

**Feeling Short on Time:
Trends, Consequences, and Possible Remedies**

MELANIE RUDD¹

¹ Melanie Rudd is an Assistant Professor in the Department of Marketing and Entrepreneurship at the University of Houston, C. T. Bauer College of Business, 334 Melcher Hall, Houston, TX 77204-6021 (email: mrrudd@bauer.uh.edu; phone: 713-743-5848). Declarations of interest: none.

ABSTRACT

This review highlights recent research on time shortage, which has been broadly classified into three streams. Building upon decades of time use survey and diary findings, the trends and demographics stream documents the latest longitudinal changes in perceptions of time shortage (including a recent decline) and provides an increasingly clear picture of who is hardest hit by time shortage. Meanwhile, the consequences stream has underscored that although time shortage has myriad negative outcomes, busyness and time pressure are not all bad news. Last, the nascent remedies stream has largely sought to ameliorate time shortage not by altering people's actual, objective temporal resources, but instead by offering safeguards against or shifting people's perceptions of time shortage.

How time affluent or rich in time do you feel? If your answer is that daily life often feels rushed and you frequently utter the phrase “I have no time,” you are not alone. Various terms “time shortage,” “time crunch,” “time famine,” “time poverty,” “time pressure,” “time scarcity,” “time squeeze,” and “time stress” [1-7], the feeling of having too much to do and not enough time to do it is prevalent in modern society. Due to this phenomenon, burgeoning streams of research in the 21st century have sought to answer important questions about time famine trends, the consequences of feeling pressed for time, and how to influence perceived time affluence (see Figure 1).

Time Shortage Trends and Demographics

To gain insight into how both actual time use and perceived time pressure have changed over the course of the modern era, researchers have traditionally turned to large-scale time use surveys and time-diary studies [1,6,8-10●,11,12,13●-17]. Though conflicting conclusions have been drawn about trends in actual time use (e.g., there is debate over whether the amount of free time people have has changed since the 1960s and whether people spend more or less time at work now than they did in the past; [1,6,8,12,13●-15]), the findings for trends in subjective perceptions of time have been less contentious. For instance, research has shown that there was a gradual uptick in the proportion of American adults who reported always feeling rushed between 1965 and the early 1990s (from about one quarter of adults surveyed to over one third; [8-9,14]), after which point these proportions plateaued for over a decade [8-9,13●] before declining back towards the proportions seen in decades prior (with some researchers expressing worry that this latest trend merely represents an adaptation to an ever-faster pace of life; [10●,11]). However, it is important to remember that although reported perceptions of time pressure may have waxed and waned a bit over time, the current state of affairs is that a considerable proportion of people

still report feeling time crunched and lacking time affluence [10●,11,18-21]. For instance, in a recent nationwide poll, nearly half of Americans reported feeling that they do not have enough time to do what they want to do [19]. And myriad surveys have recently found that approximately two thirds of Americans say that they always or sometimes feel rushed and half say that they almost never feel that they have time on their hands [10●].

Another important contribution of research involving time use surveys and diaries is insight into the question of who is most liable to experience time famine. Although no demographic groups appear immune to feeling time pressure, the perception of being time crunched is more pervasive among certain population segments. For instance, perceptions of low time affluence are generally more acute for women, dual-earner couples, working parents, and well-educated individuals in professional or managerial positions [1,6,8,12,14,16,17,20]. Furthermore, even though time stress exists across all income levels, the wealthy tend to be especially prone to feeling time crunched [13●,22]. Looking more globally, there is evidence that people living in the United States may feel more starved for time than do those in many other parts of the world [6,8,13●]. However, feelings of time famine have been reported in other western and/or technologically advanced societies as well. For instance, research and reports from Canada, Australia, Russia, Japan, Korea, Norway, and Germany offer evidence that people living in these countries also contend with feelings of being always rushed, a pace of life that feels hectic, and the perception that there is not enough time [1,8,13●,23-27].

Digging deeper into the relationship between culture and time, research has also uncovered that the pace of life feels faster and time more scarce in cultures where time is viewed as a straight line along which one progresses and where individuals typically let an external clock dictate when tasks begin and end [28-30]. In contrast, life tends to feel less rushed and time

more abundant in cultures where time is viewed as a circular system in which the same events repeat according to some cyclical pattern and where tasks are planned relative to other tasks (and people transition from one to the next when they internally sense the former task is complete; [28-31]). This line of research suggests that cultural differences in how time itself is viewed may contribute to people's perceptions of time affluence.

Pitfalls and Profits of Perceived Time Shortage

As feelings of time shortage and busyness have become customary features of life for many, interest in identifying the downstream consequences of these feelings has grown. And the unfortunate news is that feelings of time scarcity and pressure have been linked to a whole host of undesirable outcomes. For instance, time famine can negatively impact physical health: It is linked to insomnia, fatigue, obesity, high blood pressure, hypertension, and poorer self-rated health [32-36]. Moreover, it is not just physical health that can be jeopardized by time famine, but mental health as well, as feelings of time scarcity are associated with greater depression, stress, and emotional exhaustion as well as lower subjective well-being (e.g., lower happiness, life and job satisfaction, and mindfulness; [1,4,8,37-41]). Time famine has also been found to result in some harmful and unsavory behaviors. For instance, feeling pressed for time is linked to greater unhealthy eating and consumption of convenience foods (e.g., fast food; [42-45]) as well as a lower likelihood of engaging in exercise and physical activities [37,41,45]. It can even lead people to delay a visit to a doctor when feeling ill [46]. In addition, perceptions of time shortage can encourage people to perform behaviors that harm those around them, such as driving while distracted (e.g., texting while driving), adopting an ecologically damaging lifestyle, and failing to stop and offer aid to someone in need [47-49]. As a final example, people who feel time scarce will commonly try to alleviate their time famine by engaging in time-deepening

behaviors (e.g., speeding-up, shortening and substituting activities, and multi-tasking)—behaviors that have the ironic consequence of making people feel even more rushed and time scarce (in addition to undermining their feelings of productivity and happiness and preventing them from immersing themselves in an activity and achieving a state of flow; [1,8,22,50●,51]).

At this point, it may be tempting to conclude that time shortage is inherently bad and that people would be better off if they could eradicate feelings of time pressure and busyness from their lives. Things are not this simple, however, as other research indicates that busyness may have benefits and that too much time affluence could be a bad thing. For instance, one possible benefit of time shortage is that greater busyness has been associated with better cognition (e.g., processing speed and memory; [52]). There is also evidence that some people seek out and boast about time shortage [53] because a hectic and busy lifestyle is now seen as an aspirational status symbol or badge of honor [54-57●]. In fact, recent research has shown that these positive status inferences are driven by perceptions that a busy person is competent and ambitious, someone who is scarce and in high demand [57●]. Moreover, when people feel busy (vs. not busy) they perceive that they are using their time more effectively and are thus more motivated to complete a task after missing a deadline (since they are less likely to experience a sense of failure; [58●]). Time shortage and busyness can also be beneficial by helping to ward off idleness and excessive time affluence, which people find aversive. Indeed, if people become too time affluent (e.g., they have time that they do not know what to do with) it makes them less happy [10●,59] and, compared to people who are idle, those who are busy are happier [60]. But people (even those who say they prefer to be busy) must be careful, because if their experience of busyness becomes overrun with time pressure and stress, then their time shortage will start leading to negative outcomes (e.g., less positive mood and lower life satisfaction; [41●]). Taken together, these

findings suggest that, much like Goldilocks, people may benefit the most when they feel their time affluence is “just right” (i.e., neither too excessive nor too limited).

Safeguarding Against and Shifting Perceptions of Time Shortage

If perceptions of time shortage have important consequences for people’s behaviors and physical and mental health, as research suggests, then being able to shift these perceptions or buffer people against any undesirable outcomes would be highly advantageous. Although empirical research in this area is still relatively nascent, valuable insights have been uncovered. For instance, research has found that altering the way in which people view and prioritize their temporal resources can help mitigate the negative consequences of perceived time shortage on subjective well-being. Namely, prioritizing and choosing time over monetary resources is associated with greater happiness and well-being [61-62]. Similarly, Whillans et al. [63●] found that using money to buy time can serve as a safeguard against feelings of time scarcity and boost happiness. In one study, participants were told to spend \$40 on two consecutive weekends—on one weekend, they were to spend it on a material good and on the other, on a time-saving purchase. The results showed that people were happier after using the money to buy time, as feelings of time stress had been alleviated. Research on time shortage safeguards has also found ways to counteract the detrimental effect of busyness on prosocial behavior. For instance, altering people’s lay beliefs about the valence of feeling busy, such that they perceive the feeling of busyness as a good (vs. bad) thing, can increase their sense of empowerment and, in turn, their likelihood of volunteering to help others [64].

With regard to the question of how to shift people’s perceptions of time affluence, one promising line of inquiry thus far has been the role of goals. For instance, research has shown that when people perceive a greater conflict between their goals or when they are in closer

proximity to attaining a task completion goal they feel more time constrained and that they currently have less spare time [65-66]. Progress has also been made in terms of identifying behavioral time affluence interventions. For instance, one counterintuitive way to increase perceived time affluence is to have people give their time away to others—an effect driven by enhanced self-efficacy [67●]. Performing a slow (vs. fast or no) controlled breathing exercise for 5 minutes has also been found to boost perceived time affluence, as it helps people to better focus on the present moment [68]. Other topic areas such as emotions and power have also proved fruitful for researchers. For instance, it has been shown that eliciting feelings of awe (vs. happiness or a neutral state) can expand people's perceptions of time and make them feel less impatient [69●]. And making individuals feel more powerful (e.g., by having them sit in a tall chair and play the role of a boss vs. sit in a short chair and role play as an employee) leads them to perceive that they have more time available [70].

Taken together, findings such as these have advanced our understanding of perceived time shortage safeguards and remedies, but there is still a great deal of uncharted territory and ample avenues for future research. For instance, future research could forge stronger connections between this research stream and the streams pertaining to time shortage trends, demographics, and consequences, such as by identifying which remedies are best able to mitigate different consequences of perceived time shortage (e.g., perhaps some are primarily effective at alleviating physical health consequences whereas others are able to mitigate a wider variety of consequences) and to what extent the safeguards and remedies are equally effective across different demographic groups (e.g., perhaps some interventions, such as slow controlled breathing, are better able to work broadly across the population).

Conclusion

Since the turn of the century, we have made great strides in our understanding of how perceptions of time shortage have changed over time and in shedding light on those for whom time feels especially scarce. Recently, the study of time shortage has progressed beyond these basic questions and moved toward developing a nuanced perspective of the consequences of time shortage (one in which neither perceived time affluence nor shortage are seen as inherently positive or negative). Moreover, an emerging research stream is now focused on identifying effective ways to harness and shape people's perceptions of time shortage—an undertaking that poses unique challenges since time is a finite and unrenowable resource. But given the important implications that these perceptions have for those seeking greater physical and mental well-being, these challenges are certainly worth overcoming.

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Several studies demonstrate that the experience of time affluence is positively related to subjective well-being—even for those who say they want to be busy. This research also shows evidence that greater mindfulness and satisfaction of psychological needs at least partly explain why people to feel more time affluence report high subjective well-being.

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- This research identifies an important caveat to the notion that variety positively impacts happiness and offers evidence that multitasking can undermine feelings of productivity and happiness. Over the course of a longer time period (e.g., a day), more variety in the activities one engages in feels stimulating and consequently boosts happiness. However, over the course of a shorter time period (e.g., an hour), more variety reduces happiness because the time spent feels less productive.
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The research offers evidence that a busy lifestyle (rather than a leisurely lifestyle) has become an aspirational status symbol in contemporary American culture. It is shown that people infer that busy people are higher in social status because this busyness makes them seem competent and ambitious and, in turn, that they are in high demand in the job market (i.e., a scarce resource).

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When people miss a deadline for completing a task, it can lead to a sense of failure (which can be demotivating and further delay completion of the task). This research demonstrates that being busy can short-circuit this process: Busyness serves to make people feel like they are using their time effectively and this buffers them against any demotivating feelings of failure that might arise after a missed deadline. In this way, busyness can actually serve as a motivating force and speed up task completion time after a missed deadline.

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In light of rising incomes and time famine, this research advocates the conversion of monetary resources into temporal resources (i.e., using money to buy time). Using data collected from four countries as well as from a field experiment, it is shown that spending money on time-saving purchases alleviates people's time stress, which in turn boosts their happiness.

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People who feel that time is scarce tend to covet their time and become less generous with it. However, this research shows that spending one's time on others and giving some of it away can actually make one feel that they have more time. This is because taking time to help others increases feelings of self-efficacy and the perception that one has done a lot with their time.

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Awe is experienced when one encounters something so strikingly vast that one feels the need to alter one's existing knowledge structures. This research demonstrated that this unique, powerful emotion can also alter people's perceptions of time. Compared to other emotions, awe was found to increase people's perceptions of time availability and reduce their impatience (an effect that boosted life satisfaction, increased people's willingness to give time to others, and heightened preference for experiential vs. material goods).

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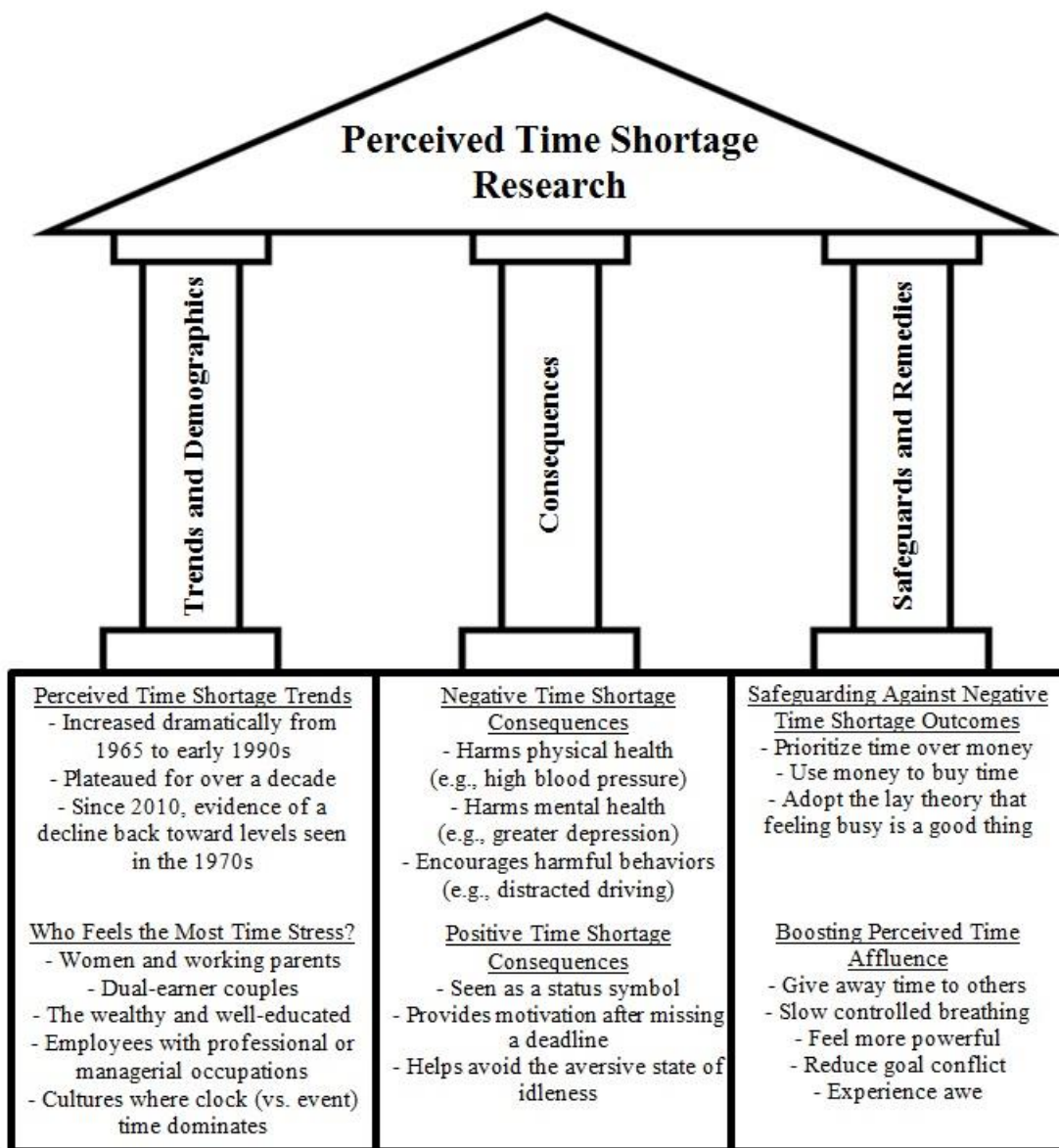


Figure 1. Three central pillars of perceived time shortage research with examples of key findings.