment from subsequent activities, thereby reducing experienced happiness. I found that purchases of time-saving services may give rise to a feeling of guilt, which would negatively influence the hedonic aspects of replacing experiences.

The research on the topic of buying time is a new and growing field in marketing. I based the theoretical development of my dissertation on the existing work and expanded them both conceptually and empirically. I also developed a novel paradigm to manipulate the type of time gain, which can be used to explore other outcome variables of interest to consumer researchers. Overall, this research furthers our understanding of time as a resource by documenting three behavioral effects never before studied: the role of perspective in an exchange of time, the impact of consumers' self-efficacy on their valuation of time-saving services, and the influence of buying time on anticipated enjoyment. Together, the conceptual and empirical chapters of my dissertation addressed the broader question of how consumers view, value, and exchange time as a resource.

### **5.3 Limitations and Directions for Future Research**

There are several limitations to my dissertation. For example, although the results indicate that a shift from time benefits to expertise can boost service valuation, an examination of other non-time components of acquiring such services (such as status-seeking) would result in more comprehensive insights. Furthermore, although I manipulated the salience of service components in the last study of Chapter 3, I did not provide direct process evidence as to why high domain self-efficacy decreases service valuation. Therefore, my research would benefit from future studies that test the hypothesized underlying mechanism.

The finding that buying time may reduce enjoyment of the replacing activity was based on imagined gains of time and anticipated enjoyment. These results would greatly benefit from future field and lab experiments in which consumers would actually gain time and report their experienced enjoyment from the replacing activity. Furthermore, the results indicated that other unobserved variables may be contributing to this effect. Although I provided mediational evidence and ruled out multiple alternative accounts, a more direct examination of the role of mental accounting of time is required to further clarify the underlying mechanism.

It would also be beneficial to study the moderating role of the frequency of buying time. In other words, lower enjoyment from the replacing activities may be limited to occasional purchases of time-saving services as opposed to frequent purchases. This possible boundary condition remains to be tested, and will have important implications both for marketing managers of service firms and time-buying consumers. All in all, the topic of buying time leaves many questions open for future studies. Among many other variables, my dissertation did not address buying time in relation to goals, cultures, and personalities. For example, it would be beneficial to investigate whether buying time would influence the choice and experience of subsequent activities in collectivist cultures.

## **5.4 Conclusion**

I began with an overview of the concept of resources, presented a review of previous studies on time as a resource, and elaborated on the ways in which time is a distinct resource. In an effort to explore the uniqueness of time, I documented the role of perspective in an exchange of time, investigated marketing of time-saving services, and demonstrated that buying time can reduce anticipated enjoyment from replacing activities. Time is unique in many ways. Consumers not only buy, manage, save, and spend time, they also often contemplate their relationship with time: “Well, we think that time passes, flows past us, but what if it is we who move forward, from past to future, always discovering the new? It would be a little like reading a book, you see. The book is all there, all at once, between its covers. But if you want to read the story and understand it, you must begin with the first page, and go forward, always in order. So the universe would be a very great book, and we would be very small readers” (Le Guin, 1974, p. 46).

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## Appendices

### A. Studies 1 and 2, Chapter 2

The final paragraph of the highlighting task:

Schools and universities typically have a summer break to take advantage of the warmer weather and longer days. In almost all countries, children are out of school during this time of year for summer break, although dates vary. In the **United States**, public schools usually end in early **June** while colleges get out in early May. Although some schools get out on the last or second last Thursday in May. In India, school ends in **April** and resumes in late **June** or early July. In **England** and Wales, school ends in mid-July and resumes again in early September; in Scotland, the summer holiday begins in late June and ends in mid- to late-August. Similarly, in **Canada** the summer holiday starts in late June and end at the very start of September. In **Russia** the holiday begins in the end of May and ends at August, 31. In the **Philippines**, the months of **April** and May make up the summer break In the Southern Hemisphere, school summer holiday dates include the major holidays of Christmas and New Year's Day. School summer holidays in Australia, New Zealand and South Africa begin in early-December and end in early February, with the dates varying between states. In Cameroon and Nigeria, schools usually go for summer vacation in mid-July and resume back in the later weeks of September or first week of October.



### B. Domain Self-efficacy

1. I feel confident in my ability to complete the task.
2. I am capable of completing this task.
3. I am pretty skilled at this task.
4. I feel able to meet the challenge of completing this task.
5. I feel that I can complete this task effectively.
6. I think I will be unsatisfied with my performance at this task.
7. I don't think I am very good at this task.

The text of items were adjusted depending on the task in question.

### C. Study 1, Chapter 3

Means, Standard Deviations, and Overall Relationship among Variables in Study 1 (Copy-editing)

Variable	1	2	3	4	5	6	7	8
1 Domain Self-efficacy	--							
2 WTP	-.369**	--						
3 Unfairness Perception	.22*	-.60**	--					
4 Perceived Task Enjoyability	.33**	-.10	.07	--				
5 Perceived Task Difficulty	-.71**	.25**	-.15	-.39**	--			
6 Interest in Task	.29**	-.11	.03	.84**	-.38**	--		
7 Time Affluence <sup>1</sup>	-.05	.13	.04	-.11	.06	-.12	--	
8 Age	.01	.04	-.09	.07	.02	.12	-.17	--
<i>M</i>	5.47	37.26	79.5	3.40	3.26	3.68	2.89	37.97
<i>SD</i>	1.35	35.33	38.37	1.77	1.51	1.75	1.00	11.57

Note.<sup>1</sup>. Scale: 1-5 \*\*p < .01 \*p < .05

Means, Standard Deviations, and Overall Relationship among Variables in Study 1 (Tax Preparation)

Variable	1	2	3	4	5	6	7	8
1 Domain Self-efficacy	--							
2 WTP	-.27**	--						
3 Unfairness Perception	.21*	-.32**	--					
4 Perceived Task Enjoyability	.42**	.00	-.06	--				
5 Perceived Task Difficulty	-.70**	.13	-.02	-.45**	--			
6 Interest in Task	.42**	-.00	-.06	.78**	-.41**	--		
7 Time Affluence <sup>1</sup>	-.12	.09	-.10	-.06	.21*	-.13	--	
8 Age	.25*	.11	-.08	.04	-.156	.10	-.07	.20*
<i>M</i>	4.89	81.89	176.53	2.70	4.11	3.57	2.96	37.45
<i>SD</i>	1.53	65.89	70.58	1.70	1.49	1.69	.95	11.40

Note.<sup>1</sup>. Scale: 1-5 \*\*p < .01 \*p < .05

Means, Standard Deviations, and Overall Relationship among Variables in Study 1 (Washing a Car)

Variable	1	2	3	4	5	6	7	8
1 Domain Self-efficacy	--							
2 WTP	-.21*	--						
3 Unfairness Perception	-.18	-.38*	--					
4 Perceived Task Enjoyability	.16	.01	.05	--				
5 Perceived Task Difficulty	-.66**	.17	-.18*	.33*	--			
6 Interest in Task	.13	-.02	-.04	.78**	-.17	--		
7 Time Affluence <sup>1</sup>	-.18*	.09	.03	-.11	.05	-.14	--	
8 Age	.21*	-.19*	.08	-.07	-.03	-.09	-.09	--
<i>M</i>	5.75	25.49	6.07	3.00	3.41	3.34	3.10	37.56
<i>SD</i>	1.25	16.25	8.29 <sup>a</sup>	1.57	1.37	1.56	.99	11.02

Note.<sup>1</sup>. Scale: 1-5, <sup>a</sup>60.3% found the stated price as fair, therefore unfairness measure includes 73 cases with the value of zero.

\*\*p < .01 \*p < .05

### D. Study 2, Chapter 3

Step	Task	Inclusion Criteria	Content of Instruction	# Cases Excluded (after each step)
1	Instruction to perform in the assessment task	$t > 5$ seconds	92 words to read	7
2	Performing the task	$t > 15$ seconds	Playing a 43-second long audio and transcribing the text	0
3	Reading the manipulation feedback	$t > 3$ seconds	27 words to read	2
4	Instruction to imagine the focal task	$t > 3$ seconds	40 words to read	14
5	WTP measure	$WTP \text{ upper bound} - WTP \text{ lower bound} > 0$		1

---

*Note.*  $t$  denotes the time that each participant spent on the page that included the task, instructions, or measure. The timer was not visible to participants.

### E. Assessment Questions for Feedback Manipulation in Study 3, Chapter 3

In the first part of the survey, you will see a number of questions that will assess your knowledge of a given area.

Please take as much time as you need to answer the questions.

Please only use your personal knowledge and do not search for the correct answers using other resources (e.g. search engines).

In this assessment, the only person who can have access to your individual result is you. Even the researchers will not be able to see an individual respondent's assessment results. Therefore, please choose the answer that feels correct to the best of your knowledge.

The topic of your short assessment is "General Knowledge About Copy-editing"

Q1. Is the following statement true or false: "Copy-editors are only responsible for fixing the grammar and spelling in a piece of writing"

True    False

Q2. The \$1 million donation from the industrialist did not \_\_\_\_\_ my vote against the "Clean Air Act."

effect    affect

Q3. Joe and Pete are going to have an early-morning surf session that \_\_\_\_\_ going to remember for years.

their    there    they're

Q4. He ordered \_\_\_\_\_ worth of cookies from Corner Bakery.

a hundred dollars      \$100    one hundred dollars

Q5. Neither Hannah nor her sisters \_\_\_\_\_ been to the movie.

have    has

Q6. Which part of the following passage contains an error?

Michael Weinstein's AIDS Healthcare Foundation treats an enormous amount of patients — and makes an enormous amount of money.

Michael Weinstein's AIDS Healthcare Foundation

an enormous amount of patients

— and makes

an enormous amount of money.

The passage does not contain an error.

Q7. Is a professional copy-editor responsible for the tone and voice of a written document?

Yes    No

Q8. Which part of the following passage contains an error?

"I can't comment on the president's tax situation since I don't have access to that, O.K.?" He said when asked how large of a tax cut the president would receive under his own plan.

the president's      O.K.?" He said      how large of a tax cut

Q9. The girl was only \_\_\_\_\_ years old when she got admitted to college.

16      sixteen

Q10. Which part of the following passage contains an error?

The CEO thanked and congratulated her accountant, whom she said has "been working on this for a long time, to make it perfect."

thanked and congratulated

whom she said has

has "been working on this

for a long time, to make it perfect."


**F. Study 4, Chapter 3**

Step	Task	Inclusion Criteria	Content of Instruction	# Cases Excluded (after each step)
1	Writing responses	A coder read the text entries and noted participants whose response had no relevance to the task: for example bot answers		12
2	Reading Service Advertisement If no elaboration	$t > 3$ seconds	See Appendix G	8
3	Reading Service Advertisement If with elaboration	$t > 10$ seconds	See Appendix G	13
4	WTP measure	$WTP \text{ upper bound} - WTP \text{ lower bound} > 0$		5

---


*Note.*  $t$  denotes the time that each participant spent on the page that included the task, instructions, or measure. The timer was not visible to participants.

G. Study 4, Chapter 3



PureHome™


**Save Time**  
Leave it to the experts  
Satisfaction Guarantee  
Highly rated ★★★★★



PureHome™

**Leave it to the Experts**  
Save Time  
Satisfaction Guarantee  
Highly rated ★★★★★

G. (continued)




**Save Time**  
Leave it to the experts  
Satisfaction Guarantee  
Highly rated ★★★★★

Our company provides you with an outstanding cleaning job at an affordable price. PureHome™ offers a full range of cleaning services, consistently trusted by a large number of customers for more than two decades. If you dream of walking into an immaculate home, PureHome™ is ready to help.

Why spend time cleaning your place when you could give yourself the time to focus on what matters most to you? Using our cleaning services will ensure that you gain back your time, and make it truly yours. You will have the opportunity to do the activities you enjoy most, knowing that you no longer have to worry about cleaning.

We understand that you might be busy, that is why we love to help our customers free their mind from tasks like cleaning, so that they can do whatever they wish with their time.

All our standard cleanings include dusting and washing of all reachable surfaces, wiping the outside of kitchen appliances & cabinets, basic cleaning of the bathrooms, and vacuuming and mopping of all floors.



**Leave it to the Experts**  
Save Time  
Satisfaction Guarantee  
Highly rated ★★★★★

Our company provides you with an outstanding cleaning job at an affordable price. PureHome™ offers a full range of cleaning services, consistently trusted by a large number of customers for more than two decades. If you dream of walking into an immaculate home, PureHome™ is ready to help.

Our certified cleaners are true professionals trained to make sure your home is transformed into a spotless place. They systematically review the space, develop a strategy to perform the job, and diligently use the right material in removing dirt, sanitizing, vacuuming, mopping and cleaning areas that never receive attention.

Domestic cleaning products are unable to efficiently remove stains, are toxic and can cause damage to the surface, and contain caustic chemicals. Our expert cleaners will thoroughly clean your furniture and appliances using non-caustic, non-toxic, eco-friendly cleaners. We work efficiently and ensure that the cleaning will produce almost no waste.

All our standard cleanings include dusting and washing of all reachable surfaces, wiping the outside of kitchen appliances & cabinets, basic cleaning of the bathrooms, and vacuuming and mopping of all floors.



## H. Time Affluence

Please indicate the extent to which the following statements generally describe you.

Strongly agree	Somewhat agree	Neither agree nor disagree	somewhat disagree	Strongly disagree
-------------------	-------------------	----------------------------------	----------------------	----------------------

My life is too rushed.

I have plenty of spare time.

I am racing from here to there.

I have enough time to do what I need to do.

I am able to take life at a leisurely pace.

There is not enough minutes in the day.

I have time to do the things that are important to me.

*From Kasser and Sheldon (2009)*

## I. Study 4, Chapter 3

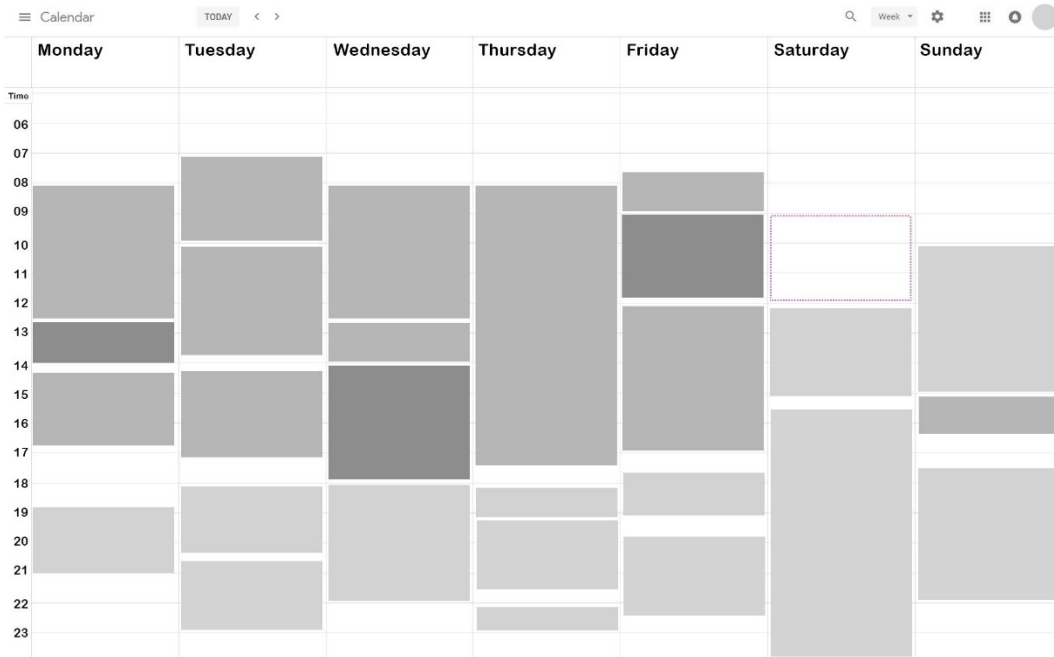
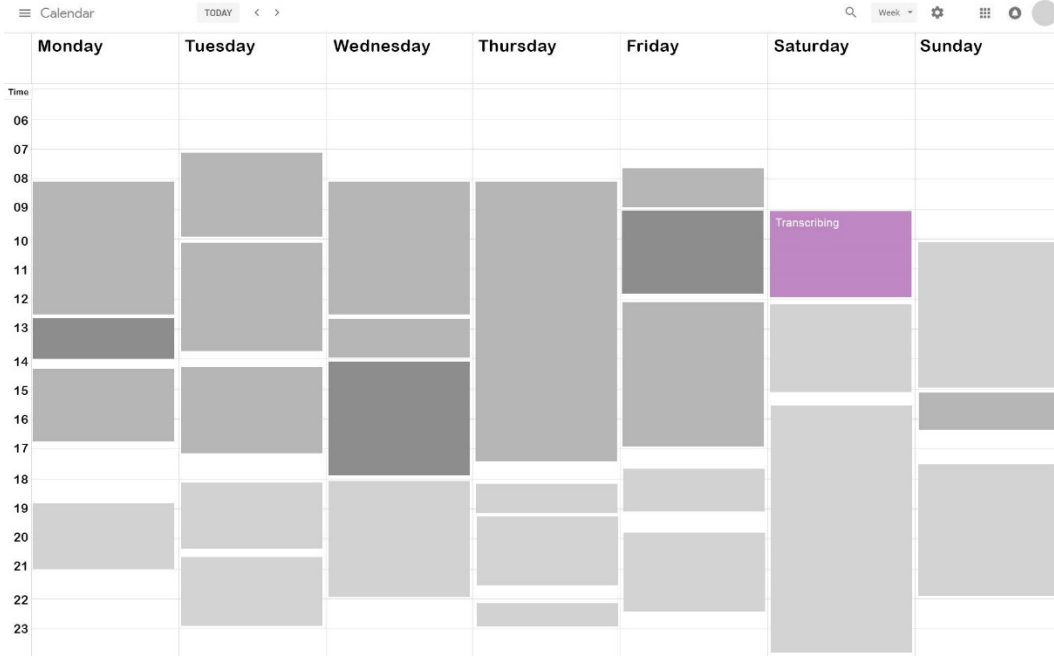
Conditional effects of Marketing Communication Focus at values of Time Affluences

Time Affluence	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
1.00	19.40	7.04	2.75	.0063	5.54	33.26
1.20	18.20	6.46	2.81	.0052	5.47	30.94
1.40	17.01	5.91	2.87	.0043	5.37	28.65
1.60	15.82	5.37	2.94	.0035	5.23	26.40
1.80	14.62	4.86	3.00	.0029	5.04	24.21
2.00	13.43	4.40	3.05	.0025	4.76	22.09
2.20	12.23	3.98	3.07	.0023	4.39	20.08
2.40	11.04	3.63	3.03	.0026	3.88	18.20
2.60	9.85	3.38	2.91	.0039	3.19	16.51
2.80	8.65	3.24	2.67	.0080	2.27	15.03
3.00	7.46	3.22	2.31	.0215	1.10	13.81
3.15	6.51	3.30	1.96	.0500	.00	13.03
3.20	6.26	3.34	1.87	.0618	-.31	12.85
3.40	5.07	3.57	1.41	.1569	-1.96	12.11
3.60	3.88	3.90	.99	.3211	-3.80	11.57
3.80	2.68	4.30	.62	.5332	-5.79	11.16
4.00	1.49	4.76	.31	.7542	-7.89	10.87
4.20	.30	5.26	.05	.9546	-10.06	10.66
4.40	-.89	5.79	-.15	.8776	-12.30	10.51
4.60	-2.08	6.34	-.32	.7426	-14.58	10.41
4.80	-3.28	6.91	-.47	.6357	-16.90	10.33
5.00	-4.47	7.50	-.59	.5513	-19.24	10.29

**J. Pretest I, Study 1. Chapter 4**

N	Activity	Hedonic	SD <sub>H</sub>	Utilitarian	SD <sub>U</sub>
33	Going for a walk	5.60	0.70	6.10	0.69
	Watching a comedy movie	6.19	0.56	5.00	0.79
	Practice learning a language	5.40	1.02	6.07	0.74
	Taking care of your appearance (e.g., getting a haircut, shaving, showering, etc.)	5.09	0.87	6.59	0.51
	Going grocery shopping	4.76	0.95	6.49	0.66
40	Meeting or talking to friends	5.97	0.98	5.45	0.94
	Going window shopping	5.13	1.18	4.60	1.08
	Participation in a meditation workshop	4.74	1.05	5.23	1.26
	Take care of a child for a few hours	4.80	1.23	5.41	1.40
	Do laundry and ironing	3.83	0.73	6.42	0.89
35	Going for a workout/exercise session	5.46	1.04	6.40	0.75
	Going to a live music event	6.59	0.78	5.10	0.94
	Reading a non-fiction book	5.71	1.02	5.65	0.77
	Cleaning your place	4.30	1.22	6.82	0.71
	Work/Study for a few hours	4.59	1.08	6.48	0.82
35	Browsing social media	5.19	1.08	4.67	0.94
	Playing games (e.g., board games, video games, etc.)	6.10	1.13	4.71	0.99
	Watching a documentary movie	5.45	0.96	5.57	0.88
	Organizing your place	4.68	1.18	6.57	0.80
	Learning/practicing a new skill	5.62	1.12	6.25	1.02
37	Volunteering for charity	5.28	1.21	5.76	0.92
	Relaxing	5.23	1.21	4.55	1.82
	Taking care of a pet	4.66	1.68	5.40	1.45
	Cooking	4.79	1.70	6.17	0.75
	Watching TV	5.32	1.45	3.37	1.56

### K. Study 1, Chapter 4



**L. Study 2, Chapter 4**

Step	Task	Inclusion Criteria	Content of Instruction	# Cases Excluded (after each step)
1	Attention check question	Correct answer	Factual question about scenario or music festival	8
2	Reading the first part of the time gain scenario	$t > 20$ seconds	162 words to read (see <i>Method</i> )	27
3	Reading the flyer	$t > 15$ seconds	See Appendix M/N	4

---

*Note.*  $t$  denotes the time that each participant spent on the page that included the task, instructions, or measure. The timer was not visible to participants.

## M. Studies 2 and 3, Chapter 4

# MUSIC FESTIVAL

Friday at 15:00

### Part I - Workshops

**Talks:** Attend one of the following presentations to learn about music.

- Music as media: How music has moved democracies forward
- Understanding the mental benefits of music
- Folk music across continents: The musical connections between cultures

**Practice:** Learn more about your favorite instruments. Explore a variety of different instruments.

Join the numerous instrument rooms where you can learn the basics of different instruments from musicians specialized in each instrument. Start making music yourself!

### Part II - Dinner

### Part III - Live Concert and Party until midnight!



Free

Use this QR-Code to register

Organized by the Student Associations  
and The National Academy of Music

No entry after 15:00

N. Study 3, Chapter 4 – Ticket Condition

# MUSIC FESTIVAL

Friday at 15:00

## Part I - Workshops

**Talks:** Attend one of the following presentations to learn about music.

- Music as media: How music has moved democracies forward
- Understanding the mental benefits of music
- Folk music across continents: The musical connections between cultures

**Practice:** Learn more about your favorite instruments. Explore a variety of different instruments.

Join the numerous instrument rooms where you can learn the basics of different instruments from musicians specialized in each instrument. Start making music yourself!

## Part II - Dinner

## Part III - Live Concert and Party until midnight!



Use this QR-Code to register

Organized by the Student Associations  
and The National Academy of Music

No entry after 15:00

O. Study 3, Chapter 4

