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Impact of time constraints on lunch behaviors in the workplace

Camille Massey

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**Impact of time constraints on lunch
behaviors in the workplace**

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Abstract

Workplaces are increasingly advocated as promising places to promote a healthy lifestyle, but workers say they face many obstacles to sustain a healthy diet while at work (Donaldson-Feilder et al., 2017; Grant, 2018; Pridgeon & Whitehead, 2013). Among them, lack of time is one of the most frequently cited (Donaldson-Feilder et al., 2017; Grant, 2018; Karnaki, Zota, & Linos, 2009). Despite this, very little research has been dedicated to the investigation of the links between lack of time and workers' eating habits during their workday. Qualitative evidence suggests that the attendance of some food outlets can be driven by desire to save time during lunch breaks (Mathé & Francou, 2014), pointing to a link between time constraints and their choice of lunch location.

This thesis builds on this idea and investigates the time constraints associated with choice of lunch purchase location among French workers. It sets out to provide a better understanding of the nature and characteristics of these constraints, and to evaluate their consequences on workers' lunchtime decisions. Three separate studies are presented in this manuscript.

The first study examined French workers' lunch behaviors. A survey instrument was developed specifically for this research and was used to collect data on the lunch behaviors of an online sample of 1139 French wage-earners. The study investigated the relationship between the workplace food environment, lunch behaviors, and time-related working conditions. The results revealed important differences across socioeconomic statuses in the availability of options in respondents' workplace choice environments. Blue-collar workers (N=272) had less access to worksite cafeterias than white-collar workers (N=281) (23.2% vs 56.6%, $p < 0.001$), and attended less places even when they had access (1.5 ± 1.6 vs 2.3 ± 1.6 , $p < 0.001$). These results partially replicated previous results from studies conducted in other countries (Raulio, Roos, & Prättälä, 2012). A multivariate analysis of the constraints, behaviors and factors of choice that could be related to lack of time in the survey highlighted four relevant

dimensions within the context of lunchtime decisions at work: time demands, time-related determinants, autonomy, and adaptive behaviors. The relationship between these dimensions and the attendance of food outlets for lunch was examined through logistic regressions for each type of food outlets, revealing a weak, but systematic and significant role of time dimensions in the attendance of seven types of food outlets.

The second study was designed to measure the willingness-to-pay of a sample of 121 workers for time-saving services in the context of lunchtime decisions, under controlled work-related time constraints. In this online experiment, the participants' willingness-to-pay for meal delivery was elicited through a multiple-price list mechanism (Casini et al., 2019) using a 2 (time pressure) x 2 (deadline) experimental design. Drawing upon household production theory (Becker, 1965), differences in willingness to pay were hypothesized to reflect changes in the economic value of time, induced by time pressure and the existence of deadlines. Both were found to have significant influence over willingness to pay.

The third study consisted in a field investigation, conducted on a company's worksite in Grenoble, France, in January 2020. For a period of two weeks, 34 participants completed a daily questionnaire based on the first study's surveying tool. These responses were linked to their actual attendance of food outlets, as well as the amount of money spent for their lunch each day. This study allowed to evaluate intra-individual variability of attendance of food outlets in an identical environment for all respondents, and which was known to the researcher. Results indicate associations between feeling rushed and attendance of take-away outlets.

This thesis highlights the complexity of the notion of time and of its examination in naturalistic as well as experimental settings. It proposes new methods of investigation and calls for greater attention to time-related working conditions, in particular when implementing interventions aimed at promoting healthy eating in the workplace.

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General introduction

1. Context and motivation

Having lunch during the workday is a common habit for many workers. Oftentimes, it is repeated daily and throughout the years. Because of this frequency and recurrence, lunches taken during the workday make up for a significant part of workers' diet. Promoting healthy diets in the context of the workday could therefore play a key role in improving this population's diet overall, in a context of rising obesity and obesity-related diseases. Accordingly, workplaces have been increasingly objects of interest to policy makers and public health practitioners as promising places to launch health promotion programs. Workplaces indeed combine several elements that ought to help promote healthy behaviors in the population: time spent by working adults at their workplace (Alinia et al., 2010; Karnaki et al., 2009; Mache et al., 2015), the ability to reach many individuals at once (Alinia et al., 2010), including individuals who are usually harder to get involved in health-promotion programs (Mache et al., 2015), employer's support (Mache et al., 2015). Following this rationale, many interventions encouraging healthy lifestyles have been put in place, typically targeted at promoting healthier diets and/or physical activity.

At the same time, workers say they face important barriers to eat healthily during their workday. Barriers include personal factors such as lack of motivation (Donaldson-Feilder et al., 2017) and lack of knowledge about nutrition (Grant, 2018), and structural factors, such as lack of availability of healthy foods (Donaldson-Feilder et al., 2017; Pridgeon & Whitehead, 2013), and cost of healthy foods (Grant, 2018; Pridgeon & Whitehead, 2013). In particular, lacking time is one of the most common cited barriers to healthy eating in qualitative research amongst workers (Donaldson-Feilder et al., 2017; Grant, 2018; Karnaki et al., 2009). This mirrors barriers identified outside the workplace, where accelerating pace of life, increasing demands from work, and general feeling of being too busy and lacking time are held responsible for unhealthy eating habits, such as reliance on convenience foods (Celnik, Gillespie, & Lean, 2012a). However, despite such general agreement,

few studies have investigated the associations between lack of time and food consumption, or lack of time and health outcomes (Venn & Strazdins, 2016). To the best of our knowledge, none has investigated the matter in the context of lunch during the workday.

Very little data is available regarding workers' lunch behaviors in France. While some historical and anthropological studies exist (Monjaret, 2002), no representative study of French workers' lunch behaviors exists. This dearth of knowledge has also been stressed in one recent study about lunch behaviors of French workers (Lhuissier, Caillavet, & Cheng, 2020), which found only two previous market (non academic) studies addressing the matter (Edenred, 2016; Mathé & Francou, 2014). This lack of knowledge is prejudicial for several reasons. First, in France as in other Western countries, lunch is expected to concern many workers. With an estimated 25 million of wage-earners¹, 78.6% of them working full-time (DARES, 2019), a conservative estimate would suggest that over 15 million individuals are full time wage-earners whose typical workday includes lunch time, after excluding wage-earners working at night (22%) (DARES, 2019). Moreover, the three-meal-a-day pattern remains deeply ingrained in the French general population (Lhuissier et al., 2013). As an embedded habit in the population, lunch thus seems especially relevant from a public health perspective in France. Lastly, French public instances also advocate workplaces to promote healthy eating, and public and private companies can join the PNNS on a voluntary basis. Yet, not knowing what workers do for lunch and what drives their behavior limits the ability to tailor interventions to a specific environment.

Within this context, this PhD project was initiated by the Paul Bocuse Institute Research Center, supported by funds from Elixir Entreprises, Apicil, and the National Association of research and Technology (ANRT). The Paul Bocuse Institute Research Center (IPB-R) is a private, multi-disciplinary, research center, dedicated to studying food consumption in the broadest sense of the term. It is committed to promoting wellbeing through diet among all

¹ <https://www.insee.fr/fr/statistiques/4466574>

populations. This particular project was initiated by Dr. Laure Saulais, who worked at the IPB-R at the time. The starting point of this endeavor was rooted in her observation that findings from experimental economics about the consequences of time constraints on choice had not been applied to consumers' food choice, and that food consumption in the workplace had been overlooked. I was fortunate enough to join this project at her invitation. It took the form of a CIFRE² fellowship program. CIFRE PhD projects aim to strengthen interactions between the academic and the business worlds. As such, this project had a foothold in applied research.

² Conventions Industrielles de Formation par la Recherche (Industrial Agreement of Training through Research)

2. Literature review

2.1. Lunch at work

This section reviews the available evidence regarding workers' current lunch behaviors. While lunch at work refers to the midday meal eaten by workers, it can also refer to the midday break in a typical workday. Lunch behaviors therefore encompass activities that are not necessarily related to the meal component of lunch. The first part of this section focuses on workers' lunch behaviors regarding the meal component of lunch; the second part focuses on workday lunch as a break in the workday.

2.1.1. Having lunch: what we know of workers' behaviors

Very few large-scale studies have aimed at describing workers' lunch behaviors, in France and in other countries (Lhuissier et al., 2020). Most research in this area is interventional, focusing on improving workers' diet (Grant, 2018).

2.1.1.1. *Where*

Lunch during the workday can potentially stem from the three main modes of food provisioning: domestic, commercial, and institutional. Domestic provisioning refers to the practice of bringing one's lunch to work from home. Commercial provisioning refers to the practice of purchasing one's lunch in any commercial, for-profit venue offering ready-to-eat food, such as fast food outlets, sit-in restaurants, supermarkets or convenience stores, vending machines, etc... Institutional provisioning refers to the use of subsidized worksite cafeterias. All three modes can potentially be used by all workers. However, their choice is constrained by their workplace environment and the measures put in place by their employer. For example, bringing one's lunch from home might be more appealing if a break room with heating devices is available. Commercial provisioning can be supported by the employer, through the subsidization of meal vouchers to employees. It is estimated that about 4

million French employees (out of 25 million) benefit from meal vouchers³. Depending on the location of worksite, workers may have more or fewer options from which to choose in the commercial branch, with city centers offering more possibilities than more remote locations. Lastly, use of a worksite cafeteria is only possible if it is put in place by one's employer.

Few studies have investigated access to institutionalized catering (henceforth referred to as worksite cafeterias) among workers. Based on a representative survey of the Finnish population, about 70% of female workers and 60% of male workers were found to have access to a worksite cafeteria (Raulio et al., 2012), with sharp differences across socioeconomic statuses (SES): about 80% of upper white-collar workers had access to a worksite cafeteria, against less than 50% among unskilled blue-collar workers (Raulio et al., 2012). In France, no such data are available.

To the best of our knowledge, no study has been dedicated to characterizing the types of commercial food outlets to which workers have access during their workday. While commercial food outlets accessible around workplaces have recently gained attention in the food environment literature, research remains scarce. The aim of this literature is to investigate the relations between individuals' surroundings and dietary and health outcomes, and not to provide a broad overview of the situation among the working population. Moreover, the outlets within one worksite, such as a worksite cafeteria or office building shops, are not included (e.g. Tabak et al., 2016; Thornton, Lamb, & Ball, 2013).

As a result, where workers can go to purchase their lunch remains unknown, based on academic literature. This is prejudicial to a better understanding of workers' lunch behaviors, as attendance supposes access. Not being able to grasp the amount and type of choices (if any) that workers have to purchase their lunch severely limits the possibility to investigate how time constraints, or any type of constraint, map onto such choices.

³ Commission Nationale des Titres Restaurant. <http://www.cntr.fr/50ans/>

Slightly more research has investigated where workers do purchase and/or eat their lunch. Blanck et al. (2009) investigated the most frequent attendance of food outlets to purchase lunch during the workday across five types of outlets, among working American adults. Based on the Styles survey in the U.S., they found that over two thirds (66.9%) of respondents would buy their lunch at least once a week, over half of them (54%) buying at least twice a week (Blanck et al., 2009). The most common food outlet where it was purchased was fast-food outlets (43.4%), followed by worksite cafeteria or worksite sandwich shop (25.3%), full-service restaurant (16.9%), supermarket (5.2%), vending machine (4.4%) and convenience stores (4%). Among those with access, about 50% of Finnish workers attend a worksite cafeteria (Raulio et al., 2012; Roos, Sarlio-Lähteenkorva, & Lallukka, 2004). In one recent study, Lhuissier et al. (2020) provide a snapshot of where lunch was eaten (not purchased) among French workers on a particular day. Based on the French Time Use survey, they found that the most common place to eat lunch among French workers was their own home (53.66%), followed by worksite (28.52%), restaurant (8.37%), other places (5.3%), and someone else's home (4.15%).

These findings show great discrepancies across countries in workers' lunch habits, stressing the importance of taking into account national realities. These differences could be due to structural differences in the market, for example differences in the level of subsidization of worksite cafeterias by employers. They could also be due to cultural differences. For example, meals in France remain overwhelmingly taken seated at a table, which could encourage workers with access to make use of the worksite cafeteria.

2.1.1.2. When and how long

When individuals eat and for how long is strongly embedded in cultural norms, both reflecting the importance given to meals and participating in shaping time use in one given society (Aymard, Grignon, & Sabban, 1993; Southerton, Díaz Méndez, & Warde, 2012). From this perspective, time use data highlight the importance of meals in France. Time allocated to eating in France has increased between 1986 and 2010 (Saint Pol (de) & Ricoch, 2012), unlike

other countries (Southerton et al., 2012). Meals are also highly synchronized within the French population (that is to say, meals are taken at the same time by most of the population) (Laporte & Poulain, 2014; Saint Pol (de) & Ricroch, 2012).

These general trends apply to the French working population as well. Workday lunches are also highly synchronized (Mathé & Francou, 2014), and Lhuissier et al. (2020) found that French workers' lunch lasted on average 49.08 minutes, almost as long as non-workers' (51.34 minutes). Lunch therefore seems important to French workers, who do not seem to shorten it to 'save time' (Lhuissier et al., 2020).

2.1.1.3. What

The contents of meals eaten by workers during their workday are elusive, which is not surprising considering the dearth of data. However, although scarce, most studies point to a link between where lunches are purchased and diet. Attendance of worksite cafeterias has been associated with healthier diets in Korea (Kim, Choi, & Yoon, 2016), Finland (Raulio, Roos, Ovaskainen, & Prättälä, 2009; Roos et al., 2004), and Brazil (Vinholes et al., 2018), with the exception of Norway (Kjøllesdal, Holmboe-ottesen, & Wandel, 2010). In France, increased compliance with the norm of the three-dish meal was associated with attendance of worksite cafeterias (Mathé & Francou, 2014).

2.1.1.4. With whom

To the best of our knowledge, only one French study has investigated the question of companionship during lunch in the workday (Mathé & Francou, 2014). They found that lunch in the worksite cafeteria was overwhelmingly shared with colleagues, sometimes leading to strategies in order to avoid one particular co-worker or one's boss. Only 11% of lunches were eaten without company, and eating alone was seen as a negative event, an 'accident'. However, 26% of lunches in a commercial outlet and 42% of lunches taken elsewhere on the worksite were eaten alone.

2.1.2. Taking a break

Lunch in the context of the workday can refer to the midday break in a typical workday. By French law, lunchtime is not work time. French employees are not paid during the allotted time for lunch and are free to do what they please. Employees are therefore free in their whereabouts, and may engage in other, non-eating activities, such as exercising or running errands. This dimension of workday lunch has recently gained traction in occupational psychology, in the field of recovery research. Broadly speaking, the purpose of this stream of research is to understand which and how activities in which workers engage during their lunch break, might help (or hamper) their wellbeing. Recovery is a process through which individuals replenish their resources (Dupret, Bocéréan, Feltrin, Chemolle, & Lebon, 2018). Recovery can happen during and after the workday, as well as at night through sleep (Dupret et al., 2018). However, most recovery research has focused on recovery after the workday, and research on recovery during workday breaks, including lunch, is scarce (Bosch, Sonnentag, & Pinck, 2018; Hunter & Wu, 2015; Sianoja, Syrek, de Bloom, Korpela, & Kinnunen, 2018; Trougakos, Cheng, & Beal, 2014). Most attention in this emerging area of research has focused on recovery experiences. Recovery experiences are the underlying processes experienced by an individual while conducting an activity (Fritz & Demsky, 2019; Sonnentag & Fritz, 2007). More attention is therefore given to how workers experience their break than to what they do during it. As such, these studies do not aim at providing a description of workers' behaviors. However, while focusing on workers' lunch experiences, they hint at behaviors which could compete for workers' time with eating-related activities (for example: taking a walk, working through lunch), thus being part of the time constraints workers encounter when considering eating lunch.

The studies in this emerging area of research show contradictory results. Engaging in work activities during lunch break has for example been associated with a higher level of fatigue at the end of the workday (Trougakos et al., 2014), but detachment from work was not associated with being recovered after break in another study (Bosch et al., 2018). Similarly, length of break

was not associated with more resources (energy, concentration, motivation) after break (Hunter & Wu, 2015), but was found to be positively associated with being recovered after lunch in another, before recovery experiences were included in the model (Sianoja, Kinnunen, Bloom, Korpela, & Geurts, 2016). The location of breaks (where breaks are spent) was not associated with more resources (energy, concentration, motivation) after break in one study (Hunter & Wu, 2015), but was found to be associated with being recovered after lunch in another, before recovery experiences were included in the model (Sianoja et al., 2016). These conflicting results could be due to differences in populations under study, differences in measures of outcomes and/or variables of interest. For example, (Hunter & Wu, 2015) investigated breaks taken outside one's office, whereas (Sianoja et al., 2016) investigated breaks spent outside one's office building altogether. These inconsistencies are not surprising considering how recent this stream of research is, but nevertheless point to possible associations between what is done by workers during lunch, how it is experienced, and indicators of wellbeing. However, the meal dimensions of lunch behavior have been fairly overlooked in this literature, and time constraints have not been addressed.

2.2. Time constraints

Although lacking time is a barrier to healthy eating at work according to workers, how lack of time influences their lunch behaviors is unknown. The first difficulty lies in understanding what lack of time means in the context of lunch during the workday, and which is quite equivocal. A worker with a strict 20-minute lunch break imposed by their employer, a worker with a flexible lunch break but with a meeting planned a 1:30 p.m., and a worker with a flexible lunch break but with an important presentation to finish up might all say that they lack for time for lunch. Yet, while each of these situations puts a constraint on workers' time, they also relate to distinct dimensions of time, such as duration, deadline, and time allocation. Understanding what these dimensions are, and how they relate to each other and to the broader concept of time constraints, is necessary if they are to be studied in relation with lunch

behaviors in the workplace. This section introduces these dimensions and discusses how they relate to one another. Other time constructs, such as the consequences of delays in time (time discounting) or of timing (time of the day, day of the week) on behavior, are beyond the scope of this review, as this PhD project focuses on the relations between time constraints and lunch behaviors of workers.

2.2.1. Definitions

A time constraint refers to a time limit that an individual faces. The imaginary worker above with a 20-minute lunch break faces an explicit, externally-imposed time constraint, which limits the time they can spend on lunch. Same goes for the worker with a meeting planned at 1:30. In this sense, a time constraint is a *deadline*, by which a task must have been completed. A deadline alludes to the notion of duration, but it is not subsumed in it. While the worker with a strict lunch schedule is not able to vary the duration of their lunch break and faces a deadline, the worker with a meeting planned at 1:30 faces a deadline, but might intervene on the duration of the lunch break nonetheless, for example by getting lunch earlier that day.

On the other end, the worker with a flexible lunch break but with an important presentation to finish up faces no explicit limitation on their time. In other words, they are free to allocate their time as they see fit, whereas the first worker can allocate only 20 minutes of their time to lunch, and the second was constrained to allocate their time for lunch before the meeting. The problem in this case is one of *time allocation*. Time is a finite resource that each of us spends constantly, with no refund available: time spent on one activity cannot be spent on another. Therefore, individuals must choose how to spend, or allocate, their time. Working on a presentation through lunch is an example of time allocation decision. In this case, time allocated to lunch is reduced to zero so that more time can be allocated to work. Duration of the activity in this case is the result of time allocation decisions, and not of an external factor like for the first worker.

To sum up, time constraints refer to a time limit an individual faces, that might be externally- or internally-imposed (Ordóñez et al., 2015). Externally-imposed time constraints are deadlines by which a task must have been carried out. Internally-imposed time constraints ensue from time being a finite resource, and results in time allocation choices. Both frame the possible duration of an activity.

2.2.2. Measurements

To investigate time allocation decisions, most research relies on time use surveys and diaries (Hamermesh & Lee, 2007; Rudd, 2019), in which respondents keep track of their daily activities and their durations. These surveys allow gathering of large amounts of data on time spent in various activities by a large sample of the population. Time being a finite resource, tracking time use allows to investigate time allocation decisions by exploring the relations between durations of different activities. These surveys however do not track time constraints, but only durations. To account for time constraints encountered by individuals, researchers typically group activities in broader categories, such as committed and discretionary time, and compute thresholds, much like income measurement (Williams, Masuda, & Tallis, 2016). Individuals above or below threshold are considered poor, or rich, in time, depending on the focus (discretionary or committed time). No consensus exists as to how much time constitutes a reasonable threshold, resulting in different indicators assessing time poverty (Williams et al., 2016). Venn & Strazdins (2016) define being time poor as having over 70 hours a week allocated to committed time (paid and unpaid work mostly), Kalenkoski & Hamrick (2013) as having less than 289.8 minutes (4.83 hours) of discretionary time per day (time remaining after time spent on paid and unpaid work, and necessary time such as sleep).

Experimental psychology has long been interested in the consequences of time constraints on choice, followed only recently by experimental economics (Spiliopoulos & Ortmann, 2018). It has typically been studied by limiting the time available to subjects for them to make a decision (Ordóñez et al., 2015),

so, in other words, by externally imposing a deadline. It is worth noting that much of the focus of this literature is purportedly about time pressure. However, the methods to investigate it (manipulation of deadlines) have led some to argue that its findings relate more to decision-making when subjects face deadlines and/or short durations than when they experience time pressure (Ariely & Zakay, 2001; Ordóñez et al., 2015). Drawing from these works and our own definitions of time constraints, we include this stream of research in this part of the review, and not in the part about time pressure, which is presented below.

2.2.3. Findings: time constraints and eating behaviors

There is an on-going debate about global trends in time allocation, with studies reaching different conclusions regarding for example an increase or decrease in work time (Rudd, 2019), which is in part due to differences in how work and free times are defined and operationalized across studies (Williams et al., 2016). The purpose here is not to provide an overview of how people allocate their time but to highlight key facts about time allocation related to eating-related activities. The findings are somewhat surprising and contradictory. Being time poor has been associated with *less* attendance of fast food outlets (Hamrick & Okrent, 2014; Kalenkoski & Hamrick, 2013), and no association was found between being time poor and how many times a week meals were purchased away from home, on eating foods high in calories, on eating less than two servings of fruit and five servings of vegetables (Venn & Strazdins, 2016). Focusing on one indicator of time poverty, long working hours, a recent meta-analysis has concluded that long working hours were associated with weight gain and obesity (Zhu et al., 2020).

Experimental research in psychology and economics has consistently shown that manipulations of deadlines (explicit time constraints) affect processes and outcomes of decisions (Edland & Svenson, 1993; Ordóñez et al., 2015; Spiliopoulos & Ortmann, 2018), but little research has been dedicated to food choice under time constraints in experimental settings. It has been suggested that time constraints favor importance of affect in decision-making, which

would explain preference for palatable, energy-dense snacks when deciding under time constraints and/or cognitive load (Shiv & Fedorikhin, 2002). One recent research found that under time constraints respondents made less correct choices in snacks (a correct choice in this experiment was the choice of the snack with the higher self-identified willingness to pay elicited previously) (Huseynov, Krajbich, & Palma, 2018). Experimental research has also shown that individuals adapt their decision-making when facing time constraints. They accelerate acquisition of information (Ben Zur & Breznitz, 1981), filter information (Ben Zur & Breznitz, 1981), relying on heuristics (Huseynov et al., 2018).

Time use surveys and manipulation of deadlines in laboratory settings, however, say little of *how* individuals experience their time.

2.3. Time constraint as subjective experience of time: time pressure

A second facet to time constraints is the individual's reaction to the time constraint they face. If an individual perceives the time they have available to complete a task is insufficient due to the time limits, that reaction is time pressure (Ordóñez et al., 2015).

2.3.1.1.a Measurement of time pressure

Time pressure stems from personal experience, and must be made explicit to the researcher by the individual experiencing it. This is apparent in the wording of questions, often referring to respondent's *feeling* rushed (Hamermesh & Lee, 2007; Kleiner, 2014; Roxburgh, 2004). In general, respondents are asked about how often they experience time pressure, without explicit reference to a specific area of their life (home, family, work...) (Kleiner, 2014). As a result, most research has handled time pressure as general rather than domain-specific experience (Kleiner, 2014).

2.3.1.1.b Findings: time pressure and eating

Although there is a general consensus that lacking time affects eating behaviors and diets (Celnik, Gillespie, & Lean, 2012b; Donaldson-Feilder et al.,

2017; Jabs & Devine, 2006; Karnaki et al., 2009; Welch, McNaughton, Hunter, & Hume, 2009), very few studies have specifically investigated feeling rushed with eating behaviors. Feeling rushed has been associated with an increase in frequency of eating out, and in calorie intake (Venn & Strazdins, 2016).

2.4. The complex relations between time constraints and time pressure

The nature of the relationship between time constraints and time pressure is unclear and complex (Ariely & Zakay, 2001; Cœugnet, Charron, Van De Weerd, Anceaux, & Naveteur, 2011; Ordóñez et al., 2015). It is worth investigating this question of the relations between objective and subjective times for our topic because it clarifies what needs to be studied and how in the context of lunch in the workplace.

While more objective time is available with a global decrease in working hours over the last couple of decades, reports of feeling that there is not enough time to get everything done have kept on increasing, plateauing only recently (Rudd, 2019). Many reasons can account for this discrepancy. From an economic point of view, as disposable income has grown, so has opportunity cost of time and so have possibilities to spend this income, expanding what can be done but not the time in which it must be done (Hamermesh & Lee, 2007). From a sociologist's perspective, increased participation of women in paid work has reduced time available in the household (Jacobs & Gerson, 1998), and busyness and 'busy bragging' have become status signals and somewhat of an aspiration (Bellezza, Paharia, & Keinan, 2017; Gershuny, 2005). Other explanations include differences in gender and occupational class that are not captured in general population surveys, nor taken into account in the general discourse about time shortage (Jiri Zuzanek, 2004). These reasons are broad and complex, and addressing them would be beyond the scope of this PhD project. For our purpose here, let us simply emphasize that differences in time use and time experience can and do co-exist, subjective time not necessarily mirroring objective time (Goodin, Rice, Bittman, & Saunders, 2005; Mattingly & Sayer, 2006; Robinson & Godbey, 2005; Jiri

Zuzanek, 2017). Independence of time constraints and time pressure should not be overemphasized, however. Correlations are found between amount of time spent on paid and unpaid work and experience of time pressure (J. Zuzanek & Beckers, 1999; Jiri Zuzanek, 1998), and increase in work hours predicts increase in experience of time pressure (Garhammer, 1998; Hamermesh & Lee, 2007).

Field research has shown that one can experience time pressure without facing a deadline (Cœugnet et al., 2011). In their field study investigating time pressure among drivers, (Cœugnet et al., 2011) found that 28% of the drivers reporting feeling under time pressure (N=25) had no particular reason to be experiencing time pressure (no need to arrive at a precise time). Alternatively, the simple presence of a deadline, irrespective of the duration granted by the time constraint, and simply telling participants they would not have enough time to complete a task were found to affect their behaviors (Conte, Scarsini, & Sürücü, 2016; DeDonno & Demaree, 2008), suggesting a subjective reaction to time constraints. Similarly, experiencing time pressure influences perception of durations, time pressure making individuals feel that durations are shorter (Matha, Rattat, & Cegarra, 2014). As such, time pressure is linked with one's *perception* of time available and not simply a mechanistic appraisal between time available and time needed (Cœugnet et al., 2011). Through analyses of longitudinal representative surveys investigating both time use and time pressure, Venn & Strazdins (2016) found that lacking time and feeling under time pressure had distinct effect on diet.

Time constraints and time pressure are thus emerging as distinct constructs, with complex links between them. Emerging evidence shows they affect behavior differently. It seems therefore that both constructs should be investigated when exploring the issue of time constraint on lunch behavior among workers.

2.5. Consequences of time constraints on lunch behavior

This section reviews evidence of the associations between time constraints and lunch behavior during the workday. As very limited evidence is available, and only qualitative in nature, the scope of this review was broadened to include ecological research on time constraints and lunch behavior among school children. The purpose of including this stream of research was to deepen theoretical understanding of how time constraints can map on to lunch behavior during the workday.

2.5.1. Time constraints, time pressure, and lunch behavior among working adults

To our knowledge, only qualitative data is available regarding the associations between time constraints, time pressure, and lunch behaviors among working adults in the workplace. Time constraints and time pressure are not investigated in themselves, but as part of a broader investigation on the barriers to healthy eating in the workplace (Grant, 2018) or as part of research focusing on worksite cafeterias (Mathé & Francou, 2014; Poulain, 2002). As a result, time constraints and time pressure are not precisely defined, and generally loosely understood as a wish for workers to 'gain time' due to a general feeling of 'lacking time'.

The causes of this lack of time might be due to work activities competing for workers' time. Based on 12 interviews with employees of one large private company in the UK, Grant (2018) found that skipping lunch or eating at one's desk was often the result of meetings overrunning or planned around lunchtime, or of heavy workload. As stated by one of her interviewees: '*the only reason I'm working through my lunch is because I've got an awful lot to do and I don't want to spend my evening doing it*' (Grant, 2018, p. 304). This idea of lunch used as a buffer to absorb workload and thus avoiding to stay later was also found in Poulain's work (2002), especially for women. In their case, the time constraints were related to picking up their children at the end of the day before a certain time, and having lunch at their desk was a way to

manage their workload with their personal commitments. Applying these findings to the conceptualization of time constraints presented above, it could be said that time constraints at lunch might not only be external time constraints at lunchtime, but also external time constraints after the workday, and internal time constraints leading workers to allocate less time to eating lunch to allocate more to another activity. In other words, lunch appears to be used as an adjusting variable within workers' day. Such consideration means that competing time demands should be investigated, and not only external time constraints such as deadline imposed by the employer.

These studies also suggest that workers deal with these time constraints by adapting where they have lunch, when they do. Poulain (2002) states that the first reason for eating lunch at one's desk was to save time. Mathé & Francou (2014) highlight that attending a worksite cafeteria is seen by their interviewees as a way to save time as well, mainly because of its proximity from the workstation. The time saved can then be allocated to the meal itself. In this case, time constraints might not translate into less time spent on the activities related to eating lunch overall, but rather translate into less time spent on the acquisition part of lunch, so more time can be allotted to consuming it.

2.5.2. Time constraint and lunch behavior among school children
More research, especially in the U.S., has been devoted to the relations between time constraint and school children's lunch behaviors than working adults', perhaps because the scheduling and duration of lunch breaks in school involve public policies. School children are more constrained in their whereabouts during lunch than adults, and must follow a schedule and lunch organization imposed upon them by school authorities, which limits the comparison that can be made. However, several key learnings from this stream of research are helpful in mapping out the types of time constraints encountered by working adults and the types of consequences which could result.

Duration of lunch breaks has been consistently associated with food intake in children, with longer breaks associated with an increased likelihood in consumption of vegetable (Cohen et al., 2016; Gosliner, 2014), fruit (Gosliner, 2014; Townsend, 2014), and increased intake of nutrients and quantity of food in general (Bergman, Buergel, & Timothy, 2004). It has also been associated with food choice, with students enjoying longer breaks more likely to select fruit (Cohen et al., 2016). But overall duration of lunch is not the only duration to take into account. Before they can eat, school children must first travel to the cafeteria and purchase their lunch, which usually involves waiting. Time spent waiting and purchasing lunch mechanically reduces the time available to eat it. Comparing students bringing lunch from their home to students purchasing lunch from the school cafeteria (Buergel, Bergman, Knutson, & Lindaas, 2002) indeed found that the former had the least time to eat due to waiting times, highlighting the associations between place of purchase and time available to eat lunch. It is reasonable to apply this reasoning to working adults. Long waiting time at a worksite cafeteria or restaurant is also likely to affect time left to consume the meal. Unlike school children however, some working adults might enjoy a flexible working schedule, allowing them to have a longer break overall. Also unlike school children, they might have more options from which to choose, and where lunch is purchased could be influenced beforehand by how much time is available.

Another dimension of school children's lunch behaviors which might help shed light on workday lunch among adults is the issue of recess. In some schools, children are allowed to leave the lunchroom to go to recess once they are done eating. It has been argued that such lunch organization might entice some children to expedite eating lunch, in order to have more time for recess (Price & Just, 2015), and recent studies have shown that recess before lunch was associated with increased consumption of fruits and vegetables (Ang et al., 2019), and of milk (Hunsberger, McGinnis, Smith, Beamer, & O'Malley, 2014), suggesting that children adapt their consumption to the time they wish to allocate to their meal and/or to recess. While adults obviously enjoy more freedom in the organization of their lunch time, this underscores that other

activities which can be carried out during lunch break might influence time allocated to lunch, competing for one's time.

3. Studying time constraints during lunch

Based on the literature review, this section integrates learnings from literature review about time constraints into a framework to investigate them in the context of lunch during the workday, and highlights the methodological challenges to investigating lunch during the workday that were identified in the literature. It concludes by introducing the research questions that guide the remainder of the work, discussing how the identified methodological challenges will be addressed and mapping out the plan of action of this thesis.

3.1. Integrating time constraints to workday lunch

The literature review highlighted several dimensions of time constraints. This section integrates each to the context of workday lunch.

3.1.1. Objective features of work organization

One dimension of time constraints is the notion of external deadline. Applied to workday lunch, this would be a strict lunch schedule, that is to say a limited and explicit moment workers can go for lunch during their workday, as opposed to a flexible lunch schedule, where workers can go for lunch when they want. The part of French workers with a strict lunch schedule is unknown, but in 2016, the working hours of 46.2% of wage-earners were controlled (DARES, 2019), indicating a strict working schedule.

3.1.2. Competing time demands

The previous section (2.5) has shown that the notion of time constraint partly refers to various activities competing for an individual's time. In response, time being a finite resource, individuals might shorten time allocated to an activity in order to spend more time on another. In the context of workday lunch,

qualitative evidence suggests some workers indeed reduce the time devoted to lunch to allocate more time to work (Grant, 2018; Poulain, 2002). In other words, the meal-related dimension of lunch is shortened due to other, competing activities calling for workers' time. It seems therefore important, when investigating the consequences of time constraints on lunch behaviors in the context of the workday to take into account the existence of other time demands. While existing research indicates that work demands affect time allotted to lunch, research on recovery during lunch breaks also highlights that lunch is the moment in the workday, during which workers can engage in other activities, unrelated to the meal component of lunch. Personal activities could therefore also impact the time workers choose to allocate to the meal component of lunch, and should be investigated.

3.1.3. Time pressure

Time pressure refers to a subjective reaction to time constraints, whereby individuals feel rushed. The extent to which it is associated with time constraints remains elusive, research suggesting these are intertwined, but distinct, constructs. In the context of lunch during the workday, time pressure could therefore result from external time constraints and/or excessive time demands, but also reflect a more diffuse sentiment that time is insufficient.

3.1.4. Consequences of time constraints on lunch behaviors

Research on school children's lunch has stressed that the acquisition phase of lunch (going to the school cafeteria, waiting in line) could significantly affect the time available for the consumption phase (eating lunch). Shifting from school children to working adults, the meal-related activities of acquiring and consuming lunch also involve many distinct subtasks; examples of these subtasks include: going some place to get one's lunch, choosing one's food, waiting before ordering, waiting to pay, waiting to get one's food, going from place of purchase to place of consumption, eating one's food. Figure 1 is an illustration of the ordering of subtasks when a worker is purchasing their lunch in take-away (length of arrows does not reflect proportion of time spent on each subtask).

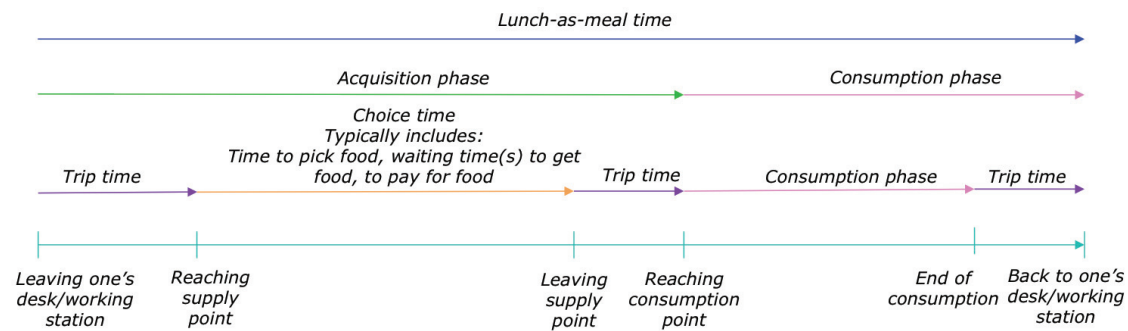


Figure 1: Example of meal-related subtasks for take-away

The ordering of these subtasks varies based on where one gets their lunch (paying will occur before food consumption in a worksite cafeteria or take-away restaurant, but afterwards in a typical restaurant), and all subtasks are not required in all situations (for example if one brings their lunch from home). But this stream of subtasks highlights the time trade-offs an individual may come to face. Since the durations of each of these subtasks add up to the duration of meal dimension of lunch time overall, workers seeking to reduce overall duration might seek to reduce time allocated to the acquisition phase, for example by purchasing their lunch close to their workplace, or have it delivered. In other words, they adapt their behavior in reaction to time constraints. Other adaptive behaviors may apply to the consumption phase, such as increased eating speed (acceleration), or eating while working (multitasking).

Term	Definition	Application to lunch during the workday
Time constraints	Limitations that an individual faces in allocation of their time on one activity. Can be externally-imposed or internally-imposed. Externally-imposed time constraints are deadlines. Internally-imposed time constraints reflect time demands (see below).	Externally-imposed: strict lunch schedule imposed by employer, appointment Internally-imposed: working through lunch, running errands, exercising
Time demands	Activities competing for an individual's time, which could or should be carried out in the same time lapse as others.	Work activities Personal activities
Time pressure	Subjective reaction to time constraints faced, resulting from assessment that time available is insufficient, leaving the individual feeling rushed. Internal experience, imperfectly reflected in time use.	Feeling rushed during lunch
Adaptive behaviors	Behaviors initiated to cope with time constraints and/or time pressure	Skipping lunch Shortening acquisition phase of lunch Shortening consumption phase of lunch

Table 1: Summary of terms introduced and their application to workday lunch

3.2. Methodological challenges of investigating lunch during the workday

As presented above, broad descriptive studies about workers' lunch behaviors are scarce. This dearth of data limits our understanding of the current situation, and the possibility to investigate time constraints and time pressure in this context. This section reviews the main methodological challenges that emerge from the existing source, and briefly explains how this thesis will address them.

3.2.1. Identifying accessible lunch options

Few studies have addressed the question of access to food outlets to purchase lunch. While we know that all workers might not have access to a worksite cafeteria for example, no data could be found assessing the proportion of French workers with access to it. This is detrimental to our understanding as it is acknowledged that the options given to workers partly shapes their behavior, especially in as a constrained eating occasion as lunch during the workday (Laporte & Poulain, 2014).

Most attention has been given to worksite cafeterias in interventional public health literature. Research in workplace food environment remains scarce, and has not, to our knowledge, taken into account access to worksite cafeterias. Similarly, lunches brought from home have not been taken into consideration. Yet, lunch during the workday can be purchased in commercial outlets, worksite cafeterias, or brought from home. It appears therefore critical to collect data on the types of places workers do have access to.

Another important distinction is between where lunch is bought and where it is eaten. Both are locations, but they can be different. Categories of analysis are not always clear, as stressed by LHuissier et al. (2020). Using primary data from Time Use Study, category of 'worksite' for consumption of lunch does not allow to determine if lunch was purchased in worksite cafeteria or in some commercial outlet, or brought from home.

3.2.2. Restricting data collection to workers concerned by workday lunch

Reliance on secondary data that was not specifically designed to study lunch at work limits researchers' abilities to restrict analysis to workers indeed concerned by workday lunch. For example, using proprietary data from the CCAF survey (enquête Comportements et consommations Alimentaires en France – survey of Food Behaviors and Consumption in France), Mathé and Francou (2014) cannot exclude diaries completed during a day off (vacation or day not worked by respondent), and weekend days that are worked cannot be

included due to the structure of data (Mathé & Francou, 2014). This is a concern because as a result, data collected might include reports about lunch taken outside the context of work, and leave out many lunch occurrences. For example, in 2016, 25.5% of French wage-earners usually work on Saturdays, and an additional 22.1% worked occasionally on Saturdays (DARES, 2019). Conversely, 22.8% of wage-earners usually work between midnight and seven in the morning (DARES, 2019). Their patterns of lunch are likely very different from the rest of the population. Thus, obtaining data strictly about lunches taken in the context of the workday would enable more precise analysis, and avoid overlooking workers working on weekends, who are a sizable part of the working population.

3.2.3. Defining lunch

As shown above, workday lunch refers to both a meal and a moment in the day. In their study about French workers' lunch behaviors Lhuissier et al. (2020) define lunch as food consumption occasions occurring within specific time frames (Monday through Friday, between 11:30 a.m. through 2:30 p.m.). While research shows the French population eats in synchrony (Laporte & Poulain, 2014), this mechanically excludes lunch occurring outside this time frame and lunches skipped altogether. Some fringes of the population might be overlooked as a result (and perhaps the most time-constrained). Moreover, focusing solely on food consumption might result in overlooking other activities in which workers engage during their lunch break, which might very well influence their eating behaviors.

3.3. Research questions

This thesis was initiated to investigate the consequences of time constraints on lunch behaviors in the workplace. Following a literature review, time constraints and time pressure were defined and integrated to lunch during the workday. Lunch was conceptualized as a moment during the workday, which could encompass both eating and non-eating related activities. Eating-related activities were further broken down into acquisition and consumption phase. Qualitative evidence from workers in previous studies and findings from school

children's lunch behaviors suggest that *where* lunch is purchased has tight relations with time constraints and/or time pressure, suggesting that the acquisition phase of lunch is affected by time constraints and/or time pressure. Hence, lunch behavior under study was focused on food outlet attendance to purchase lunch. The overarching research question addressed in the remainder of this thesis is the following:

What are the relationships between time constraints, time pressure, and attendance of food outlets by French workers?

The literature review also highlighted the scarcity of data available to investigate the question, and the caveats of existing tools to investigate lunch in the workplace. The first sub-questions addressed in this thesis are therefore descriptive in nature:

- I. What food outlets do French workers have access to, and which do they attend?
- II. Do French workers encounter time constraints and time pressure at lunch during the workday?

The primary **objective** of these questions is to **collect data** on the current lunch behaviors, time constraints, and time pressure of French workers. To reach this objective, an **ad-hoc survey tool** was developed, which includes exploration of the food outlets to which workers have access, those they attend to purchase their lunch, and the locations they consume their lunch, in response to the limitations of existing tools presented in 3.2.1. In order to address the issue of the variety of working populations presented in 3.2.2, this thesis focuses **solely on wage-earners** (as opposed to independent or self-employed workers) who typically work only during the day, on one worksite. To take into account the fact that lunch also refers to a moment in the workday (3.2.3), this thesis (1) includes wage-earners who do not eat lunch, and (2) takes into account other activities which can be carried out during lunch when investigating lunch behaviors.

The literature review suggests that worksite cafeterias are seen by employees as lunch purchase locations that enable to save time. Attendance of food outlets could be influenced by time constraints and/time pressure encountered by workers. Two sub-questions follow:

- III. Are time constraints and/or time pressure associated with increased attendance of specific types of food outlets, and if so, which ones?
- IV. Do time constraints and/or time pressure affect willingness to reduce acquisition phase of lunch?

The objective of these questions is to explore possible associations between time constraints, time pressure, and attendance of food outlets among French wage-earners.

Time pressure and deadlines have been studied together in experimental methods, but recent research suggests these are two different constructs, which could have distinct consequences on behavior. One sub-question in this thesis is the following:

- V. Do time pressure and deadlines affect willingness to reduce acquisition phase of lunch in a similar manner?

The objective of this question is to investigate the possibility that these two intertwined notions have different effects on behavior.

Lunch breaks could favor recovery, but how time constraints and time pressure could hamper it. A further sub-question addressed is therefore:

- VI. Are time constraints and/or time pressure associated with lower recovery after breaks?

The objective of this question is to explore how lunch as a moment within the workday is affected by time constraints and/or time pressure.

Chapter I addresses questions I, II and III, based on an ad-hoc survey, which was administered to 1,139 French wage-earners.

Chapter II investigates question IV and V by exploring willingness to pay to shorten acquisition phase of lunch based on the existence of deadlines and time pressure through experimental methods.

Chapter III addresses questions I, II, III and VI based on a field study conducted on one worksite, where participants completed an adapted version of the survey developed for Chapter 1 daily on a two-week period.

Chapter I. Gathering data on French wage-earners' lunch behaviors, time constraints, and time pressure: an online survey

Introduction to article 1 and article 2

This chapter includes two articles. The first article (French workers' lunch breaks: food choice environment and behaviors of white-collar and blue-collar workers) was published in *Cahiers de Nutrition et de Di t tique*, 54, 146-150. <https://doi.org/10.1016/j.cnd.2019.03.005>. Original article (in French) can be found in Appendix C. The second article (Sandwich or long lunch? Lack of time and attendance of food outlets by French workers) was submitted to *International Journal of Workplace Health Management* on May 15th 2020.

As mentioned previously, no tool dedicated to lunch behaviors in the workplace existed, and very few studies describing workers' lunch behaviors could be found. As a result, the first step in this PhD project was to collect data on French workers' lunch behaviors, time constraints and time pressure. This was done through administration of an online survey to an online panel.

The objectives were (1) to collect enough data to address research questions I. What food outlets do French workers have access to, and which do they attend? and (2) to explore research question III. Are time constraints and/or time pressure associated with increased attendance of specific types of food outlets, and if so, which ones?

The original version of the survey can be found in appendix A, and the English translation in appendix B.

1. Overview of survey

Development and administration of this survey aimed at addressing the lack of specific tool to collect lunch behaviors of workers, and the lack of data about lunch behaviors of workers. As such, the scope of the survey was broad, as it aimed at getting an overview of the current situation for the population of interest in this thesis (French wage-earners working during the day on one worksite) relating to our variables of interest. Representative data about such a specific working population could not be found. Purposive sampling was

applied for all four occupational classes where wage-earning is the most common form of employment (white-collar workers, intermediary professions, employees, and blue-collar workers), and quota sampling was applied for gender and age. Methods are further discussed in both articles, pages 34 and 45 of this manuscript.

1.1. Data cleaning

After administration of survey, several mistakes were spotted in administration of the questionnaire. For questions referring to access and attendance of outlets to purchase lunch, no filter was applied (respondents could state they had attended an outlet which they had previously claimed was not accessible). The filter was applied correctly for questions referring to access and attendance of places to consume lunch. In questions referring to outlets accessible to purchase lunch, a mix-up led to two items being nearly identical ('in outlets offering take-away food, such as bakeries, take-away formulas, catering' and 'in outlets offering take-away food or selling food over the counter'). The latter was not supposed to appear, as it was an item from a previous version. It was discarded in the analysis.

The order of the two question blocks (working conditions and lunch organization) was supposed to be randomized across all respondents but this was not the case. As a result, a randomized version was administered to 179 respondents. No order effect was found, and responses from the two waves of respondents were aggregated for the analysis.

A total of 1,179 respondents participated in the survey. Data was checked for coherence and cleaned accordingly. Three respondents who were itinerary workers were kept in the pool despite screening, and were excluded. Respondents who stated they had 'always' attended more than one location to buy lunch over a two-week period were excluded. Same goes for respondents who declared they had 'always' attended more than one location to consume lunch over a two-week period. This amounted to 28 respondents. Nine other respondents were excluded due to improbable answers regarding their

attendance. Respondents who stated they had no possibility to purchase lunch in one location but declared having done so over a 2-week period for more than three different locations were excluded from analysis. Respondents who stated they had no possibility to purchase lunch in one location but declared having done so over a 2-week period for three or fewer different locations were kept in analysis. Such cut-off point was decided to take into account the possibility that respondents had had lunch outside their usual work environment over the two-week period –because of client meetings for example. Such cut-off could not be applied regarding location of lunch consumption, as filters were applied. Respondents were only given options they had had stated were possible before when asked about their actual consumption location behavior, thus being forced into consistency. The remaining final number of respondents is 1,139.

French workers' lunch breaks: food choice environment and behaviors of white-collar and blue-collar workers

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Research highlights

- French employees were interviewed using an online questionnaire on the types of places they had access to for lunch, and how often they used these places.
- The perceived choice environments vary widely between white-collar and blue-collar workers, which has an impact on their behavior. It seems necessary to take workers' choice environments into account when implementing food interventions in the workplace.

1. Introduction

Working conditions include the material and organizational aspects of a job (1). In this sense, the options available for workers' meals during their working day constitute a working condition in their own right (2). However, little is known about them (3), even though the promotion of healthy eating in the workplace would appear to be a promising way of promoting a balanced diet, given the frequency and regularity of meals during the working day (4). In fact, most health promotion actions in this area are limited to the worksite cafeteria setting, thus restricting the issue to workers attending it.

However, worksite cafeterias represent only a minority of workers' meals in France. The exact proportion of workers who have access to a company restaurant is unknown, but in a 2013 survey, 79% of workers never ate at their company restaurant, only 17% more than once a week, and very few

every day (5). 4 million French employees (out of some 25 million in 2017 (6)) have access to the alternative system of meal vouchers (7). As the place of supply is a determining factor in the quality of the food options available, these findings invite us to consider the types of places available to employees for lunch, especially since differences in access seem to exist according to socio-professional category - in 2013 for example, 36.3% of white-collar workers, against only 11.9% of blue-collar workers, went to a worksite cafeteria at least once a year (5).

This article presents the results of a survey exploring employees' perceptions, based on their socio-professional category, of the places accessible to them for lunch, and how often they use these places.

2. Materials and methods

2.1. Population and sample

The scope of the study was restricted to French employees working during the day, for a single employer, with a fixed office, and whose usual working period includes lunch, to the exclusion of other types of workers and socio-professional categories comprising mainly or entirely self-employed workers according to INSEE (8). The absence of consolidated socio-demographic data on the employed population in France makes it difficult to assess the representativeness of this population. A stratified sampling strategy was therefore adopted to establish balanced subgroups of interest in terms of socio-professional category, age and gender.

2.2. Questionnaire development

A five-part questionnaire (three parts of which are presented in this article) was developed, based on questionnaires already validated and published, where possible:

(i) Food choice environment: For each of the proposed types of place (TP) (see Table 1 below), respondents were asked if they had access to this TP to

purchase their lunch. Bringing lunch from home was the subject of a separate question: "bringing my lunch from home is convenient."

(ii) Actual use: on a four-point scale (never, sometimes, often, always), respondents were asked to indicate their use of each TP, as well as how often they brought food from home, over the two-week period preceding the survey.

(iii) Characteristics of participants: age, gender, socio-demographic characteristics.

2.3. Completion of the questionnaire

The questionnaire was administered online, between 26 June and 23 July 2018, by the service provider Bilendi, to 1,139 participants from a panel of volunteers and according to the criteria presented above. Participants were rewarded in the form of gifts or vouchers based on their participation in different studies by the same provider. They were contacted by e-mail, and could choose whether or not to participate in the proposed study.

2.4. Statistical analyses

The descriptive analyses presented here were conducted with the SPSS version 21 software. Inter-group comparisons were based on chi-squared tests (for categorical variables), Student t-test (for scales), and Welch t-test (in case of heterogeneity of variances), with a threshold of significance of $\alpha = 0.05$.

3. Results

Table 1 summarizes the results regarding the characteristics, perceived environment of choice for lunch and reported behavior of the full sample and the two subgroups on which the rest of the analysis focuses: white-collar workers and blue-collar workers.

	Total sample (N= 1,139)	White-collar workers (N= 281)	Blue-collar workers (N= 272)	<i>p</i> ^a
Characteristics (%)				
Gender				
% Female	49.9	45.9	31.6	= 0.001
Socio-professional category				
White-collar workers	24.7			
Intermediary professions	26			
Employees	25.5			
Blue-collar workers	23.9			
Education				
No diploma				<0.001
Vocational training certificate	2.2	1.1	5.9	
High school diploma	21.6	2.5	55.1	
2 years of higher education	19.8	7.5	25.4	
3-4 years of higher education	20.8	13.9	9.6	
5 years of higher education	18.3	22.8	4	
	17.2	52.3	0	
Age				
18-24				<0.001
25-49	19.9	17.1	7.4	
50 and over	42.4	34.2	53.3	
	37.7	48.8	39.3	
Monthly income				
Less than €1,100				<0.001
1,101-1,500	9.5	6.4	6.6	
1,501-1,800	24.6	3.2	45.2	
1,801-3,100	16.5	6	22.8	
More than 3,101	30.8	39.5	17.6	
Don't know	9.8	34.2	1.5	
Prefer not to answer	1.1	1.4	0.7	
	7.7	9.3	5.5	
Type of contract				
Permanent contract				=0.05
Other	79.5	85.1	78.7	
	20.5	14.9	21.3	
Perceived environment				
Average number of				
	3.5	4.2	2.7	<0.001 ^c

TPs accessible^b		(±1.5)	(±1.6)	
% of the group with access to each TP				
Place that offers takeaway food	79.2	86.5	68.4	<0.001
Supermarket or mini-market	75.6	79.7	66.5	<0.001
Restaurant offering table service	67.2	80.1	51.1	<0.001
Office building shop	41.2	59.1	17.3	<0.001
Ordering on the internet and delivery to the workplace	37.3	56.6	23.2	<0.001
Worksite cafeteria	27	37.4	16.5	<0.001
Vending machine	22.8	23.1	25.4	=0.5
Behavior				
Number of TPs used	1.9 (±1.6)	2.3 (±1.6)	1.5 (±1.6)	<0.001
% of the group using each TP among those with access				
Place that offers takeaway food	56.9 (n=513)	57.6 (n=140)	52.7 (n=98)	>0.1
Supermarket or mini-market	51.5 (n=443)	47.3 (n=106)	51.4 (n=93)	>0.1
Restaurant offering table service	41.2 (n=315)	49.8 (n=112)	34.5 (n=48)	<0.005
Ordering on the internet and delivery to the workplace	21.3 (n=100)	23.5 (n=39)	25.5 (n=12)	>0.1
Worksite cafeteria	68.2 (n=290)	75.5 (n=120)	60.3 (n=38)	<0.05
Office building shop	48.9 (n=150)	46.7 (n=49)	55.6 (n=25)	>0.1

Vending machine	32.3 (n=84)	27.7 (n=18)	42 (n=29)	=0.1
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Table 2: Main results of the questionnaire

^a *p*-value based on a chi-squared independence test or a non-paired Student or Welch *t*-test, between respondents in the white-collar worker category and respondents in the blue-collar worker category.

^b indicator constructed by adding the places declared as accessible by respondents from the proposed places.

^c non-homogeneous variances

On average, employees in the overall sample report having 3.5 possible TPs to choose from for their lunch. This figure masks disparities between white-collar workers and blue-collar workers, with the former reporting access to 4.2 TPs for lunch, compared to 2.7 for blue-collar workers ($p < 0.001$). It should also be noted that 1.1% of white-collar workers and 12.5% of blue-collar workers reported that they had no access to any of the proposed TPs (not shown in the table).

The nature of the TP options perceived as accessible differs significantly between white-collar workers and blue-collar workers. More than half of white-collar workers report having access to a place that offers takeaway food, a supermarket or mini-market, a restaurant that offers table service, a worksite cafeteria, and ordering on the internet. In comparison, only these first three TPs are accessible to a majority of workers. The only TP for which there is no significant difference in access between white-collar workers and blue-collar workers is the vending machine, which in all cases concerns only a minority of the population (22.8% overall).

White-collar workers used more TPs for lunch ($p < 0.001$); although this number remains low compared to the number of locations reported as accessible. The difference between the number of TPs accessible and actually used is smaller for blue-collar workers.

12.1% of white-collar workers and 37.5% of blue-collar workers reported that they had not used any of the proposed TPs, a much higher proportion than respondents who did not have access to the proposed TPs. The high rate of meals brought from home probably explains this result to a large extent, with

69.2% of respondents overall reporting having done so, ahead of all the proposed TPs.

With equal access, the usage patterns of the two groups tend not to differ significantly, except for the classic restaurants with table service ($p=0.005$) and worksite cafeterias ($p<0.05$).

4. Discussion

While international studies (9) had already identified that white-collar workers have greater access to company restaurants, this study, which highlights differences in the number and type of places perceived as accessible to white-collar and blue-collar workers, is, to the best of our knowledge, the first to look at the extent and type of options perceived as available to workers for their lunch breaks. Overall, the number of accessible places reported by white-collar workers is higher than that of blue-collar workers. These differences may result, on the one hand, from objective differences in the environment of employees' workplaces, in relation to their location. The location of the workplace could thus be a differentiating factor, with white-collar workers working more often in urban centers where the options would be more varied. In particular, this population could be more specifically targeted by the new online ordering offers that have been developing in recent years (which are mentioned as an option for 59.1% of white-collar workers but only 17.1% of blue-collar workers). White-collar workers could also be favored by greater involvement of their employers (establishment of worksite cafeterias and/or ancillary spaces), in order to retain and satisfy skilled workers. On the other hand, it is also possible that, with an objective environment of equal choice, the perception of TP accessibility varies according to the characteristics of the types of positions held. For example, inflexible schedules may limit access to other TPs (10), effectively eliminating them from the places perceived as accessible.

When a TP is accessible to both categories, there are differences in use only in the case of the worksite cafeteria (which had already been identified in other contexts (9)) and the traditional restaurant, while white-collar workers and blue-collar workers use the other five TPs without significant differences. Thus, the results of this survey suggest that differences in the perception of food choice environments are a promising way to partially explain the differences observed in workers' behavior, and could help shed light on the complex links between socio-professional categories and diet.

It would therefore be interesting to couple the approach chosen, based on respondents' perceptions, with objective measures of their food choice environment. Another area for exploration would be the extent to which work organization arrangements contribute to shaping these perceptions, such as flexible working hours and the way they are monitored. Differences in working conditions are likely to influence the perception of workers' preferred environment (10), which in turn would impact their behavior and help explain the differences between socio-professional categories found in this study.

5. Conclusion

To our knowledge, this study is the first to seek to qualify the links between the options available and the actual choice of lunch locations for employees in France. It reveals significant differences in the perceived preferred environment of French employees according to their socio-professional category. While a thorough exploration of the reasons for these differences is necessary, our results point to food choice environments as a promising avenue in understanding the links between socio-professional category and workplace eating behaviors, and advocate for their consideration when implementing food interventions in the workplace.

Acknowledgements - Declaration of Interest

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Sandwich or long lunch? Lack of time and attendance of food outlets by French workers

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Abstract

This study explores the relation between workers' choices of food outlets for lunch during the workday and their time constraints. A cross-sectional survey was conducted among 1,132 French wage-earners in order to identify the dimensions indicative of lack of time among workers, and to examine their associations with the likelihood of different food outlet choices. An exploratory Factorial Analysis revealed four dimensions indicative of lack of time. Binary logistic regressions revealed that each dimension was linked to at least one food outlet choice. This research suggests that the dietary practices of workers are associated with their perceived and actual time constraints.

Keywords (max 6): workplace, lunch, food environment, time, workers

Paper type: Research paper

1. Introduction

Workplaces are promising venues to promote healthier lifestyles, considering the amount of time working adults spend at work, throughout the day and over the years. Research on food consumption during the workday points to a link between the types of outlets in which workers purchase their lunch and their diet and health. Attending a worksite cafeteria is associated with healthier diets (Kim et al., 2016; Raulio et al., 2009; Roos et al., 2004; Vinholes et al., 2018) and better health outcomes (Vinholes et al., 2018). Despite these associations, there is limited data on the drivers of workers' decisions to purchase their lunch in one outlet over another. The previously cited studies focusing on the associations between attendance of food outlet and dietary and health outcomes have not addressed the reasons leading workers to attend specific food outlets. Yet, understanding the drivers behind attendance of food outlets by workers could help promote attendance of outlets associated with healthier diet.

Qualitative research suggests a key driver of workers' lunch decisions is time. Workers themselves (Grant, 2018; Pridgeon & Whitehead, 2013) and experts from various fields (Karnaki et al., 2009) point to lack of time as an important barrier to healthy eating during the workday. Qualitative evidence also suggests that choice of food outlet is partly influenced by the time available for workers to get their lunch (Mathé & Francou, 2014). Although lack of time is viewed as a major barrier to healthy eating during the workday, no previous research has, to the best of our knowledge, been specifically dedicated to the issue. This research aims to address this gap, by investigating the relationships between lack of time and attendance of food outlets at lunch during the workday. By doing so, our objective is to shed light on the pathway between a commonly cited barrier to healthy eating and workers' actual behavior, thus enhancing our understanding of workers' lunch habits, which have been advocated as a major lever to improving this population's diet.

The aim of this research is to explore the links between lack of time and food outlet attendance for lunch. It is hypothesized that lack of time is associated with likelihood of attending food outlets for lunch, although no specific hypothesis can be made for each food outlets, due to scarcity of previous research on the matter. Lack of time is apprehended through measurement of several constructs that were identified through a scoping literature review.

2. Methods

2.1. Data collection and sample

A questionnaire was developed to investigate the associations between lack of time and attendance of food outlets for lunch during workday and administered online to a panel of French wage-earners. It was administered through a service provider based in France, Bilendi⁴. The provider sent an invitation to participate to its panel of volunteers via email. The survey was open between June 26th and July 23rd, 2018. Respondents were compensated following the provider's policy, in the form of gifts or vouchers based on their participation in different studies.

This research focuses on wage earners in France whose typical workday includes lunchtime. Workers with any other type of work schedule, such as shift workers, were excluded. In order to ensure better coherence, the study focused on workers who only had one workplace – and therefore, one set of work-related constraints and one set of food outlet options. Therefore, workers with more than one employer or work sites, and non-sedentary workers were excluded from the study. A purposive sampling strategy (Rowley, 2014) was used to ensure representation of all four occupational classes where wage-earning is the most common form of employment. A quota sampling strategy was applied for gender and age.

⁴ <https://www.bilendi.fr/>

2.2. Measures

The only previous study investigating time and food outlet attendance during the workday in France relied on the time-use survey by INSEE (Lhuissier et al., 2020). The authors point that such dataset does not permit to control for access to food outlets, and lacks precision in the types of listed food outlets. Regarding time, time-use surveys track durations of activities, but not experience of time by individuals, such as feelings of lack of time. Because of these limitations and bearing them in mind, we developed an ad-hoc questionnaire, designed to take into consideration the specific context of workday lunch and to explore the experience of lack of time among workers in this context.

2.2.1. Food outlet access

The only study about attendance of various food outlets during the workday in France did not control for access due to the structure of the data (Lhuissier et al., 2020). However, important differences exist among French workers in the types of food outlets to which they have access to purchase their lunch (Authors, 2019). In order to take access into account, respondents were asked whether they had access to each types of food outlet under study (see below).

2.2.2. Food outlet attendance

Respondents were asked how often they had attended seven types of food outlets to purchase their workday lunch in the two-week period before taking the survey. A two-week recall period was chosen because this time period has been used in previous studies about lunch habits (Trogakos et al., 2014) and it was thought that it was a good balance to capture variability in behavior while minimizing recollection bias.

Items used for food outlet attendance can be found in Table 3. Food outlet options proposed to respondents included newer forms of food provisioning, such as lunch delivery services, and outlets usually not included in foodservice, such as supermarkets and convenience stores, to reflect the changing market of food away from home.

Food outlet attendance

In the last two weeks, how often did you purchase your lunch (4-pt frequency scale)

- in a worksite cafeteria
 - in a vending machine
 - in a full-service restaurant
 - at a take away place
 - in a supermarket/convenience store
 - in an office building shop
 - by ordering online and having it delivered
-

Table 3: Questionnaire items for food outlet attendance

2.2.3. Lack of time

An individual lacks time when the time available to her or him is deemed insufficient to complete a task. Previous research has highlighted the complex relationships between time available to complete a task and the feeling of lacking time, with the latter not necessarily mirroring the former (Cœugnet et al., 2011; Szollos, 2009). For example, individuals might report feeling that they lack time without having an explicit time limit to complete a task (Coeugnet, 2013). Individuals who report feeling that they lack time might also spend the same amount of time on a task as individuals reporting no feeling of the sort (Duncan Herrington & Capella, 1995). This paper focuses on this perception of lack of time, irrespective of time available to respondents.

Based on a multidisciplinary scoping review in the fields of occupational health and psychology, sociology, experimental psychology and economics, and hospitality, five dimensions were found to be indicative of lack of time during lunch breaks. A full list of the items included in the study can be found in Table 4. No existing questionnaire handling all of the elements under study was found. As a result, one was developed. When available, items from existing surveys were used in the corresponding parts of the questionnaire. In particular, the French Working Conditions Survey was used. The French Working Conditions Survey focuses on perceptions of working conditions by workers, and has been conducted every seven years since 1978 by the French National Institute for Statistical and Economic Studies and the French Department of Labor. In the 2016 version, 27 000 workers were surveyed. If

no item was identified in existing surveys about a dimension relevant to lack of time, items were developed by the researchers in brainstorming sessions. Intermediary and final versions were tested by colleagues.

2.2.3.1. Time-related drivers of food outlet attendance choice

Proximity of food outlet from workplace and quick service are known drivers of attendance for workers (FOOD 2019 Barometer⁵, Edenred, 2016), but how they relate to lack of time is unknown (Sharma, Moon, Bailey-Davis, & Conklin, 2017). It stands to reason that workers lacking time take both of these factors into consideration when considering where to purchase their lunch. It was therefore decided to include them in our investigation, as they are the only known drivers of choice which be conceptually linked to the issue of time. Items from the FOOD Barometer addressing the matter were used, and one item related to the importance of time in general was added.

2.2.3.2. Adaptive behaviors when facing lack of time

Individuals adapt their behavior when facing lack of time. They increase speed, multitask, or avoid task altogether. Shortening food-related behaviors have been proposed as one response to lack of time (Celnik et al., 2012b). Skipping eating lunch altogether is another response mentioned by workers in qualitative interviews (Grant, 2018), and has been shown to be more likely among workers with longer hours (Escoto & French, 2012). Both types of behaviors were included in the survey, each of them further broken down into the reason behind such behavior (work or personal reasons, due to our interest see below). Items were developed by researchers.

2.2.3.3. Workload

Workload is explicitly linked to lack of time in studies about eating habits in the workplace (Donaldson-Feilder et al., 2017; Grant, 2018), with workers using their lunch break as a buffer to absorb a heavy workload (Poulain, 2002). It can result in workers eating lunch at their desk in order to make up for work, and/or to avoid having to stay later at night (Grant, 2018; Poulain, 2002). In these cases, lack of time is the result of workers' assessment of other

⁵ <http://www.food-programme.eu/en/barometers/france/>

commitments they have, stressing the relationships between activities in time-allocation decisions. Relevant items from the French Working Conditions Survey were identified and included in the study.

2.2.3.4. Personal commitments

Echoing the idea that lunch breaks can be used to absorb workload, they can also be used to manage personal duties. For example, parents with kids might work through lunch in order to leave work early to pick up their children, especially mothers (Jabs & Devine, 2006; Poulain, 2002). Workers also routinely engage in personal activities during their lunch breaks (Altman & Baruch, 2010), resulting in less time being allocated to purchasing and eating lunch. Relevant items from the French Working Conditions Survey were identified and included in the study. One item adapted from the General Social Survey (as cited by Kleiner (2014)) was added and one item was developed by researchers to mirror item about work preventing from spending time with loved ones.

2.2.3.5. Autonomy over time

In the context of the workday, leniency of schedule has been proposed to account for differences in attendance of food outlets, the idea being that workers with a flexible schedule might attend outlets further away from their workplace, as they have autonomy over how they handle their time (Raulio et al., 2012). Other activities workers may engage in during lunch (workload, personal commitments) are made possible when individuals have leniency in their work schedule. Being autonomous in one's organization of work is therefore likely to allow for time trade-offs. This might reduce time allocated to eating lunch, thus playing a key role in perceived lack of time for lunch. On the other hand, having control over one's timing of work can also buffer lack of time, by allowing one's work to take place when the worker sees it best fits. Experimental studies have shown that giving respondents a deadline by which to complete a task is sufficient to induce a feeling of time shortage, even if the time they are allocated exceeds the amount of time necessary (Ariely & Zakay, 2001; Conte et al., 2016). In the context of the workday, having a strict schedule for lunch can be considered having a deadline. It was therefore

important to explore the associations of autonomy over one's time and lunch behaviors. Both autonomy over lunch and autonomy over work time were investigated. Relevant items from the French Working Conditions Survey were identified and included in the study.

2.2.3.6. *Feeling rushed*

One dimension indicative of a lack of time during lunch breaks is the feeling of being rushed. It is a subjective experience of a perceived lack of time (Szollos, 2009), a individual's assessment (Venn & Strazdins, 2016). As such, it is one aspect of lack of time. Feeling rushed affects diet and health in a different manner than insufficient time available (Venn & Strazdins, 2016). One item was developed by researchers, based on wording found in general population surveys about frequency of feeling rushed, and adapted to be specifically about lunch breaks.

Time-related drivers of food outlet attendance (4-pt agreement scale)

- I choose where I buy lunch based on the speed of the service○
 - I choose where I will buy lunch based on proximity to my workplace○
 - I choose where I will buy lunch based on the time I have
-

Adaptive behaviors when facing lack of time (4-pt frequency scale)

- I've cut my lunch break as short as possible because of work
 - I've cut my lunch break as short as possible because of personal activities
 - I didn't eat lunch at all because of my workload
 - I didn't eat lunch at all because of personal obligations that I took care of during my lunch break
-

Workload (4-pt agreement or frequency scales)

- 'I usually have enough time to do my work properly'•
 - 'I am asked to do an excessive amount of work'•
 - 'I sometimes bring work home'•
 - 'My loved ones complain that my working hours make me too unavailable for them'•
 - 'I work beyond scheduled time' •
 - 'My work prevents me from spending time with my loved ones•
 - 'I feel like I never have enough time to do everything I have to do at work'♦
-

Personal commitments (4-pt agreement scale)

- 'I feel like I never have enough time to do everything I have to do at home'♦
 - 'my personal or family commitments prevent me from spending time
-

on my work'
Autonomy over time (4-pt agreement scale unless specified)
You have a strict schedule for lunch breaks (Y/N question)•
How is working schedule fixed (multiple-choice)•
How is working schedule controlled?•
I can plan most of my work in advance•
I can organize my work as I see fit•
I can vary deadlines for my work•
In case of personal emergency, I can easily skip work even for a few hours•
Feeling rushed during lunch break (4-pt frequency scale)
How often did you feel rushed during your lunch breaks over the last two weeks?

Table 4: Questionnaire items for components of lack of time

- Adapted from French Working Conditions Surveys
- ♦Adapted from General Social Survey, as cited by Kleiner (2014)
- Adapted from FOOD program questionnaire

2.3. Statistical analyses

To investigate components of lack of time during workday lunch breaks, an Exploratory Factor Analysis (EFA) was run, using principal factor analysis. Based on Kaiser's normalization, promax variation was used, which allows correlations between factors (Conway & Huffcutt, 2003). Items were allocated to the factor given by their highest loading factor. The approach being exploratory and descriptive, all items included in the EFA were kept. Factor scores for respondents were standardized to a mean of zero and estimated based on the coefficient obtained for each item in the factorial model.

In order to investigate the relationships between lack of time and likelihood of food outlet attendance, a binary logistic regression model was estimated for each of the food outlet, with respondents' factor scores as continuous independent variables. The same model was run for each of the types of location investigated. Only respondents who had declared they had access to each specific type of location were included. Specific logit model was performed using binary response for each type of location (never, at least once). Results of the model are presented in Odds Ratios (OR), 95% Confidence Intervals (CI) and p-values.

XLSTAT® statistical and data analysis solution (Addinsoft, New York, USA) was used for all the statistical analyses.

3. Results

3.1. Sample characteristics

The characteristics of the sample are presented in Table 5. Quota sampling allowed for even distribution of genders. Due to difficulties in recruiting younger blue-collar workers, both groups are slightly below others in their category.

[Table in appendix presents descriptive results of access and attendance of food outlets for reviewing purposes. It has been published in a non-English language journal before. Final version will include a reference to the published article].

	% in the sample (N=1139)
Gender	
Women	49.9
Men	51.1
Occupational class	
Executives	24.7
Intermediate professions	25.9
Employees	25.5
Blue-collar workers	23.9
Education	
No diploma	2.2
Below high-school level	21.7
High school	19.8
2 years of higher education	20.8
3-4 years of higher education	18.3

At least 5 years of higher education	17.2
Age	
[18-25[19.9
[25-50[42.4
50 and more	37.7
Monthly income (€)	
[0-1100[9.5
[1100-1500[24.6
[1500-1800[16.5
[1800-3100[30.8
3100 and more	9.8
Doesn't know	1.1
Doesn't want to say	7.7
Type of contract	
Long term	79.5
Other	20.5

Table 5: Characteristics of sample

3.2. Components of lack of time

EFA highlighted a 4-factor structure, based on Kaiser's, greater-than-one rule (Table 6).

	Factor			
	Time demands	Time-related determinants	Autonomy	Adaptive behaviors
Work prevents me from spending time with my loved ones	0.71	0.02	0.06	0.00
My loved ones complain that my working hours make me unavailable for them	0.69	-0.04	0.10	0.06
I work beyond scheduled time	0.63	-0.03	0.26	-0.007
I feel like I never have time to do everything I	0.61	0.06	-0.16	0.00

have to at work				
I shortened my lunch break as much as possible because of what I have to do at work	0.54	0.02	0.11	0.25
I usually have enough time to do my work properly	-0.52	0.02	0.19	0.00
I am asked to do an excessive amount of work	0.46	-0.02	-0.20	0.07
I bring work home	0.44	-0.03	-0.29	0.01
I felt rushed at lunch time	0.36	0.08	-0.23	0.24
I feel like I never have time to do everything I have to do at home	0.29	0.13	-0.15	0.00
My personal or familial responsibilities prevent me from devoting time to my work	0.25	-0.08	0.15	0.25
I choose where I will buy lunch based on the speed of service	0.01	0.90	0.01	0.01
I choose where I will buy my lunch based on proximity to my workplace	0.00	0.88	0.02	-0.04
I choose where I will buy my lunch based on the time I have	0.03	0.62	0.03	0.04

Setting of work schedule	-0.26	-0.04	-0.64	0.12
I can organize my work in the way that suits me best	-0.20	0.09	0.50	0.04
Setting of lunch schedule	-0.20	0.04	-0.49	0.06
I can easily vary deadlines to do my job	-0.31	-0.02	0.48	0.20
I can plan most of my work in advance	-0.25	0.01	0.42	0.08
In case of personal or familial emergency I can easily get off work, even for a few hours	-0.19	0.07	0.39	0.03
Control of schedule by employer	-0.06	0.04	-0.17	0.04
I haven't had lunch at all because of personal obligations I took care of during my lunch break	-0.10	-0.02	-0.08	0.91
I haven't had lunch at all because of my workload	0.23	-0.05	0.01	0.45
I've shortened my lunch break as much as possible because of personal activities	0.12	0.11	0.02	0.44
<i>Eigenvalue</i>	<i>4.04</i>	<i>2.24</i>	<i>1.64</i>	<i>1.10</i>
<i>Percentage of variance explained</i>	<i>16.8</i>	<i>9.3</i>	<i>6.8</i>	<i>4.6</i>

Table 6: Rotated factor loadings matrix (Promax rotation with Kaiser normalization). Highest loading factor in bold

The first factor consisted of eleven items, which related to demands on respondents' time, both work and non-work related. As a result, it was labeled 'time demands'. One item loaded on two factors, and decision was made based on interpretability.

The second factor included three items related to importance of time-related determinants in food outlet attendance. As a result, it was labeled 'time-related determinants'.

The third factor consisted of seven items related to the autonomy respondents felt they had in the organization of their work and over their time. As a result, it was labeled 'autonomy'.

The fourth factor consisted of three behavioral items related to lunch skipping and lunch reduction due to other activities, personal or professional. As a result it was labeled 'adaptive behaviors'.

3.3. Lack of time and attendance of food outlets

Model was statistically significant at .05 level for all location types under study (Table 7). Results are displayed Table 8.

	χ^2	df	p
Worksite cafeteria	33.91	4	< 0.0001
Vending machine	44.29	4	< 0.0001
Take away	152.30	4	< 0.0001
Office building	43.44	4	< 0.0001
shop			
Supermarket	133.48	4	< 0.0001
Full service	69.57	4	< 0.0001
restaurant			
Online ordering	49.25	4	< 0.0001

Table 7: Likelihood ratio test for logistic regression models for food outlet attendance

	Time demands			Time-related determinants			Autonomy			Adaptive behaviors		
	OR	95% CI	P-value	OR	95% CI	p-value	OR	95% CI	P-value	OR	95%	p-value
Worksite cafeteria (n=425)	1.35	1.05-1.74	0.02	0.79	0.62-1.01	0.06	1.42	1.09-1.87	0.01	0.80	0.63-1.01	0.06
Vending machine (n=260)	0.89	0.64-1.24	0.49	1.25	0.89-1.75	0.21	0.63	0.45-0.88	0.01	1.79	1.34-2.40	<.0001
Full service restaurant (n=765)	1.12	0.94-1.32	0.20	1.25	1.04-1.50	0.02	1.30	1.08-1.57	0.01	1.41	1.19-1.66	<0.0001
Take away (n=902)	0.96	0.81-1.13	0.61	2.09	1.74-2.50	<0.0001	1.08	0.91-1.29	0.38	1.66	1.38-1.99	<0.0001
Supermarket or convenience store (n=861)	0.86	0.73-1.01	0.06	1.89	1.57-2.27	<0.0001	0.99	0.83-1.17	0.88	1.83	1.52-2.21	<0.0001
Online ordering (n=469)	1.26	0.97-1.63	0.09	1.06	0.78-1.45	0.71	2.21	0.91-1.62	0.18	1.51	1.22-1.87	<.001
Office building shop (n=307)	0.94	0.71-1.26	0.69	1.38	1.04-1.84	0.02	1.08	0.81-1.45	0.60	1.69	1.25-2.29	<.001

Table 8: Odds ratio of factors on food outlet attendance

Overall, all time factors identified through EFA influenced the likelihood to attend at least one type of location among those under study.

Time demands are associated with significantly higher odds of attending a worksite cafeteria (OR=1.35, p=0.02), marginally higher odds of attending online ordering (OR=1.26, p=0.09) and marginally lower odds of attending supermarket (OR=0.86, p=0.06).

Time-related determinants are associated with significantly higher odds of attending take-away (OR=2.09, p<0.0001), supermarket (OR=1.89, p<0.0001), office building shop (OR=1.38, p=0.02), and full service restaurant (OR=1.25, p=0.02). They are marginally associated with decreasing odds of attending worksite cafeteria (OR=0.79, p=0.06).

Autonomy is associated with significantly higher odds of attending worksite cafeteria (OR=1.42, p=0.01) and full-service restaurant (OR=1.30, p=0.01). It

is associated with significantly lower odds of attending vending machine (OR=0.63, p=0.01).

Adaptive behaviors are associated with significantly higher odds of attending supermarket (OR=1.83, p<0.0001), vending machine (OR=1.79, p<0.0001), office building shop (OR=1.69, p=0.0006), take away (OR=1.66, p<0.0001), using online ordering (OR=1.51, p=0.0002), and attending a full service restaurant (OR=1.41, p<0.0001). They are marginally associated with a decrease in odds of attending worksite cafeteria (OR=0.80, p=0.06).

4. Discussion

A better understanding of food outlet attendance among those accessible has been advocated in order to better understand the relationships between food environments and dietary behaviors (Clary, Matthews, & Kestens, 2017). Although lacking time is oftentimes cited as a barrier to healthy eating, inside and outside the workplace, how it maps on to food outlet attendance in the context of lunch during the workday is unknown. This study aimed at addressing the question. Potential components of lack of time during workday lunch were identified through a multi-disciplinary scoping literature review, and examined through EFA. The EFA suggested that lack of time during workday lunch was clustered in four components: time demands, time-related determinants, autonomy over time, and adaptive behaviors. Binary logistic regressions suggested each of these factors affect the likelihood of food outlet attendance for one or more of the food outlets under investigation.

4.1. Access and attendance of food outlets during the workday

Access to food outlets varied greatly across food outlet types, ranging from 22.8% of respondents with access (vending machines) to 79.2% of respondents with access (take away). This suggests important disparities in workplace food environments among workers.

To the best of our knowledge, this study is the first to investigate access to newer forms of food outlets. Access to online delivery services was possible for more than 40% of respondents, highlighting the growth of this market. While supermarkets and convenience stores are not new, they had rarely been taken into consideration as food outlets for purchase of lunch. Our results show it is an outlet widely accessible to and used by workers. This could reflect the strategy of some supermarket chains to increase their offer in ready to eat meals, increasingly blurring the lines between stores, take-away, and even fast-foods. Access and attendance rates found in this paper suggest this type

of food outlet should be taken into account in future studies about food purchase during workday lunch.

Attendance of food outlets varied greatly across food outlet types, ranging from 21.3% of respondents with access who attended at least once (online ordering) to 68.2% of respondents with access who attended at least once (worksite cafeteria). Attendance of worksite cafeteria is above what has been found in other countries (Raulio et al., 2012; Roos et al., 2004). Out of the seven food outlets under study, four were attended by less than half of the respondents with access. This stresses the need for further research on the links between access and attendance, and the importance of taking access into account to do so.

4.2. Components of lack of time

Exploratory factor analysis suggested that lack of time during lunch is made up of four components: time demands, time-related determinants, autonomy, and adaptive behaviors. The first factor, time demands (Table 6), was found to encompass items referring to workload, personal commitments, one adaptive behavior, and feeling rushed during lunch breaks. Based on literature review, these items were expected to load on distinct dimensions of lack of time. This finding indicates strong correlations amongst these items, which could suggest that workload and personal commitments concern the same individuals, and that they are strongly associated with feeling rushed. It is unclear however why shortening of lunch break due to workload would load onto this factor, and not shortening of lunch break due to personal obligations. As the dimensions found through EFA are based on the responses of the dataset under study (Davie, 2015), this finding could simply reflect the structure of responses obtained in this study, and should be replicated before a conclusion can be reached. It indicates at any rate that personal commitments may partly shape workers' feeling of lacking time for lunch, which has received very little attention so far.

The second component, time-related determinants, includes items known to be important to workers in food outlet attendance for lunch during the workday (FOOD 2019 Barometer⁶, Edenred, 2016) but that have not, to the best of our knowledge, been associated to attendance of specific food outlets in previous studies.

The third component, autonomy, includes all items pertaining to control over one's time at work which were under study. These include objective features of work organization, such as setting of work schedule, and perceptions, such as control over deadlines and personal organization.

The fourth component, adaptive behaviors, includes items describing strategies put in place by individuals dealing with lack of time, avoiding the task (skipping lunch) or shortening it (reducing time allocated to lunch).

4.3. Associations between lack of time and attendance of food outlets

Attendance of all food outlets under study were found to be associated with at least one component of lack of time obtained from EFA. This result suggests that lack of time does play a role in attendance of food outlets during the workday, as was hypothesized. However, lack of previous studies linking time-related working conditions and attendance of food outlets other than worksite cafeterias makes it difficult to give perspective on our results.

Attendance of worksite cafeteria was found to be associated with time demands and autonomy. These results are contrary to findings by Roos et al. (2004), who found that time for work tasks and autonomy were not significantly associated with attendance of worksite cafeterias. This inconsistency may be due to differences in the countries where the studies were carried out (France vs Finland).

Attendance of vending machines for lunch was positively associated with adaptive behaviors and negatively associated with autonomy. This suggests

⁶ <http://www.food-programme.eu/en/barometers/france/>

that vending machines are used as a quick option for purchasing lunch, taking in this case the form of a snack, when workers do not have much time to allocate to lunch. Workers who have more freedom in the organization of their work might not need to turn to this option.

Attendance of full-service restaurant was positively associated with time-related determinants, autonomy, and adaptive behaviors. Meals taken in full service restaurants during the workday last longer than meals taken elsewhere (Lhuissier et al., 2020). Therefore, it is possible that workers attending a full-service restaurant pay more attention to proximity or speed of service to keep the overall duration under control. More autonomy allows workers to organize their tasks more freely, giving them more opportunity to eat outside the workplace (Raulio, Roos, Mukala, & Prättälä, 2007), perhaps without worrying about the exact time they get back to their workstation. It is unclear why adaptive behaviors would be associated with attendance of full-service restaurants.

Attendance of outlets offering take-away, of supermarkets and convenience stores, and of office building shops were all positively associated with time-related determinants and adaptive behaviors, suggesting these types of places are seen as outlets allowing for a quick lunch. As these outlets offer relatively similar types of food, it is logical they are associated following the same pattern.

Use of online ordering for lunch was positively associated with adaptive behaviors. Online ordering reduces time spent walking or driving back and forth to one outlet and waiting times, thus freeing up time. It is possible therefore that workers looking to adapt to a lack of time turn to this option.

This study has several limitations. First, it is important to stress that this study is exploratory in nature, and that further research is needed before conclusions can be reached. In particular, lack of time is a broad, complex notion. This paper purposefully takes a broad approach by including dimensions hypothesized to be indicative of lack of time based on a literature review, but

might have overlooked others. Moreover, the strength of the relationship between the dimensions under study and experience of lack of time is not examined. Because of its exploratory nature, the aim of the sampling strategy was to obtain a population homogeneous in its type of employment (wage-earners vs independent workers), in its working schedule (day vs night or rotating shift), and stable in its work environment (worked in a single worksite), and not a sample representative of French workers. As such, the findings of this study cannot be generalized to French workers, or workers in general. Lastly, this study is based on retrospective report by respondents of their behavior in the two weeks prior to taking the survey, and may thus be prone to recall bias.

5. Conclusion

To the best of our knowledge, this study is the first to investigate attendance of so many food outlets in the context of workplace eating decisions, and the first to control for access in the French context. We believe this paper adds to the emerging conversation of time as a determinant of health by exploring its links with attendance of food outlets, which frames the type of foods accessible. It also provides a tool to investigate attendance of food outlets for lunch during the workday and its associations with lack of time.

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Appendix

	Respondents with access		Respondents who attended	
	N	%	N	% (of respondents with access)
Worksite cafeteria	425	37.3	290	68.2
Vending machine	260	22.8	84	32.1
Full service restaurant	765	67.2	315	41.2
Take away	902	79.2	513	56.9
Supermarket or convenience store	861	75.6	443	51.5
Online ordering	469	41.2	100	21.3
Office building shop	307	27	150	48.9

Table 9: Food outlet access and attendance across respondents

Chapter II. Investigating two types of time constraints: an online experiment

1. Introduction to article 3: methodological considerations of studying time in laboratory settings

A hypothetical experiment was designed and conducted to investigate willingness to pay to save time under presence of deadlines and time pressure, addressing research question IV. Do time constraints and/or time pressure affect willingness to reduce acquisition phase of lunch? and V. Do time pressure and deadlines affect willingness to reduce acquisition phase of lunch in a similar manner?. This experiment is presented in the article below. Turning to a hypothetical design might seem surprising, considering this project was originally rooted in experimental economics, for which incentive-compatibility is a fundamental principle. This strategy is discussed in the section below, which argues that time-based incentives in laboratory settings have major limitations when it comes to investigating time vs money trade-offs.

1.1. Time to execute a decision vs response time

When considering where to get lunch, the problem might not be a specific time limit to make a decision, but rather the time available to carry out all lunch subtasks that need to be carried out. These include the trip to a food outlet, the waiting times there, the act of eating itself, the trip back, as well as tasks not directly related to lunch but that might have to be taken care of during that time, such as running errands, changing gear before and after, having a cigarette... As proposed in the literature review (3.1.4), lunch is composed of several subtasks, each taking up time, which cannot be spent on others. In the context of lunch during the workday, it is therefore possible that workers facing time constraints would seek to reduce time allocated to purchasing lunch, either in order to reduce overall duration of their lunch break or in order to allocate more time to the consumption part of lunch. One qualitative study suggests that it is one driver of attendance of worksite cafeterias in France (Mathé & Francou, 2014), but no quantitative work has investigated the

matter. It was decided to turn to experimental methods to explore the possibility that, when facing time constraints, workers would shorten the purchasing phase of lunch. In other words, it was decided to investigate time allocation decisions under time constraint, and in particular trade-offs between saving time and spending money. Yet, experimental research investigating time constraint has focused on decision-making, and not decision execution. While attention has been given to how decision processes are impacted by time (Spiliopoulos & Ortmann, 2018), how time available for *the execution of the decision* might affect decision has received very little attention in experimental approaches.

1.2. Time incentives in laboratory settings

A cornerstone of experimental economics is its reliance on incentive-compatible designs (Loewenstein, 1999). Investigating time however, raises specific challenges to design and administration of incentive-compatible experiments, that have only recently begun to be addressed, as experimental economics has only recently joined the debate (Jouxtel, 2019). This section first reviews experiments that have relied on time-based incentives in laboratory settings, and then presents the theoretical and methodological challenges in doing so. The purpose of this review is to present the method used, so as to highlight challenges that time-based incentives raise.

Studies using time-based, incentive-compatible designs, typically use variations in durations of the experiment (Abdellaoui & Kemel, 2014; Bergantino, de Carlo, & Morone, 2015; Ellingsen & Johannesson, 2009; Jouxtel, 2019; Kemel & Paraschiv, 2013). The general principle is that respondents are faced with the possibility of the experiment lasting longer or shorter, based on their response. Methodological differences are found across studies in regard with the design of the treatment. In some studies, time incentives are matched with monetary incentives through elicitation of value of time beforehand (Ellingsen & Johannesson, 2009; Jouxtel, 2019), but not in others (Abdellaoui & Kemel, 2014; Bergantino et al., 2015). Both approaches raise the issue of value of time in experiments. In experiments where value of

time is elicited beforehand, value of time from another group of respondents is elicited, and the mean is used to construct time treatment. However, value of time can be quite heterogeneous across respondents, depending on their income for example. Thus, there is no assurance that the time incentive actually matches respondents' value of time.

1.2.1. The challenges to internal validity in experiments varying in durations

More fundamentally, all experiments varying durations introduce external considerations in respondents' decision-making, in the sense that respondents' other time demands (or lack thereof) can be at play when they are doing the experiment. For example, respondents committed to another activity after the experiment will have a higher value of time (Dixit, Ortmann, Rutström, & Ukkusuri, 2017), affecting their decisions regarding time incentives in the experiment. Conversely, leaving an experiment earlier than expected might not be desirable for respondents who scheduled another activity close by right after the experiment, as it would entail waiting time. In other words, respondents' value of their time at the time of the experiment introduces "variations in the value of the reward medium" (Dixit et al., 2017, p. 177). If the focus of the experiment is to investigate trade-offs between time and money, like we aim to, this is a challenge to internal validity, as other, unobservable elements might be at play in respondents' decisions.

1.2.2. Specificities of studying food in laboratory

While incentive-compatible experiments, and stated choice methods, have been widely used to investigate food products and willingness to pay for food product attributes, the issue of time saving applied to meals has never been investigated through time-based incentive in laboratory settings, and only one study has researched it (Casini et al., 2019). Investigating food choice in a laboratory setting also poses unique challenges, which would combine with those of time-based incentives in this study. The aim of this study is to investigate willingness to pay to reduce acquisition of time of lunch, thus acquiring more time for consuming it. A variety of variables should have been

controlled for in the case of a laboratory experiment. In a laboratory setting, preferences for the food about to be served would likely enter into consideration, for example because respondents enjoying the food would like more time to savor it. The level of hunger of subjects at the time of the experiment would have mattered. More fundamentally, a laboratory setting would have required subjects to consume the meal in this setting. The context in which food is offered to individuals has been shown liking of it. In particular, similar food items offered in a laboratory setting and in a naturalistic environment were shown to differ in appreciation (Galiñanes plaza, 2019). While our focus is not on liking of food items, it can be inferred that *spending money* to spend *more* time in a laboratory setting would not be appealing.

This would also have been a major practical challenge. First, respondents would have had to come at times appropriate for a meal. Second, the quality of the meal offered in different time conditions should have been identical, and variations in time conditions to obtain the food would have been likely to affect respondents' expectations regarding quality. Considering the practical costs of running an incentive-compatible experiment, the limits of time-based incentives in terms of internal validity, and the little external validity which could be hoped for, we turned to a hypothetical experiment. We do not expect that a hypothetical design would surpass an incentive-compatible one in terms of internal validity, and agree that the issue of time-based incentives is a promising field for research. However, the costs of incentive-compatible laboratory experiment outweighed its advantages in this specific case. We were also encouraged to do so by the fact that only hypothetical designs investigating time/money trade-offs were found. They are reviewed next section.

1.3. Hypothetical scenarios to investigate willingness to pay to save time

Works in experimental economics interested in time have been devoted to whether and how behaviors differ based on the reward medium (time or money) (Jouxtel, 2019). As such, the focus is not the trade-off of one medium

over another (money for time or time for money). Similarly, research in behavioral economics and consumer studies on time have focused on whether and how time is handled differently from money in decision-making (Lee, Lee, Bertini, Zauberan, & Ariely, 2015; Okada & Hoch, 2004; Saini & Monga, 2008; Soman, 2001; Soster, Monga, Bearden, & Rajesh, 2010; Su & Gao, 2014; Zauberan & Lynch, 2005). Research on willingness to pay to save time remain scarce, as only four studies were found outside transportation research (Casini et al., 2019; Duxbury, Keasey, Zhang, & Chow, 2005; Leclerc, Schmitt, & Dube, 1995; Whillans & Dunn, 2018).

Of these four, three rely on hypothetical scenarios. Whillans & Dunn (2018) elicited value of time in their subjects, with actual consequences. However, their experiment is not incentive-compatible insofar as the elicitation method used could induce strategic behaviors by respondents. Both Duxbury et al.'s (2005) and Leclerc et al.'s (1995) primary focus was also differences in respondents' decision between monetary and time outcomes, but both included elicitation of willingness to pay to save time. Casini et al. (2019) investigated willingness to pay for similar products under different preparation times in the context of dinnertime. Whillans & Dunn's (2018) focus was guilt feelings in outsourcing tasks to a service provider. Respondents were offered the choice to either keep their initial endowment by performing a 30-minute task or exchange it for 30 minutes of free time. They found that respondents who were assigned to the identifiable purchase condition (i.e.: were told who'd be doing the task they outsourced) were less likely to exchange money for time. Across conditions, almost 40% of respondents exchanged their money for time. Only one of these studies (Casini et al., 2019) applied to food, claiming (rightly so in our opinion as well) to be the first to investigate willingness to pay for time attribute applied to food products. They found willingness to pay reduction in preparation times was more heterogeneous than for transportation, with three segments of consumers, including a segment indifferent.

The study presented in the article below was preregistered on Social Science Registry⁷.

The article below is being submitted to the International Journal of Contemporary Hospitality Management as of mid-June 2020.

⁷ <https://www.socialscienceregistry.org/>

Influence of time constraints on willingness to pay for meal-delivery services

Abstract

Purpose: Proximity and speed of service are important determinants of location choice for workers purchasing their lunch during their workday, indicating a general preference for rapidity. This paper investigates willingness to increase rapidity for lunch acquisition based on time constraints encountered by workers in the context of their workday. Willingness to increase rapidity in lunch acquisition is operationalized by elicitation of willingness to pay for express delivery of lunch.

Design/methodology/approach: Willingness to pay for express delivery of lunch was elicited through hypothetical scenarios, with two levels of working schedules (strict or flexible) and two levels of time pressure (presence or absence). Mixed model analysis was conducted to investigate distinct effects of working schedule and time pressure.

Findings: Confirming hypotheses, strict working schedule and presence of time pressure significantly increase willingness to pay to save time. Both were found to have significant yet distinct effects.

Practical implications: These results draw attention to the role of work-related time constraints in workers' lunch behaviors.

Originality/value: This is the first investigation of willingness to pay to save time applied to food delivery services. This paper is the first attempt at disentangling two intertwined dimensions of time, deadline and time pressure, which are usually handled as one in experimental designs.

Keywords: time constraints, time pressure, lunch, workplace, willingness to pay

Paper type: research paper

1. Background

Meal delivery services are a booming market, representing a major opportunity for actors in the foodservice industry (Food Service Vision, 2018). They offer consumers the chance to enjoy a restaurant meal without having to leave the comfort of their homes or their workstation. As such, meal delivery services are convenient, in that they reduce physical effort and save time (Scholderer & Grunert, 2005). Yet, the time-saving attribute of convenience in food has been overlooked (Casini et al., 2019), even as individuals report feeling pressed for time. A better understanding of the influence of time-saving considerations could therefore help actors of the foodservice industry address consumers' needs and expectations. The need to save time is likely especially salient when considering lunch during the workday, as qualitative studies suggest that the time constraints workers encounter may play an important role in their lunch habits (Donaldson-Feilder et al., 2017; Grant, 2018). However, the associations between time constraints and lunch habits in the workplace have not been studied and tested. For example, although proximity and speed of service are known drivers of choice for workers at lunch (FOOD – Fighting Obesity Through Offer and Demand. 2019 Barometer⁸), how time constraints map on to these drivers is unknown (Sharma et al., 2017).

More research has investigated the links between time constraints and lunch habits amongst school students, which can inform research on lunch in the workplace. A key learning from these studies is the importance of taking into account the acquisition phase of lunch, comprising travel time to the school cafeteria, waiting time in the service line, and travel time to the eating area (Buergel et al., 2002; Conklin, Lambert, & Anderson, 2002) when investigating time available for lunch. Acquiring lunch can take a significant part of total time allotted to lunch, reducing time available for lunch consumption (Conklin et al., 2002). Research has highlighted that time spent acquiring lunch has a significant impact on time available to eat it (Buergel et al., 2002), with students purchasing lunch from the school cafeteria having less time to eat

⁸ <http://www.food-programme.eu/en/barometers/france/>

compared with students bringing lunch from their home (Buerger et al., 2002). Based on these works, the interdependent relation between time allotted to acquiring lunch and time allotted to consuming lunch should be stressed. In other words, acquiring lunch is a necessary step to consuming it, much like food preparation is necessary for consuming a meal at home (Casini et al., 2019). While school children have little control over their lunch situation, working adults enjoy more freedom. In that respect, it is possible that adults facing time constraints might seek to reduce time allotted to acquiring lunch, in order to enjoy more time to consume it. The overall aim of this paper is to investigate time allocation trade-offs between these two phases of lunch, acquisition and consumption, among adult workers. Specifically, this paper investigates whether willingness to pay for a time-saving service is impacted by work schedule constraints and/or by feeling of time pressure. A secondary objective of this paper is to investigate two related yet distinct dimensions of time, which are time pressure and deadlines.

2. Literature review

2.1. Theoretical framework: economic value of time

In his seminal work, *A Theory of the Allocation of Time*, Becker (1965) introduces the idea that time is, like money, a resource available to individuals. As such, assessing the full cost of an activity should include not only the monetary costs directly associated to it, but also “the foregone value of the time used up” (Becker, 1965, p. 494). Variations in an individual’s value of time therefore affect the demand for goods. Building on the work of Margaret Reid, Becker gives the example of demand for home-delivered and store-bought milk. Demand would vary not only based on price of the good, but also on the value of time to go, purchase and bring home this good. An increase in the value of time, with prices remaining constant, would lead to an increase in demand for home-delivered milk, as opposed to store-bought milk, which would increase in case of a decrease in value of time. In other words, individuals trade off money for time, based on their value of time. This is

apparent in purchase of time-saving options: think for example of amusement parks selling passes to avoid lines (Conte et al., 2016). Empirical research conducted on value of time and food consumption has included investigation of the relationship between value of time and purchase of food away from home, with robust results indicating increase in food away from home expenditure as the value of time increases in households (see Davis, 2014 for a review). This stream of research is based on analysis on large-scale population surveys.

2.2. Time constraints and workday lunch

This section introduces two features in the organization of work that have been shown to limit the time workers allocate to lunch, and links both of these features to distinct, albeit intertwined, dimensions of time.

2.2.1. Working schedules (deadlines)

Working schedule refers to the leniency a worker has over the organization of their workday. While some workers have a strict working schedule with hierarchical oversight, others enjoy a flexible working schedule. It has been proposed that flexibility in working schedules could help explain differences in workers' lunch behaviors, as workers with a flexible working schedule could go farther away from their workplace to purchase and eat their lunch (Raulio et al., 2012).

In the context of lunch during the workday, working schedules can be thought of as deadlines: workers must be back by a specific time to their workstation. However, some workers have a strict working schedule, some do not. Workers with a strict working schedule cannot relax the constraint of the deadline, while workers with a flexible schedule might gain some more time by having their lunch time going over their working time. Value of time has been found to be higher for trips before work, i.e. trips with a looming deadline (arrival at work) (Paleti, Vovsha, Givon, & Birotker, 2015).

As a result, the first hypothesis of this paper is as follows:

H1: Strict working schedule increases willingness to pay for time-saving services.

2.2.2. Workload (time pressure)

Previous research indicates that some workers shorten their lunch break due to their workload (Grant, 2018; Poulain, 2002). In other words, they reduce the time they allocate to one activity (lunch) in order to leave more time for another (work), for which time available would not be sufficient otherwise.

Workload alludes to the notion of time pressure, which is a subjective reaction to a perceived unbalance between time that is available to complete a task and time required to complete said task (Ordóñez et al., 2015). When experiencing time pressure, an individual perceives time as a scarce resource. According to economic theory, such individual should seek to relax this constraint, trading off money for time, thus affecting willingness to pay to obtain more of this scarce resource. In their study about variations of value of time by travel patterns, Paletti et al. (2015) found that value of time for eating-out during the workday was far larger than during other time windows, attributing it to "time pressure to return to work place" (p.1012).

As a result, the second hypothesis of this paper is as follows:

H2: Facing time pressure increases workers' willingness to pay for time-saving services.

3. Material and methods

This paper proposes to investigate the influence of time constraints on willingness to pay for time-saving services through experimental methods. Turning to experimental methods circumvents several of the caveats in the use of large-scale surveys, which are typically used in household economics to investigate the relationship between value of time and purchase of food away from home. First, data available for joined analysis of consumer expenditure and time allocation is an acknowledged issue in this stream of research.

Researchers must typically rely on distinct datasets and imputation methods to link them together (Davis, 2014; see Hamermesh, 2007 for an example). Experimental settings allows conjoint elicitation of data, in a context with control over the options available to participants, which is not the case when relying on aggregate data such as consumer expenditure surveys. It also allows controlling over the type of time constraints to which respondents are exposed, namely deadlines and time pressure, whereas the type of time *constraints* encountered by participants in time use surveys is unknown, as only time *allocation* is reported. Experimental methods also enable examination of their (potentially) distinct and joint influence, at the individual level, thus reflecting individual variations in value of time, that, although acknowledged theoretically, cannot be examined empirically in large-scale population surveys, as the monetary value of time for an individual is equated to their wage rate (Chiappori & Lewbel, 2015).

An experiment was designed where participants were presented hypothetical scenarios relating to lunch break. The variables and treatments were: duration of break (two levels: short, and long), leniency of working schedule (two levels: flexible and strict), time pressure (two levels: absent and present) and time saved with express delivery (two levels: strong gain of time vs weak gain of time) and were manipulated following a 2*2*2*2 design, resulting in 16 scenarios presented to each participant. Duration of break and amount of time saved with express delivery are beyond the scope of this paper and will not be part of the analysis.

3.1. Development of scenarios

Sixteen scenarios were developed to investigate willingness to pay to shorten acquisition phase of lunch delivery. This section presents how the scenarios were constructed.

3.1.1. Baseline meal time duration

Two mealtime durations were presented to participants: 20 minutes and 50 minutes. The shorter duration was chosen because it is the legal minimum

duration of break in French law. It is 43% shorter than the average duration of workday lunch, which is 34 minutes (Mathé & Franco, 2014). The same percentage variation was applied to construct the longer duration.

3.1.2. Standard delivery duration

Standard delivery was fixed at 40% of mealtime duration for both conditions. No data was found regarding the repartition between time allocated to acquiring lunch and time allocated to consuming it. 40% was chosen because it seemed a realistic amount of time while being broad enough to allow for shortening of this amount in the experimental conditions.

3.1.3. Express delivery situations

Two express delivery durations were presented for each of the mealtime durations. One saved 25% of standard delivery time (e.g.: from 20-minute standard delivery to 15-minute express delivery). The other saved 75% of standard delivery time (e.g.: from 20-minute standard delivery to 5-minute express delivery). Such variations in time saved were introduced to take into account the possibility of non linearity in valuation of time, based on overall saving (Festjens & Janiszewski, 2015; Leclerc et al., 1995).

3.1.4. Working schedule

Two conditions were presented to respondents, a strict working schedule and a flexible working schedule, reflecting hypothesis presented in section 2.2.1.

3.1.5. Time pressure

Two conditions were presented to respondents, presence of time pressure and absence of time pressure, reflecting hypothesis presented in section 2.2.2.

3.1.6. Elicitation of willingness to pay

Willingness to pay for saving time in lunch delivery was investigated using a payment card format, following the first study to survey willingness to pay for the time attribute in food by Casini et al. (2019). Respondents were asked how much they would be ready to pay to access express delivery following each

scenario. They were presented 11 amounts, ranging from 0€ to 5€ in 50-cent increments.

3.2. Outcome variable

The outcome variable was willingness to pay per minute saved. It was obtained by dividing respondents' willingness to pay for each scenario by the amount of minutes saved in each scenario. Such outcome variable allowed for easy comparison between scenarios, where the amount of time saved varied.

3.3. Procedure

The survey comprised of four parts and took place online. It was implemented on the online survey platform Eval&Go⁹.

3.3.1. Screening questions

Part one consisted of screening questions. Respondents had to be wage-earners, working in daytime (no night shift or shift work) and had to purchase lunch during their workday at least sometimes. The screening process was aimed at getting a homogeneous population of respondents, who were familiar with the task under study.

3.3.2. Definitions and priming

The second part of the survey aimed at introducing respondents to the situation they would encounter in the scenarios in the following part. Each variable was briefly defined. Definitions were provided to avoid ambiguity and heterogeneity of meaning in respondents' mind. Mealtime was defined as the moment dedicated to acquiring and consuming lunch, explicitly excluding other, non-food related activities, in which workers may engage during their lunch break. Strict working schedule was defined as a working schedule monitored by the employer, where a flexible working schedule was defined as a working schedule swayed by the employee, without employer oversight. Time pressure was described as not having enough time to acquire and eat

⁹ <https://www.evalandgo.com/>

lunch, leaving one feeling the need to hurry. On the contrary, absence of time pressure was described as having enough time to acquire and eat lunch.

After each definition, respondents were asked how each applied to them on a regular workday. They were asked to state the average duration of their mealtime (open question format), whether their working schedule was strict or flexible, and the usual time pressure they felt during their workday mealtime. The purpose of these questions was to make respondents think about their own lunch breaks, thus rendering the upcoming scenarios more evocative. The average duration of mealtime during the workday (Mathé & Francou, 2014) was provided for reference. This also served the purpose of giving respondents a criterion against which to appreciate the durations given in the scenarios that followed, for the same reason.

3.3.3. Scenarios

A total of 16 scenarios were presented to each respondent, following a within-subject design. Development of scenarios, inclusion of variables, and treatments are presented in section 3.1.

3.3.4. Socio-demographics

Lastly, respondents were asked their sociodemographics. Selected demographics were gender (male or female), age (open response format), living situation (4 levels: living alone, living with a partner, living with roommate, living with parents), education (5 categories: no diploma, lower secondary or vocational certifications, high school diploma, undergraduate diploma, graduate diploma), income (5 levels: below 110, between 1101-1500, between 1501-1800, between 1801-3100, above 3100, plus 2: don't know, refusal to answer), and occupational class (6 categories: farmers, business owners, executive, intermediate professions, employees, manual workers). They were also asked the options they had access to for lunch (meal voucher, worksite cafeteria, break room with basic equipment for food preparation, break room with no basic equipment, other).

3.4. Recruitment and administration period

Recruitment took place in August 2019. Invitation to participate in study was sent to the [researcher's institution]¹⁰ database. Individuals who subscribe to the database agree to be contacted by the [research institution] to participate in studies, on a voluntary basis. Invitation was also sent to partners of [research institution]. [They]are professionals of the food and hospitality industry. They were invited to forward the invitation to their colleagues. Invitation was also shared on the [research institution] social media accounts. To participate, respondents had to click on the invitation, which linked to the online questionnaire. A total of 139 respondents completed the questionnaire.

3.5. Data analysis

All analyses were conducted using SPSS version 21.

3.5.1. Preliminary analyses

Analyses were run to investigate whether sociodemographics and lunch organization characteristics of respondents had a significant effect on willingness to pay per minute. Respondents with a flexible schedule displayed significantly lower willingness to pay per minute ($p=.002$, data not shown). It was decided to distinguish between the two groups in data analysis, but due to the overwhelming majority of respondents having a flexible lunch schedule ($N=121$, 87.1% of original sample), data analysis was restricted to this subsample of respondents only.

3.5.2. Mixed model analyses and model selection

A linear mixed model approach was used to analyze effects of working schedule and time pressure on willingness to pay. Mixed models distinguish between effects due to experimental conditions and effects due to individual differences in a sample. They are especially relevant for analysis of repeated measurements (Seltman, 2018).

¹⁰ Details omitted for peer reviewing process

Model with first-order autoregressive (AR(1)), which assumes correlation in responses based on their distance (Seltman, 2018), was compared with model with scaled identity covariance structure, which assumes no correlation. AR(1) model yielded smaller Akaike’s Information Criteria (AIC) and Bayesian Information Criteria (BIC), but results indicated no correlation in responses (AR(1) $\rho = -.04$, $p > .1$) and model was therefore discarded. Information criteria are displayed Table 10.

Models with interaction effect between treatment variables (working schedule and time pressure) were also run, and yielded smaller AIC and BIC than those without (see Table 10). However, interaction effect was found non significant, so it was therefore not considered for further analysis.

Interaction between fixed effect	Covariance structure	AIC	BIC
No	Scaled identity	-978.376	-967.243
No	AR(1)	-976.546	-959.845
Yes	Scaled identity	-972.058	-960.925
Yes	AR(1)	-970.228	-953.529

Table 10: Information criteria of mixed models used for model selection

4. Results

4.1. Descriptive results of subsample

Table 11 presents the characteristics of the sample (N=121). Respondents were overwhelmingly female (76%) and of high socioeconomic status (75.2% executives). They had obtained higher education and their income is in majority above French median salary.

		Frequency	%
Gender	Male	29	24
	Female	92	76
Socioeconomic status	Executive	91	75.2
	Intermediary professions	18	14.9
	Employees	12	9.9
	Manual workers	0	0
Education	No diploma	0	0
	Lower secondary or vocational certifications	0	0
	Secondary diploma	7	5.8
	Undergraduate diploma	27	22.3
	Graduate or post-graduate diploma	87	71.9
Income	<1100	1	0.8
	1101-1500	10	8.3
	1501 - 1800	22	18.2
	1801-3100	56	46.3
	>3100	25	20.7
	No answer	7	5.8
Living situation	At parents'	1	0.8
	Colocation	6	5
	With partner	92	66.1

	Single	40	28.1	
Lunch purchase	Sometimes	51	42.1	
	Often	36	29.8	
	Always	34	28.1	
Lunch duration	20	7	5.8	
	25	3	2.5	
	30	17	14	
	35	2	1.7	
	40	19	15.7	
	45	33	27.3	
	50	5	4.1	
	55	1	0.8	
	60	26	21.5	
	75	3	2.5	
	90	5	4.1	
Typical pressure at lunch scale)	time at (0-10	0	20	16.5
	1	15	12.4	
	2	22	18.2	
	3	17	14	
	4	6	5	
	5	9	7.4	
	6	13	10.7	
	7	9	7.4	
	8	5	4.1	
	9	3	2.5	

Table 11: Sociodemographics characteristics and lunch organization of sample.**4.2. Average willingness to pay per scenario**

Table 12 presents the conditions of each scenario, and average willingness to pay. Figure 2 presents the average willingness to pay per minute saved across scenarios. A one-way repeated measures Anova was conducted, and found significant differences in willingness to pay per minute saved across scenarios ($F(15, 1800)=26.19, p<.001, \text{partial eta squared}=.18$). Pairwise comparisons can be found in appendix.

Scenario	Break duration	Lunch schedule	Time pressure	Gain of time (minutes)	Willingness to pay (s.d.)
S1	Short	Strict	Yes	6	1.60 (1.10)
S2	Short	Strict	Yes	2	.48 (0.73)
S3	Long	Strict	Yes	15	1.318 (1.14)
S4	Long	Strict	Yes	5	.43 (0.79)
S5	Short	Strict	No	6	1.08 (1.00)
S6	Short	Strict	No	2	.32 (0.70)
S7	Long	Flexible	Yes	15	1.11 (1.14)
S8	Long	Flexible	Yes	5	.29 (0.67)
S9	Short	Flexible	Yes	6	1.30 (1.01)
S10	Short	Flexible	Yes	2	.36 (0.62)

S11	Long	Flexible	No	15	.72 (0.86)
S12	Long	Flexible	No	5	.12 (0.46)
S13	Short	Flexible	No	6	.85 (0.85)
S14	Short	Flexible	No	2	.20 (0.54)
S15	Long	Strict	No	15	.90 (0.81)
S16	Long	Strict	No	5	.22 (0.58)

Table 12: Conditions of scenarios and main results

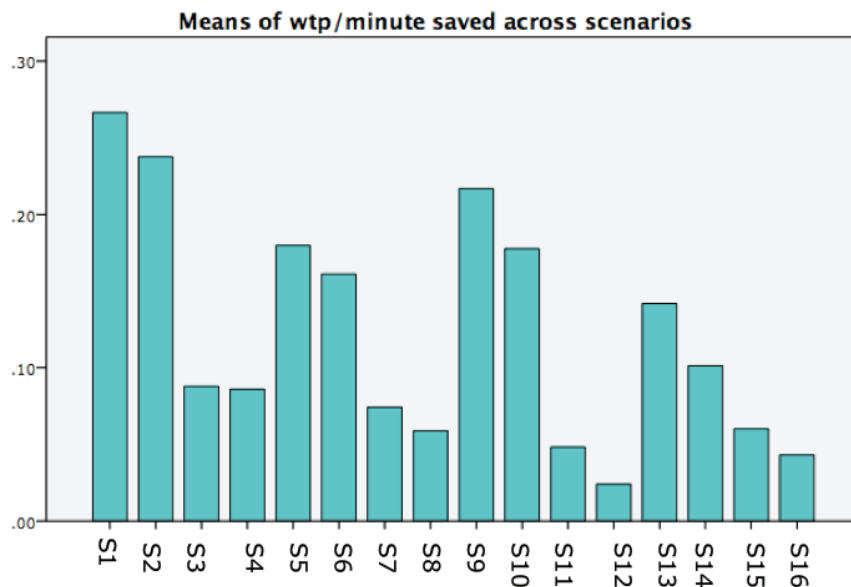


Figure 2: Mean willingness to pay across scenarios

4.3. Average willingness to pay per condition

Table 13 presents and compares mean willingness to pay per minute across conditions.

Stated WTP per minute saved was, on average, significantly higher in conditions with stricter lunch schedule. Likewise, conditions with high time

pressure elicited higher average WTP per minute saved than when no time pressure was described.

Condition	Average wtp (s.d.)	t-test
Strict lunch schedule	0.14 (0.13)	t(120)=5.08, p<.001
Flexible lunch schedule	0.11 (0.12)	
No time pressure	0.08 (0.11)	t(120)=-8.78, p<.001
Time pressure	0.14 (0.12)	

Table 13: Average wtp per minute per condition.

4.4. Effects of working schedule and time pressure on willingness to pay per minute saved

Tests of fixed effects (Table 14), indicate that working schedules (F=19.1, p<.001) and time pressure (F=48.76, p<.001) have a significant effect on willingness to pay per minute.

Source	Numerator df	Denominator df	F	Sig
Intercept	1	88.47	1.21	.274
Working schedule	1	1813.00	19.10	<.001
Time pressure	1	1813.00	48.76	<.001

Table 14: Tests of fixed effects

Results presented in Table 15 show that working schedule and time pressure had significant effects on willingness to pay per minute saved. Average willingness to pay per minute saved for strict schedule is .112 (t=4.370, p<.001, 95% CI .019, .051). Average willingness to pay per minute saved for presence of time pressure is .133 (t= -6.983, p<.001, 95% CI -.071, -.040). Both are significantly higher than baseline intercept (flexible working schedule and no time pressure). Estimates of covariance parameters indicate significant inter-individual variations that cannot be accounted for by variations of the fixed factors.

Estimates of fixed effects	Estimate	95% C.I.
Intercept	.077	[-0.08, .35]
Working schedule		
Flexible	Reference	
Strict	.035***	[0.19, .051]
Time pressure		
No time pressure	Reference	
Presence of time pressure	.056***	[0.40, .071]
Estimates of random effects		
Residual	.031	[0.29, .033]
Intercept (subject=ID) variance	.012***	[.009, .016]

Table 15: Linear mixed model results

C.I. Confidence interval

*** $p < .001$

5. Discussion, implications, and conclusions

5.1. Summary and discussion of findings

This paper investigated differences in willingness to pay for meal delivery in the context of the workday. Using an online experimental approach, we examined how willingness to pay to save time in acquisition of lunch varied with the working schedule and the time pressure faced by workers. It was hypothesized that a strict working schedule and presence of time pressure during lunch would increase willingness to pay for time-saving options in meal delivery. Overall, differences in willingness to pay were found across scenarios and between conditions, indicating a higher willingness to pay to save time under a strict working schedule and time pressure. A mixed-model analysis was conducted to distinctly identify effects of working schedule and time pressure. In order to account for individual, unobservable differences among respondents affecting willingness to pay to save time, a random effect by subject was included in the model. Low flexibility in working schedule significantly increased willingness to pay for express delivery of lunch by a factor of 0.035 euro per minute saved. The presence of time pressure significantly increased willingness to pay for express delivery of lunch by a factor of 0.056 euro per minute saved. No interaction effect between working

schedule and time pressure was found, indicating that the effect of working schedule on willingness to pay was not mitigated by presence of time pressure, and vice versa.

These findings support the hypothesis that facing a deadline increases value of time, which had previously been identified in transportation research (Paleti et al., 2015), and that experiencing time pressure increases value of time. Time pressure was found to have a larger effect on willingness to pay than working schedule. It is possible that because of its subjective nature time pressure triggers stronger responses than objective constraints. However, considering this study is the first to experimentally investigate differences between the two, more research is needed. It is fairly surprising not to find an interaction effect between deadline and time pressure: not being able to relax a constraint while also experiencing time pressure could have made time seem extra valuable. Again, results should be replicated before a conclusion can be ascertained.

Variance of willingness to pay stated by respondents was found to differ significantly from the fixed effects coefficients, indicating a general variability among subjects in willingness to pay, irrespective of explanatory variables. This could be expected, insofar as personality characteristics seem to be at play in the experience of time (Ordóñez et al., 2015) and monetary valuations of time exhibit substantial inter-individual variability (Jouxtel, 2019). For example, in the experiment, some respondents might have felt that the remaining available time after standard delivery was sufficient, while other respondents might have felt it was insufficient. It is also possible that some respondents enjoy time constraints in their daily life while others seek to alleviate them. Individual differences might also have arisen due to differences in valuation of consumption time among respondents. The same task can seem appealing to some individuals and dull to others. Investigating willingness to pay for various preparation times, Casini et al. (2019) for example found that some respondents expressed higher willingness to pay for *longer* preparation time, reflecting their preference for cooking, and others for *shorter* preparation

time. In our case, some respondents could value time spent eating more highly than some others, resulting in differences in willingness to pay to lengthen this part of the scenario. It is possible that respondents heterogeneously valued the time left for consumption, explaining general variability.

5.2. Theoretical implications

This paper is, to the best of our knowledge, the first attempt at disentangling two distinct time dimensions, deadlines and time pressure. Experimental methods usually manipulate deadlines to induce time pressure, rendering it impossible to investigate distinct effects (Ordóñez et al., 2015). By disentangling these two dimensions, this paper contributes to the emerging conversation about the relationships between objective time dimensions (such as deadlines) and subjective experience of time (such as time pressure). It has been argued that, although overlapping, objective and subjective dimensions of time are two different components of time (Cœugnet et al., 2011; Szollos, 2009), which affect individuals differently (Venn & Strazdins, 2016). Our findings concur with this argument, by identifying distinct effect of deadlines and time pressure on willingness to pay.

This paper also investigates variations in value of time, captured by willingness to pay for time-saving services. Variations in value of time have long been acknowledged in economic literature about time (Becker, 1965), and studied in transportation research, but have not been investigated in food research. Average willingness to pay per minute saved ranged from 0.024 euro cent in scenario 12 to 0.267 euro cent in scenario 1. This translates into hourly time valuation ranging from 1.44 euro to 15.99 euros. Keeping in mind the design was within-subject, such variations calls into question the reliance on wage rate to estimate value of time, at least in investigations about specific contexts such as lunch at work. Results indicate that valuations of time do not reflect wage rates in such specific context, and/or when fairly short time slots are under study.

This study also finds that the types of time constraints encountered by individuals affect their value of time, as has been recently found in transportation research (Paleti et al., 2015). In accordance with theory, variations in value of time affect demand for time-saving services. Value of time applied to food is usually looked at through trade-offs between household production and outsourcing of this production by purchasing food away from home. This study is the first to look at value of time to examine how it affects purchases of food away from home in any case. By introducing respondents to scenarios with no variation in the type of food obtained, inter-individual preferences are rendered irrelevant. Overall, this paper proposes a more nuanced and context-specific approach to estimate values of time applied to food purchase, complementing population-based econometrics models.

5.3. Practical implications

This study suggests that the most time-constrained workers might be willing to turn to time-saving options, even if they are more expensive. This is important for practitioners and foodservice professionals. Foodservice professionals might want to further develop time-saving options appealing to these workers. The method used in this study could be applied to their consumers to compare their willingness to pay for the time-saving attribute of their offer other convenience attributes, such as reduced physical effort. Practitioners might want to broaden their approach on interventions, which has mainly focused on the worksite cafeteria, and take into account other outlets in which workers purchase their lunch, as it is possible that the most time-constrained workers do not attend cafeteria, opting for faster services.

This study's results also indicate that work-related time constraints are relevant features to investigate for a better understanding of the drivers of choice for purchasing lunch during the workday. From a practical standpoint, it is important because it stresses the influence of the organization of work over workers' choices. Many interventions that aimed at promoting a healthy diet have been implemented in workplaces, but the majority focuses on the individual (Allan, Querstret, Banas, & de Bruin, 2017; Schroer, Haupt, Pieper,

S, & AF, 2014) (information, education, counseling) sometimes including environmental changes (more healthy offers in cafeteria) (Allan et al., 2017). There has been calls for better consideration of working conditions in design of workplace health promotion programs in the workplace (Devine et al., 2009), but the relationships between working conditions and diet remains largely unknown (Tanaka, Tsuji, Tsuchiya, & Kawamoto, 2019). This paper's findings suggest that practitioners need to take into account organization of work, time-related characteristics when planning interventions on diet.

5.4. Limitations and future research

The main limitation of this research is its hypothetical and non-ecological design. Hypothetical bias is the discrepancy that may be found between stated and actual behaviors. In particular, hypothetical willingness to pay may be biased as respondents are not asked to commit to their stated choice, making it costless to express willingness to pay for a good or service. It is possible that respondents would not behave as they claimed they would in the experiment. Interestingly however, while goods are generally found to be overvalued in hypothetical surveys, valuations of time have been found, in transportation, to be *lower* when measured in hypothetical choice settings compared with choices in real settings (Brownstone & Small, 2005; Isacsson, 2007; Krčál, Peer, Staněk, & Karlínová, 2019). That is to say that when faced with real choices, people actually do pay more than they stated they would. These findings suggest that respondents in hypothetical settings tend to underestimate the value of their time, resulting in lower willingness to pay than in real-life conditions. This tendency could apply to our results as well. Brownstone and Small (2005) suggest these differences could stem from difficulties for respondents in allocating enough time for travel in real life, forcing respondents to use more expensive, faster routes once faced with reality of daily scheduling constraints. Recent research also suggests respondents tend to ignore their scheduling constraints in hypothetical experiments (Krčál et al., 2019). The same reasoning could apply in this experiment, with respondents ignoring or underestimating the existence of the deadline, especially as all had

a flexible working schedule in their working lives. Likewise, they could have ignored the sense of urgency stemming from experiencing time pressure. Therefore, while we cannot dismiss hypothetical bias in elicitation of value of time in our experiment, previous research suggests that actual willingness to pay could very well be higher.

Providing detailed descriptions of the situations to respondents arguably alleviated hypothetical bias. Moreover, respondents were all workers who regularly purchased their lunch. In this respect, they were familiar with the task of purchasing lunch during the workday and what it encompasses (such as having to wait in line), although they might not use meal-delivery services. Also, while the amount of willingness to pay would be expected to vary in an incentive-compatible experiment, the general tendency of results (variations in willingness to pay across time conditions), which was the main focus of the experiment, is less likely to vary. Still, experiments should be run to elicit willingness to pay for time-savings in an incentive-compatible manner.

Amounts of stated willingness to pay could have been affected by the context described in the experiment as well as by the characteristics of respondents. Willingness to pay for time-saving might be affected by the baseline cost given to respondents (10 euros here), with higher willingness to pay for higher priced products (Leclerc et al., 1995). Results could therefore vary with another baseline lunch cost. Moreover, respondents had high incomes, a majority of them above the median salary in France. This could have affected stated willingness to pay since, following economic theory (2.1 above), higher income leads to higher economic value of time, and higher willingness to pay. Future research should vary baseline cost and characteristics of respondents before findings can be generalized.

This research calls for further investigations. Modeling of demand for time-saving options would require consideration of differences in willingness to pay based on amount of time gained. It is possible that variations of time gained, both in absolute and relative terms, could differently affect willingness to pay,

thus raising the issue of linear valuation of time. Previous studies have found conflicting results (Duxbury et al., 2005; Festjens & Janiszewski, 2015; Leclerc et al., 1995), and more research is needed in this area. Research on schoolchildren's lunch has stressed the dynamic interdependency between time required for acquisition and time available for consumption. Further studies should investigate the relationship between willingness to pay and time freed up for consumption by purchase of meal delivery services.

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Appendix. Pairwise comparisons (Bonferonni corrections)

Pairwise Comparisons

Measure: MEASURE_1

(I) Scenario_r epeatano	(J) Scenari o_repe atano	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	.029	.031	1.000	-.084	.142
	3	.179*	.014	.000	.128	.229
	4	.181*	.019	.000	.111	.250
	5	.087*	.014	.000	.035	.139
	6	.105	.033	.226	-.015	.226
	7	.192*	.014	.000	.142	.243
	8	.208*	.017	.000	.147	.269
	9	.050*	.013	.028	.002	.097
	10	.089	.028	.222	-.012	.190
	11	.218*	.015	.000	.162	.274
	12	.243*	.018	.000	.177	.308
	13	.125*	.014	.000	.073	.177
	14	.165*	.026	.000	.072	.258
	15	.206*	.015	.000	.152	.261
	16	.224*	.019	.000	.156	.292
	2	1	-.029	.031	1.000	-.142
3		.150*	.032	.001	.032	.268
4		.152*	.028	.000	.050	.253
5		.058	.033	1.000	-.062	.177
6		.076	.028	.829	-.025	.177
7		.163*	.032	.000	.046	.281
8		.179*	.029	.000	.072	.286
9		.021	.032	1.000	-.097	.138
10		.060	.025	1.000	-.030	.150
11		.189*	.032	.000	.072	.307
12		.214*	.031	.000	.101	.326
13		.096	.031	.349	-.019	.210

3	14	.136*	.028	.000	.035	.238
	15	.178*	.033	.000	.058	.297
	16	.195*	.031	.000	.083	.306
	1	-.179*	.014	.000	-.229	-.128
	2	-.150*	.032	.001	-.268	-.032
	4	.002	.013	1.000	-.046	.050
	5	-.092*	.014	.000	-.141	-.042
	6	-.073	.032	1.000	-.188	.041
	7	.014	.006	1.000	-.010	.037
	8	.029	.012	1.000	-.013	.071
	9	-.129*	.014	.000	-.179	-.079
	10	-.090	.027	.136	-.188	.008
	11	.040*	.007	.000	.015	.064
	12	.064*	.010	.000	.028	.100
	13	-.054*	.012	.003	-.099	-.009
	14	-.013	.024	1.000	-.102	.076
15	.028*	.006	.000	.008	.048	
16	.045*	.011	.013	.004	.086	
4	1	-.181*	.019	.000	-.250	-.111
	2	-.152*	.028	.000	-.253	-.050
	3	-.002	.013	1.000	-.050	.046
	5	-.094*	.017	.000	-.156	-.031
	6	-.075	.025	.459	-.168	.017
	7	.012	.014	1.000	-.040	.064
	8	.027	.014	1.000	-.022	.077
	9	-.131*	.020	.000	-.202	-.060
	10	-.092*	.024	.026	-.179	-.004
	11	.038	.014	1.000	-.014	.089
	12	.062*	.013	.000	.016	.108
	13	-.056	.018	.249	-.120	.009
	14	-.015	.024	1.000	-.104	.073
	15	.026	.014	1.000	-.025	.077
	16	.043	.014	.254	-.007	.093
	5	1	-.087*	.014	.000	-.139
2		-.058	.033	1.000	-.177	.062
3		.092*	.014	.000	.042	.141
4		.094*	.017	.000	.031	.156
6		.019	.029	1.000	-.087	.124
7		.106*	.013	.000	.059	.152
8		.121*	.016	.000	.063	.179

	9	-.037	.016	1.000	-.095	.021
	10	.002	.027	1.000	-.097	.101
	11	.132*	.014	.000	.081	.182
	12	.156*	.015	.000	.103	.209
	13	.038	.012	.222	-.005	.081
	14	.079	.024	.155	-.008	.165
	15	.120*	.014	.000	.069	.170
	16	.137*	.016	.000	.080	.193
	1	-.105	.033	.226	-.226	.015
	2	-.076	.028	.829	-.177	.025
	3	.073	.032	1.000	-.041	.188
	4	.075	.025	.459	-.017	.168
	5	-.019	.029	1.000	-.124	.087
	7	.087	.031	.708	-.026	.200
	8	.102*	.028	.046	.001	.204
6	9	-.056	.033	1.000	-.175	.063
	10	-.017	.025	1.000	-.107	.074
	11	.113*	.030	.037	.003	.223
	12	.137*	.027	.000	.038	.236
	13	.019	.030	1.000	-.088	.127
	14	.060	.024	1.000	-.027	.146
	15	.101	.031	.202	-.013	.215
	16	.118*	.028	.006	.016	.220
	1	-.192*	.014	.000	-.243	-.142
	2	-.163*	.032	.000	-.281	-.046
	3	-.014	.006	1.000	-.037	.010
	4	-.012	.014	1.000	-.064	.040
	5	-.106*	.013	.000	-.152	-.059
	6	-.087	.031	.708	-.200	.026
	8	.015	.010	1.000	-.021	.052
7	9	-.143*	.013	.000	-.189	-.097
	10	-.104*	.027	.023	-.201	-.006
	11	.026*	.006	.007	.003	.048
	12	.050*	.009	.000	.016	.084
	13	-.068*	.011	.000	-.107	-.029
	14	-.027	.024	1.000	-.115	.060
	15	.014	.005	1.000	-.005	.033
	16	.031	.010	.402	-.007	.069
	1	-.208*	.017	.000	-.269	-.147
8	2	-.179*	.029	.000	-.286	-.072

	3	-.029	.012	1.000	-.071	.013
	4	-.027	.014	1.000	-.077	.022
	5	-.121*	.016	.000	-.179	-.063
	6	-.102*	.028	.046	-.204	-.001
	7	-.015	.010	1.000	-.052	.021
	9	-.158*	.015	.000	-.214	-.102
	10	-.119*	.022	.000	-.199	-.040
	11	.010	.012	1.000	-.033	.054
	12	.035	.010	.080	-.001	.071
	13	-.083*	.015	.000	-.139	-.028
	14	-.043	.022	1.000	-.124	.039
	15	-.001	.012	1.000	-.043	.041
	16	.016	.010	1.000	-.021	.052
9	1	-.050*	.013	.028	-.097	-.002
	2	-.021	.032	1.000	-.138	.097
	3	.129*	.014	.000	.079	.179
	4	.131*	.020	.000	.060	.202
	5	.037	.016	1.000	-.021	.095
	6	.056	.033	1.000	-.063	.175
	7	.143*	.013	.000	.097	.189
	8	.158*	.015	.000	.102	.214
	10	.039	.026	1.000	-.054	.132
	11	.169*	.014	.000	.117	.220
	12	.193*	.016	.000	.133	.253
	13	.075*	.013	.000	.029	.121
	14	.116*	.024	.001	.028	.203
	15	.157*	.014	.000	.108	.206
	16	.174*	.017	.000	.114	.234
	10	1	-.089	.028	.222	-.190
2		-.060	.025	1.000	-.150	.030
3		.090	.027	.136	-.008	.188
4		.092*	.024	.026	.004	.179
5		-.002	.027	1.000	-.101	.097
6		.017	.025	1.000	-.074	.107
7		.104*	.027	.023	.006	.201
8		.119*	.022	.000	.040	.199
9		-.039	.026	1.000	-.132	.054
11		.129*	.027	.001	.031	.228
12		.154*	.025	.000	.062	.245
13		.036	.026	1.000	-.058	.129

11	14	.076*	.021	.041	.001	.152
	15	.118*	.027	.004	.018	.217
	16	.135*	.025	.000	.045	.224
	1	-.218*	.015	.000	-.274	-.162
	2	-.189*	.032	.000	-.307	-.072
	3	-.040*	.007	.000	-.064	-.015
	4	-.038	.014	1.000	-.089	.014
	5	-.132*	.014	.000	-.182	-.081
	6	-.113*	.030	.037	-.223	-.003
	7	-.026*	.006	.007	-.048	-.003
	8	-.010	.012	1.000	-.054	.033
	9	-.169*	.014	.000	-.220	-.117
	10	-.129*	.027	.001	-.228	-.031
	12	.024	.008	.362	-.005	.053
	13	-.094*	.011	.000	-.133	-.054
	14	-.053	.023	1.000	-.137	.031
15	-.012	.005	1.000	-.028	.005	
16	.005	.010	1.000	-.031	.042	
12	1	-.243*	.018	.000	-.308	-.177
	2	-.214*	.031	.000	-.326	-.101
	3	-.064*	.010	.000	-.100	-.028
	4	-.062*	.013	.000	-.108	-.016
	5	-.156*	.015	.000	-.209	-.103
	6	-.137*	.027	.000	-.236	-.038
	7	-.050*	.009	.000	-.084	-.016
	8	-.035	.010	.080	-.071	.001
	9	-.193*	.016	.000	-.253	-.133
	10	-.154*	.025	.000	-.245	-.062
	11	-.024	.008	.362	-.053	.005
	13	-.118*	.014	.000	-.167	-.068
	14	-.077	.021	.050	-.155	1.836E-005
	15	-.036*	.009	.010	-.068	-.004
	16	-.019	.007	1.000	-.046	.008
	13	1	-.125*	.014	.000	-.177
2		-.096	.031	.349	-.210	.019
3		.054*	.012	.003	.009	.099
4		.056	.018	.249	-.009	.120
5		-.038	.012	.222	-.081	.005
6		-.019	.030	1.000	-.127	.088

	7	.068*	.011	.000	.029	.107
	8	.083*	.015	.000	.028	.139
	9	-.075*	.013	.000	-.121	-.029
	10	-.036	.026	1.000	-.129	.058
	11	.094*	.011	.000	.054	.133
	12	.118*	.014	.000	.068	.167
	14	.041	.020	1.000	-.032	.113
	15	.082*	.011	.000	.040	.123
	16	.099*	.015	.000	.046	.152
14	1	-.165*	.026	.000	-.258	-.072
	2	-.136*	.028	.000	-.238	-.035
	3	.013	.024	1.000	-.076	.102
	4	.015	.024	1.000	-.073	.104
	5	-.079	.024	.155	-.165	.008
	6	-.060	.024	1.000	-.146	.027
	7	.027	.024	1.000	-.060	.115
	8	.043	.022	1.000	-.039	.124
	9	-.116*	.024	.001	-.203	-.028
	10	-.076*	.021	.041	-.152	-.001
	11	.053	.023	1.000	-.031	.137
	12	.077	.021	.050	-1.836E-005	.155
	13	-.041	.020	1.000	-.113	.032
	15	.041	.024	1.000	-.047	.130
	16	.058	.022	1.000	-.021	.138
	15	1	-.206*	.015	.000	-.261
2		-.178*	.033	.000	-.297	-.058
3		-.028*	.006	.000	-.048	-.008
4		-.026	.014	1.000	-.077	.025
5		-.120*	.014	.000	-.170	-.069
6		-.101	.031	.202	-.215	.013
7		-.014	.005	1.000	-.033	.005
8		.001	.012	1.000	-.041	.043
9		-.157*	.014	.000	-.206	-.108
10		-.118*	.027	.004	-.217	-.018
11		.012	.005	1.000	-.005	.028
12		.036*	.009	.010	.004	.068
13		-.082*	.011	.000	-.123	-.040
14		-.041	.024	1.000	-.130	.047
16		.017	.010	1.000	-.019	.053
16		1	-.224*	.019	.000	-.292

2	-.195*	.031	.000	-.306	-.083
3	-.045*	.011	.013	-.086	-.004
4	-.043	.014	.254	-.093	.007
5	-.137*	.016	.000	-.193	-.080
6	-.118*	.028	.006	-.220	-.016
7	-.031	.010	.402	-.069	.007
8	-.016	.010	1.000	-.052	.021
9	-.174*	.017	.000	-.234	-.114
10	-.135*	.025	.000	-.224	-.045
11	-.005	.010	1.000	-.042	.031
12	.019	.007	1.000	-.008	.046
13	-.099*	.015	.000	-.152	-.046
14	-.058	.022	1.000	-.138	.021
15	-.017	.010	1.000	-.053	.019

Based on estimated marginal means

*. The mean difference is significant at the

b. Adjustment for multiple comparisons: Bonferroni.

Chapter III: Gathering data on lunch behaviors, time constraints, and time pressure: a field study among white-collar workers in one worksite

Fieldwork

The third part of this thesis consists in a field study. The first part of the thesis (online survey) allowed for a broad overview of the lunch environment, features, and time constraints among 1,139 French wage-earners. The second part of the thesis experimentally manipulated dimensions of time to examine variations in value of time, which could favor attendance of time-saving options for purchase of lunch in a real-life setting. The purpose of this field study was to go from a broad scoping of the lunch situation of wage-earners based on survey to a contextualized examination.

1. Context and objectives

Conducting a field study addressed several of the objectives of this thesis. First, it allowed to do a descriptive study of some workers' lunch behaviors while having access to the concrete environment in which they evolve and their working conditions, which was not possible in the first study. Second, it allowed investigation of the relations between time constraints and lunch behaviors among a sample of workers evolving in a similar environment, thus reducing variability in the types of behaviors that could occur. Third, it allowed to observe actual behaviors in an ecological setting, thus enabling comparisons between actual behaviors and declarative statements about willingness to pay elicited in Chapter II. This field study also allowed to address the concept of lunch as a moment in the workday. As presented in the general introduction, lunch during the workday does not only refer to a meal, but also to a specific moment in the workday during workers usually take a break from work. Such break should enable replenishment of workers' resources, thus making them feel recovered afterwards. Conducting a field study allowed for a monitoring of workers, and thus tracking of their recovery after lunch break.

Based on these aims, this study is observational. No intervention on workers' environment was carried out, and no alteration to workers' behaviors was attempted. On the contrary, the study's design was intended to be as little intrusive as possible.

1.1. Research questions and hypotheses

This study aims at describing workers' lunch behavior, time constraints, and recovery. As a descriptive study, this research is question-, not hypothesis-, driven. Three research questions are considered in this study.

1.1.1. Gathering data: lunch behaviors exhibited by respondents during the study, time constraints encountered, recovery after break

Knowledge of lunch behaviors during the workday is scarce. Shedding light on behaviors among one sample of workers was therefore a goal of this field study.

1.1.1.1. Lunch behaviors

Sub-questions include: what are the types of food outlets that respondents went to? How many types of food outlets were attended each day and over their study period? Did respondents use their lunch breaks for other, non-food related activities?

1.1.1.2. Time constraints

Sub-questions include: did some respondents encounter time constraints during their lunch breaks? Did some respondents feel rushed during their break? Did some respondents feel high demands were placed on their time relating to work? Did some respondents feel high demands were placed on their time relating to personal life?

1.1.1.3. Recovery after break

Did respondents feel recovered after their lunch breaks?

1.1.2. Integrating time constraints to workday lunch

1.1.2.1. Associations between time constraints and lunch behavior

Is there a relation between time constraints encountered by respondents and their lunch behavior? Is there a difference in attendance of food outlets between rushed and non-rushed respondents? Is there a difference in attendance of food outlets between respondents perceiving high work demands on their time and others? Is there a difference in attendance of food outlets

between respondents perceiving high personal demands on their time and others?

Building on the finding in study 2 that time pressure significantly affected willingness to pay to save time, one hypothesis for this field study was as follows: did participants who stated they felt rushed spend more for lunch than participants who didn't state they felt rushed?

1.1.2.2. Associations between time constraints and recovery
Is there a difference in recovery according to time constraints encountered? Is there a difference in recovery between rushed and non-rushed respondents? Is there a difference in recovery between respondents perceiving high work demands on their time and others? Is there a difference in recovery between respondents perceiving high personal demands on their time and others?

1.1.3. Advancing understanding of time constraints
Research questions applied to this field study are the following: what are the time constraints emerging from this dataset? How are they similar and different from components identified in previous study?

2. Methods

2.1. Use of Experience Sampling Method to investigate lunch in the workplace

In order to capture workers' lunch behavior and investigate whether time constraints were linked with attendance of specific food outlets and recovery after break, a sampling experience method was developed. Experience sampling method (ESM) is one of the several methods developed for real-time data collection, known as Ecological Momentary Assessment (EMA) methodology (Hand & Perzynski, 2016). The general purpose of EMA is to capture participants' behaviors and experiences at several points in time, thus enabling to '[build] a picture of an individual's habits by sampling multiple days' (Hand & Perzynski, 2016, p. 569). Experience sampling method relies on self-report by participants of their behavior and experience when prompted (at

random or specific times, depending on the nature of the study). Experience sampling thus focuses on gathering information related to the participants over brief time frames. Experience sampling has become easier and cheaper to implement with the rise of smartphones and mobile applications (henceforth 'apps'), allowing participants to use their personal phone rather than specific devices to carry around.

EMA offers several benefits that are especially relevant to this study. First, because it collects data in real time or near real time, it limits the need for recall, minimizing recall bias (Beal & Weiss, 2003; Hand & Perzynski, 2016). Second, data collection occurs in respondents' environment, thus delivering ecological validity. Third, EMA is especially designed to investigate intra-individual variations (Hand & Perzynski, 2016).

2.1.1. Practically: use of smartphone app

EMA requires real time data collection. This can be done through specific devices created for the purpose of the study, smartphone applications, or other monitoring devices. In this study, data was collected through the proprietary app developed by the Paul Bocuse Institute Research Center, Food and Lifestyle Observatory Worldwide (FLOW).

2.2. Selection of workplace

The workplace selected to carry out the study was identified through one of the funding partners of the research project. Characteristics of selected worksite

The worksite that took part in this study is part of ST Microelectronics, an international company in the industrial sector. The worksite is in mid-size city (Grenoble) in France. The site employs about 2000 people. The site is located within the city, in a neighborhood ('polygone scientifique') gathering public and private research centers, universities and schools, and companies. Several restaurants and take-away outlets can be reached in a 10-minute walk from the worksite. The worksite offers employees three different worksite cafeterias located in the same building. Two are worksite cafeterias (L'Etage and Le

COsy), with kiosks serving appetizers, main dishes and dessert. Employees can choose from several options for each part of the meal, placing what they choose on their tray, then proceed to payment with their employee card and then to the sitting area. The third option (Green Café) offers take-away food, such as sandwiches and salads, and sweets such as chocolate bars. This is also where employees can purchase a hot drink after their meal. It also included casual sitting areas, with counter high tables and coffee tables.

Attendance of these three outlets among employees was, based on discussion with the caterer, far above the national average in worksite cafeterias of the catering company, with 85% of employees attending one of the three places everyday, against about 50% on average in France.

2.3. Characteristics of workers

The worksite mainly employed office workers, with research and development or commercial functions. While some employees worked in production, we were told they followed a distinct schedule, did not mingle with the rest of workers, and did not attend the worksite cafeterias and take-away shop.

2.4. Design

A key question in EMA methods is when data should be collected (i.e.: when should respondents be prompted to record their behavior and/or experience) (Beal & Weiss, 2003). As the focus of this study was lunch, the data collection design was event-contingent, meaning recording was triggered by occurrence of the event. It is important in the case of event-based data collection that the event is clear to participants (Hand & Perzynski, 2016). Emphasis was put during recruitment that the study was about lunch breaks in general, regardless of what employees actually did during them, making clear that individuals not eating lunch were welcome to participate as well. Data collection period was set at two weeks (ten working days), mirroring the period of study 1.

2.5. Incentive

Participation in the study was incentivized. Respondents received a voucher after two, five, and ten participations: a hot drink voucher after two participations, a dessert voucher (in one of the worksite cafeterias) after five participations, and a meal voucher (in one the worksite cafeterias) after ten participations. This scheme was aimed at promoting recurring participations.

2.6. Questionnaire development and measures

The questionnaire from the study presented in chapter I was adapted. Some items were removed, either because they were irrelevant in the context, or to reduce the number of items, since respondents were asked to fill out the survey during their workday for several days. Screenshots of the questionnaire can be found Appendixes K and L.

2.6.1. Attendance of food outlet

Respondents were asked where they purchased their lunch in a closed question format (Table 16). Responses were adapted from the questionnaire developed in the first part of this thesis, to reflect respondents' environment. Therefore, the three locations available on their worksite were given as options.

Food outlet attendance

Where did you purchase your lunch today?

- Green Café
 - L'Etage
 - Cosy
 - In a vending machine
 - In a full-service restaurant
 - At a take away place
 - In a supermarket/convenience store
 - In an office building shop
 - Brought from home
 - I asked my colleagues to get it for me
 - By ordering online and having it delivered
-

Table 16: Food outlet attendance (English translation)

2.6.2. Place of lunch consumption

Respondents were asked where they had eaten their lunch in a closed question format. The possible answers were adapted from the questionnaire developed in the first part of this thesis and adapted to the specific context of this study. Items are presented Table 17.

Place of lunch consumption
Where did you eat your lunch today?
Green Café
L'Etage
Cosy
In a park, somewhere outside
In a full-service restaurant
At my desk
In the street, walking
At home
Other

Table 17: Place of lunch consumption (English translation)

2.6.3. Time-related items

Time-related items were chosen from the questionnaire in study 1. Time-related drivers of food outlet attendance choice were not included. Feeling rushed and adaptive behaviors were kept similar to study 1. Some items related to workload in questionnaire 1 were removed because they were unlikely to apply to lunch directly and referred more general time demands than daily ones (bringing work home, complaints from loved ones, working beyond scheduled time, work prevents from spending time with loved ones). One item related to personal commitments was removed for the same reason (personal life prevents spending time on work).

Dimension	Item	Response format
Time allocation	Today, you used your lunch break for personal activities (in addition to or instead of eating lunch)	Y/N
Time pressure	Today, you felt rushed during lunch time	Y/N

Adaptive behavior	Today, you've cut your lunch break as short as possible because of work	Y/N
Adaptive behavior	Today, you've cut your lunch break as short as possible because of personal activities or obligations	Y/N
Adaptive behavior	Today, you didn't eat lunch at all because of personal obligations that you took care of during your lunch break	Y/N
Time demands	Today, you would have liked having more time for lunch	Y/N
Time demands	Today, you have enough time to do your work properly	4-pt agreement scale
Time demands	Today, you are asked to do an excessive amount of work	4-pt agreement scale
Time demands	Today, it feels like there is not enough time to do everything you have to do at work	4-pt agreement scale
Time demands	Today, it feels like there is not enough time to do everything you have to do at home	4-pt agreement scale

Table 18: Time-related items (English translation)

2.6.4. Autonomy

Autonomy over one's time during the workday mainly refers to features of work organization, which remain stable over time. As a result, they were included in the final part of the questionnaire. Items are presented Table 19.

Autonomy over what is done during lunch was found to moderate relationships between what was done during lunch (including engaging in work activities) and fatigue at the end of the day (Trougakos et al., 2014). Building on this idea, two of the three items used in the previously cited study were added. The remaining item was left out as it was irrelevant in the context of the current study¹¹. The items are presented Table 20.

Autonomy over work (autonomy over organization of one’s work, ability to vary deadlines, possibility to get off work unexpectedly, possibility to plan work ahead) was not investigated in this study to limit the length of the survey for participants.

Item	Response format
How is your working schedule fixed?	By the company, no change possible You can adapt it up to a point You are totally free in your schedule
How is your working schedule controlled?	No control Punching clock Other control device
Do you have a strict schedule for lunch?	Yes No

Table 19: Autonomy over time items

Original item (Trougakos et al., 2014)	Adapted item	Response format
I felt like I decided for myself what to do	Today, you feel you decided what you would do during your lunch break	4-pt agreement scale
I did exactly what I wanted to do	Today, you did what you wanted to during your lunch break	4-pt agreement scale

Table 20: Autonomy over lunch break items (original and adaptation)

¹¹ 'I took care of things the way I wanted them done', keeping in mind authors from previous study focused on activities which were carried out, such as socializing with others

2.6.5. Recovery after lunch

In order to investigate potential links between experience of time constraints and recovery right after lunch break, the items from the recovery after breaks scale developed by (Demerouti, Bakker, Sonnentag, & Fullagar, 2012) were used. Items were translated into French, and adapted to be specifically about lunch breaks. The scale includes three items (Table 21).

Original item (Demerouti et al., 2012)	Adapted item	Response format
Today during a break I could recuperate	Today you could recuperate during your lunch break	4-pt agreement scale
Today, after a pause, I felt like continue working	Today after your lunch break you felt ready to start working again	4-pt agreement scale
Today, after a pause, I was again full of energy	Today after your lunch break you feel full of energy again	4-pt agreement scale

Table 21: Recovery after break items (original and adaptation)

2.6.6. Satisfaction

An item related to satisfaction over lunch break was added at the request of the company.

Item	Response format
Today, how satisfied are you with your lunch break?	4-pt scale

Table 22: Satisfaction item

2.6.7. Sociodemographic characteristics

These questions were only asked once to participants, at the end of the survey period in a final questionnaire.

Item	Responses
What is your highest diploma	No diploma Below high-school level High school 2 years of higher education 3-4 years of higher education At least 5 years of higher education
What is your monthly income (which you receive from your employer)	[0-1100[[1100-1500[[1500-1800[[1800-3100[

What is your current living situation?	3100 and more Doesn't know Doesn't want to say Alone In an union Parents' Colocation
Do you have kids under 18 living with you at the moment? (if so, how many?)	Yes No

Table 23: Sociodemographic items

2.6.8. Sales data

Sales data was collected from the caterer, if participants had given their explicit consent. It included all purchases made throughout the day. Only purchases occurring between 11 a.m. (opening of first restaurant) and after 4 p.m. (closing of last restaurant) were kept. Amounts spent in this time slot were computed to get a total sum of amount spent.

2.6.9. Pretest

Researcher's colleagues were contacted and asked to answer the questionnaire directly from the Flow application, for proofreading, to ensure items were comprehensible, and to double check any technical issues. Based on their feedback, all questions were restricted to one answer only on the app, and one question was slightly reworded.

3. Procedure

3.1. Recruitment

Recruitment took place in the worksite building where on-site food outlets are found. No e-mailing to employees to inform them of the study was allowed by the company. Leaflets were distributed to employees walking in, with a brief introduction by the research team handing them out. Recruitment took place between January 20th 2020 and January 28th 2020. Respondents interested in participating after January 28th were turned down, to avoid that employees who had heard about the specific questions in the questionnaire and were

especially interested in the topic would register. Recruitment materials are presented in appendix F.

3.1.1. Reasons for refusal to participate

Some workers were approached but declined to participate. The most common reason given was that the survey was administered only through a smartphone application. A couple of workers said they did not own a smartphone, others that their smartphone was at a maximum capacity and they couldn't download any more applications. Some mentioned using their smartphone felt a bit inquisitive. Few others said they were not interested, or did not have time to participate.

3.2. Administration

Questionnaire was self-administered through a proprietary smartphone application, FLOW, developed by the Paul Bocuse Institute Research Center. Respondents had to download the application on their smartphone and create an account. They were asked to answer the survey everyday after their lunch break for two weeks, only on days they worked on site. The survey was accessible between 11:30 and 4:30 p.m. everyday. The beginning was set at 11:30 a.m. because it is 30 minutes after the first worksite cafeteria opens, and the end was set at 4:30 p.m. because it is thirty minutes after the take-away outlet closes for the day. Access to the survey was restrained to this time period to limit recall bias, in accordance with EMA methods.

Survey started on January 27th and ended on February 7th, for a total of 10 working days. The period did not include major events on the worksite, or special holidays. Union members handed out leaflets about pension reform that was currently taking place in France in the take-away outlet, and the period did include 'Chandeleur', a day where 'crêpes' are traditionally served, and which were offered in the take-away outlet. It didn't seem like these events disrupted workers' day in any way.

A researcher was present on the worksite throughout the questionnaire administration, in the take-away outlet. This was done to maximize chances of replies, by acting as a reminder of the study, and by allowing for technical support to respondents, who could go and talk to the researcher. The first week of the study period, at least one worker came up to the researcher each day, asking for guidance on how to use the application. Therefore, although such presence might have biased some responses because of social desirability, we feel it was necessary and beneficial overall to the conduct of the study. Presence of researcher was also required to give vouchers to respondents as part of the incentive scheme.

3.3. Sales data

If a respondent gave their consent through an additional consent form, their purchase data for the period of the study in on-site food outlets was collected from the caterer and added to the survey responses.

3.4. Ethics

This study was approved by the Ethics Committee of Université Laval (Quebec, Canada). Approval number: 2019-247/13-12-2019.

3.5. Confidentiality

Respondents had to register with an email address to access the app, and were asked to provide this email address or their name in the consent form about sales data. Therefore it was not anonymous by design. However, email addresses were deleted from database after data collection, and data was anonymized for analysis.

4. Data analysis

4.1. Structure of data

Study design generated data at multiple occurrences for each respondent, and data about each respondent. Analyses handling whole occurrences will be

referred to as 'lunch occurrence', and analysis based on respondents' individual characteristics will be referred to as 'individual based'.

Several items had to be discarded for analysis, due to lack of variability in answers across respondents or lunch events. Skipping lunch (either because of work or for personal reasons) was found on only four accounts, out of 208 lunch occurrences, and was not therefore included in analyses. No respondents had a strict schedule for lunch, as a result the role of flexibility of schedule could not be addressed.

Other items were computed to consolidate data. Lunch occurrences during which lunch was purchased at Green café were added to those during which lunch was purchased in take away outside of the worksite. Agreement items were dichotomized into two categories (agree/disagree) instead of four (strongly agree/agree/disagree/strongly disagree).

All but two participants (amounting to 9 lunch occurrences) gave their consent for the researcher to collect their sales data, resulting in 185 occurrences for which sales data was collected (the difference being lunch occurrences outside the worksite by participants who gave their consent).

4.2. Exploratory factor analysis

Two Exploratory Factor Analyses (EFA) were run. The first one included items related to time pressure, time demands, and adaptive behaviors. Objective was (1) to gain insight as to which items relate to each other, like in study 1, and (2) obtain factor scores that could be used to assess associations between time constraints and lunch behavior, and time constraints and recovery. In order to compare with results from first EFA in first study, items included in previous EFA were included. No other item was added. All items from first study were not found in this questionnaire, as stated in 2.1 above. Nine items were included in this EFA.

Second EFA included the three items of the Recovery after Break scale. Objective was to obtain factor scores that could be used to assess associations between time constraints and recovery.

In both cases, Promax variation was used (Kaiser's normalization). Data was lunch occurrences (N=208).

4.3. Hierarchical clustering

Hierarchical clustering (Euclidian distance, Ward's method) was performed across respondents (N=34). Respondents were weighed based on their number of participations in the study (higher weight for higher number of participations). The objective was to identify distinct groups among respondents, in order to examine possible differences in lunch behavior.

The following clustering variables included: factor scores obtained through previous factor analyses (time demands, time pressure, and recovery), standard deviations for each factor, the number of outlets which were attended throughout the period and the percent of attended outlets (number of attended outlet/number of participations), number of participations to study (eating occurrences by respondent). Standard deviations of factor scores, number of outlet, percent of attended outlets, and number of participations were included to take into account variability of individual behavior.

Attendance of food outlets was used as criterion variable, so as to determine whether over- or under-attendance of specific outlets was observed based on clustering variables.

4.4. Descriptive approach

Descriptive statistics of respondents' lunch behaviors, time constraints and recovery after break of respondents were performed, based on lunch occurrences (N=208).

4.5. Associations between time constraints and lunch behaviors

Due to the lack of variability in food outlet attendance among respondents, only attendance of worksite cafeterias and take-away outlets could be investigated. Attendance of vending machines, full service restaurants, supermarket or convenience store, and online ordering could not be analyzed. It was not possible to run a logistic regression to investigate the associations between time constraints and lunch behaviors, due to the few occurrences (16) where take-away places were attended. As a result, it was decided to investigate variables making up each dimension separately, through chi-square (in case of qualitative variable) or one-way anova (in case of quantitative variable) to answer research question 1.1.2. Integrating time constraints to workday lunch.

5. Results

5.1. Participation rate

A total of 73 respondents registered on the app. Thirty-six respondents answered at least once, for a total of 233 questionnaires. This amounts to a response rate of 49.3% among participants who had downloaded the app.

Out of these 233 questionnaires, 4 were deleted because they were empty, 16 because respondents were not working on site on the day they were completed, and two were duplicates. Two respondents (3 lunch occurrences) who had replied less than three times were excluded. A total of 208 questionnaires and 34 respondents remained, representing an average of 6.1 questionnaires per respondent, for a maximum of 10.

5.2. Characteristics of respondents

Table 24 presents the sociodemographic characteristics of respondents. All participants were executives, had received higher education, and most had an

income above the French median of 1797 euros¹². Most respondents were male, which is quite unusual as males tend to participate less than females in surveys, but this reflects the gender distribution on the worksite, based on observation.

		Frequency	%	
Gender	Male	21	61.8	
	Female	13	38.2	
SES	Executive	34	100	
Education	No diploma	0	0	
	CAP, BEP, brevet	1	2.9	
	High school diploma	0	0	
	BAC+2	1	2.9	
	Bac +3 ou +4	3	8.8	
	Bac +5 et plus	29	85.3	
	Income	<1100	0	0
		1101-1500	2	5.9
1501 - 1800		0	0	
1801-3100		13	38.2	
>3100		16	47.1	
No answer		3	8.8	
Living situation	At parents'	0	0	
	Colocation	0	0	
	With partner	26	76.5	
	Single	8	22.2	
Presence of children	0	11	32.4	
	1	5	14.7	
	2	7	20.6	
	3	2	5.9	
	4	2	5.9	
	Yes, number unknown	7	20.6	
	Age	20-25	2	5.9
30-35		2	5.9	
35-40		3	8.8	
30-45		6	17.6	
45-50		12	35.3	
50-55		5	14.7	
55-60		3	8.8	
60-65		1	2.9	

Table 24: Sociodemographics characteristics of respondents

¹² <https://www.insee.fr/fr/statistiques/3303417?sommaire=3353488>

5.3. EFA

An exploratory factor analysis was carried out.

After running the EFA, it was found that the two 'autonomy over time' variables (working schedule and control over working schedule) did not load heavily on any of the dimensions, so analyses were re-run without them two. Not including these two variables improved Cronbach's alpha (from 0.65 to 0.83 for dimensions 1) and part of variance explained (from 45.61% to 57.98%). They were therefore discarded. The final dimensions are presented Table 25.

	Time demands	Time pressure
Today...		
You have enough time to do your work properly ¹³	0.77	0.09
You are asked to do an excessive amount of work	0.77	-0.02
You feel like you do not have time to do everything you have to do at work	0.89	-0.03
You feel like you do not have time to do everything I have to do at home	0.58	-0.10
You felt rushed at lunch time	-0.01	1
You shortened your lunch break as much as possible because of what you have to do at work	0.10	0.63
You shortened your lunch break as much as possible because of personal activities	-0.13	0.54
Eigenvalue	2.62	1.44
Percentage of variance explained	37.41%	20.56%

Table 25: Rotated factor loading matrix Promax rotation with Kaiser normalization. Highest loading factor in bold

¹³ Item was reverse coded so a higher score would reflect feeling that not enough time was available to do one's work properly

5.4. Hierarchical clustering

Two groups were identified based on cluster analysis (Figure 3). The first group was composed of 22 participants (64.7%) and the second group was composed of 12 participants (35.3%). Cluster analysis revealed that key features distinguishing each group were overall related to stability (see Table 26 and Table 27 for characterization of groups, only significant variables shown). The first group displayed smaller standard deviations on all three factors under study, as well as less variation in attendance of outlets, as expressed by percent of attended outlet. To some extent, they could also be considered more stable in their participation to the study, as they reported more lunch occurrences than average. This group was labeled 'stable participants'. Conversely, participants in the second group displayed larger standard deviations on all three factors under study, and more variation in attendance of outlets, as expressed by percent of attended outlet. They also participated less often in study, with an average of 4.71 participations. This group was labeled 'unstable participants'.

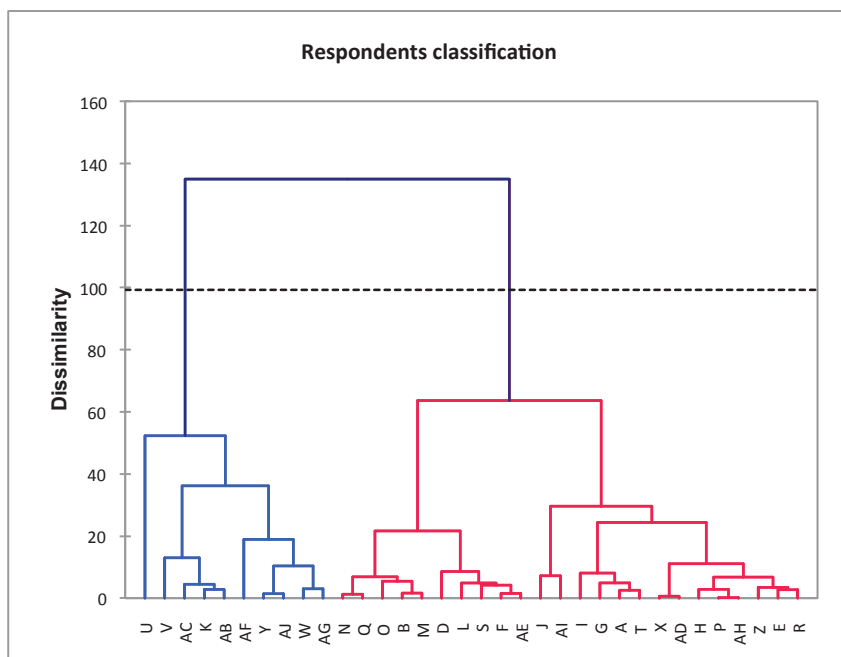


Figure 3: Classification of respondents

Clustering variables	Mean score of group	Mean score of sample	Test value	p-value
Time pressure (mean score)	-0.29	0.03	-4.65	0.00
Time pressure (standard deviation)	0.47	0.83	-4.21	0.00
Number of participations	7.10	6.12	3.13	0.00
% of outlets attended during the study period	0.32	0.39	-2.57	0.01
Time demands (standard deviation)	0.38	0.50	-2.45	0.01
Recovery (standard deviation)	0.51	0.61	-2.21	0.03
Criterion variables	Mean score of group	Mean score of sample	Test value	p-value
Attendance of worksite cafeteria 'L'Etage'	4.75	4.06	2.20	0.03

Table 26: Characterization of 'stable participants' group

Clustering variables	Mean score of group	Mean score of sample	Test value	p-value
Time pressure (mean score)	0.49	0.03	4.65	0.00
Time pressure (standard deviation)	1.34	0.83	4.21	0.00
Number of participations	4.71	6.12	-3.13	0.00
% of outlets attended during the study period	0.50	0.39	2.57	0.01
Time demands (standard deviation)	0.67	0.50	2.45	0.01
Recovery (standard deviation)	0.76	0.61	2.21	0.03
Criterion variables	Mean score of group	Mean score of sample	Test value	p-value
Attendance of worksite cafeteria 'L'Etage'	3.07	4.06	-2.20	0.03

Table 27: Characterization of 'unstable participants' group

5.5. Description of lunch behavior

Table 28 presents respondents' lunch behaviors, time constraints, and recovery after break, based on lunch occurrences (N=208).

Lunch behaviors			Results from study 1
			1
			Mean (s.d.)
Amount of food outlet attended daily			1.6 (± 0.83)
			N/A
			%
Types of attended food outlets	L'Étage	66%	See (article 1, chapter I)
	Le Cosy	22%	
	Take away	8%	
	Other	4%	
Use of lunch breaks for non-meal activities	Yes	23%	58.6%
	No	77%	41.4%
Time constraints			
Feeling rushed	Yes	22%	58.8%
	No	78%	41.2%
Time demands (work)			
Not enough time to do work properly	Agree	20.7%	25.2%
	Disagree	79.3%	74.8%
Asked to much work	Agree	20.6%	42.6%
	Disagree	79.4%	57.4%
Feels like not enough time to do everything to do at work	Agree	34.2%	46.3%
	Disagree	65.9%	53.6%
Time demands (personal)			
Feels like not enough time to do everything to do at home	Agree	48%	65.9%
	Disagree	52%	34.1%
Adaptive behaviors			
Shortened lunch due to workload	Yes	18%	55.5%
	No	82%	44.5%
Shortened lunch due to personal matters	Yes	16.4%	39.9%
	No	83.7%	60.1%
Recovery			
Could recuperate	Agree	85,1%	N/A

during lunch break	Disagree	14.9%
Feels ready to continue working after lunch break	Agree	87.5%
	Disagree	12.5%
Full of energy after lunch break	Agree	77.5%
	Disagree	22.6%

Table 28: Lunch behaviors, time constraints, adaptive behaviors and recovery after break across lunch occurrences. Results displayed from study 1 were computed so that 'never' means 'no' and sometimes, often and always as 'yes'

5.6. Associations between time constraints and lunch behaviors

Table 29 presents the lunch behaviors by lunch occurrences during which participants reported feeling rushed (N=45) and lunch occurrences during which participants reported not feeling rushed (N=163). When rushed, respondents attended significantly fewer outlets the same day than non-rushed respondents ($F(1, 197)=8.491, p<.01$), spent less on their lunch ($F(1,198)=7.024, p<.01$), and attended significantly less worksite cafeterias and significantly more take-away outlets.

	Rushed (N=45)	Non-rushed (N=163)	<i>p</i>
Attendance of food outlet	1.27	1.68	<.01
Amount spent	3.80	4.97	<.01
Types of attended food outlets (%)			
Worksite cafeterias	71.1%	92.6%	<.05
Take-away	22.2%	3.7%	<.05

Table 29: Lunch behaviors by lunch occurrences feeling rushed

Table 30 presents the lunch behaviors by lunch occurrences during which participants reported they had an insufficient time to do their work properly (N=43) and lunch occurrences during which participants reported they had a sufficient time to do their work properly (N=165). No differences were found in how many food outlets were attended, in amount of money spent on lunch, nor

in attendance of worksite cafeterias. Participants attended take-away outlets significantly more when they reported they had an insufficient time to do their work properly.

	Insufficient time to do work properly (N=43)	Sufficient time to do work properly (N=165)	p
Attendance of food outlet	1.50	1.62	<i>n.s</i>
Amount spent	4.79	4.70	<i>n.s</i>
Types of attended food outlets (%)			
Worksite cafeterias	83.7%	89.1%	<i>n.s</i>
Take away	16.3%	5.5%	<.05

Table 30: Lunch behaviors by insufficiency of time for work

Table 31 presents the lunch behaviors by lunch occurrences during which participants reported they were being asked an excessive amount of work (N=43) and lunch occurrences during which participants reported they were not being asked an excessive amount of work (N=165). Their lunch behaviors were not found to differ.

	Asked an excessive amount of work (N=43)	Not asked an excessive amount of work (N=165)	p
Attendance of food outlet	1.50	1.62	<i>n.s</i>
Amount spent	4.81	4.70	<i>n.s</i>
Types of attended food outlets (%)			
Worksite cafeterias	88.4%	87.9%	<i>n.s</i>
Take away	9.3%	7.3%	<i>n.s</i>

Table 31: Lunch behaviors by excess in amount of work

Table 32 presents the lunch behaviors by lunch occurrences during which participants reported they feeling they didn't have time to do everything that was to do at work (N=71) and lunch occurrences during participants reported no feeling of the sort (N=137). Their lunch behaviors differed only in the amount of attended food outlet ($F(1,197)=4.959, p<.05$).

	Feeling like <u>not</u> having enough time to do everything to be done at work (N=71)	Having enough time to do everything to be done at work (N=137)	p
Mean amount of food outlet attended (s.d.)	1.42	1.69	<.05
Mean amount spent (s.d.)	4.61	4.78	n.s
Types of attended food outlets (%)			
Worksite cafeterias	88.7%	87.6%	n.s
Take away	9.9%	6.6%	n.s

Table 32: Lunch behaviors by feeling not enough time for work

Table 33 presents the lunch behaviors by lunch occurrences during which participants reported they feeling they didn't have time to do everything that was to do at home (N=109) and lunch occurrences during participants reported no feeling of the sort (N=99). Their lunch behaviors differed only in the amount of money spent on lunch ($F(1,198)=4.758, p<.05$).

	Feeling like <u>not</u> having enough time to do everything to be done at home (N=109)	Feeling like having enough time to do everything to be done at home (N=99)	p
--	--	--	---

Mean amount of food outlet attended (s.d.)	1.62	1.57	n.s
Mean amount spent (s.d.)	5.11	4.32	<.05
Types of attended food outlets (%)			
Worksite cafeterias	84.4%	91.9%	n.s
Take-away	9.2%	6.1%	n.s

Table 33: Lunch behaviors by feeling not enough time home

5.7. Associations between recovery and time constraints

Rushed respondents felt significantly less recovered at the end of their lunch than non-rushed respondents $F(1,206)=15.46, p<.001 (***)$ (Figure 4).

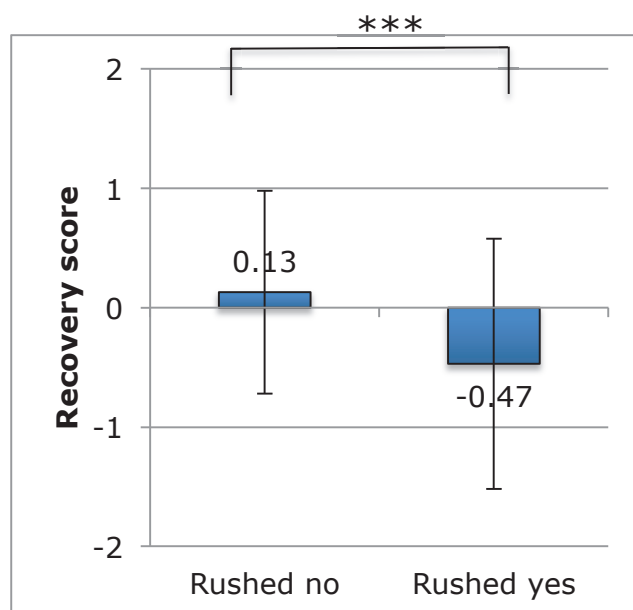


Figure 4: Recovery scores between non-rushed and rushed respondents

Respondents who felt they did not have enough time to do everything there was to do at work felt less recovered from their lunch break than respondents who felt they had enough time to do everything there was to do at work

$F(1,206)=9.461, p<.01 (**)$ (Figure 5). No significant differences were found for having enough time to do one's work properly and being asked an excessive amount of work.

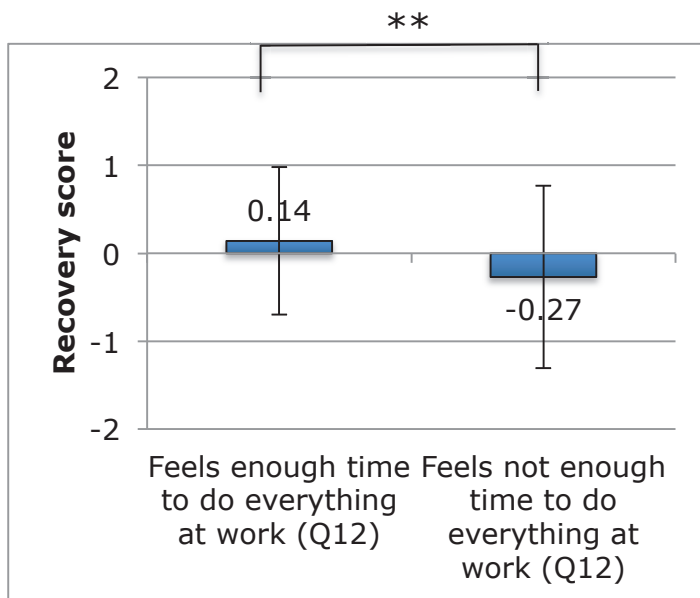


Figure 5: Recovery scores between respondents who felt they had enough time to do everything there is to do at work and others

Respondents who felt they did not have enough time to do everything there was to do at home felt less recovered from their lunch break than respondents who felt they had enough time to do everything there was to do at home. $F(1,206)=8.853, p<.01 (**)$ (Figure 6).

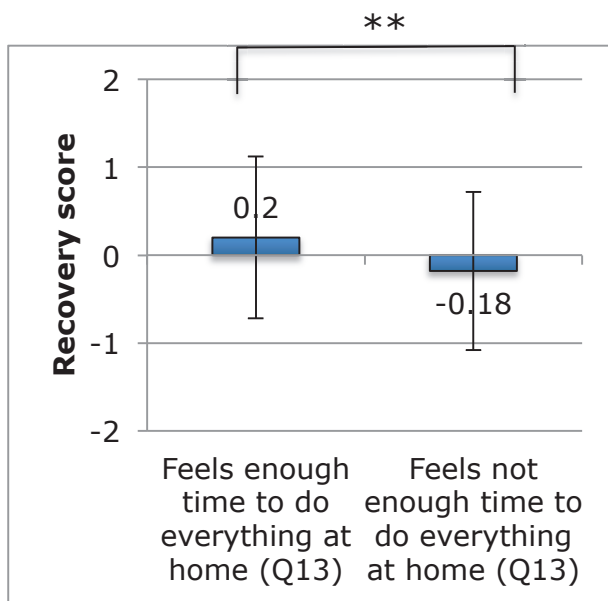


Figure 6: Recovery score of respondents feeling there was enough time to do everything there was to do at home vs others

6. Discussion

6.1. Launch and administration of study

6.1.1. Selection of worksite

Several workplaces were approached before this study could be carried out at STMicroelectronics Grenoble. Despite expressed interest for the subject, several workplaces declined to take part in the study, fearing results could fuel employees' complaints about available time for breaks and/or that asking employees to get involved in a research project was untimely due to social climate. The lengthy process and reservations voiced are a cautionary tale for future studies that aim at investigating time constraints in the workplace. Although all companies expressed interest in the project and found it relevant, conducting a study on their premises was prompt to raising concerns. These apprehensions are worth noting for at least two reasons. First, it informs us about the tight connections made by employers and employees (or that employers think are made by employees) between the general organization of their lunch break and their satisfaction with their working conditions, and even towards their employer in general. It also signals that self-selection bias in workplace studies is likely. Employers involved in wellbeing initiatives and/or with a good social climate are probably far more likely to agree to participate in research projects involving their employees. Conversely, worksites with a tense social climate are less likely to participate, although they (and their employees) could perhaps be the main beneficiaries. Anecdotally, a couple of employees mentioned to the researcher during the study that 'many places are not as good' or that 'we at (the worksite) are privileged'. This is important to keep in mind as this might lead some groups of workers to be overlooked, although they might be the ones facing tougher time constraints (and working conditions in general). Such challenge highlights once again that time constraints during the workday are not simply something to be managed by individuals but also shaped and influenced by the employer.

6.1.2. Use of a smartphone application

Smartphones are widespread in the French population. In 2019, 77% of the French population owned a smartphone, and 90% of executives (Crédoc, 2019). Therefore, the equipment rate was not expected to be a major barrier to take part in the study among workers. Still, difficulties arose.

6.1.2.1. *Barriers to using an app*

Several barriers to using a smartphone-based app were mentioned by employees who were approached during the recruitment process. Some workers mentioned they would have preferred a web-based survey rather than a smartphone-based one. It might be due to the context in which they were asked to fill the survey, that is, during their workday. Employees on this worksite work at a desk, so it can be assumed they have easy access to a computer, which would have made filling the survey more convenient. Some employees also reported that downloading an app on their phone felt intrusive. Even though the FLOW app was compliant with national and European legislation (General Data Protection Regulation), and the study had received approval by an Ethics Committee, data privacy concerns have been on the rise, and perhaps these concerns should have been taken more explicitly into account in the recruitment process. Two other barriers mentioned by employees during the recruitment process was that having to download an app was asking too much effort on their part, and that their smartphone was already at capacity. A way to circumvent these barriers in future studies would be to offer participants access to a specific device for the survey. In a previous study (Engelen, Chau, Burks-Young, & Bauman, 2016), only two out of 22 respondents, or about 10%, made use of the option provided by the team to use a device other than one's personal smartphone. It is not certain that the increased cost involved in providing participants with devices would significantly improve participation.

6.1.2.2. *Difficulties in using an app*

Overall, the application was not as user-friendly as it could have been, and several technical difficulties arose during the administration, which very likely

hampered response rate. Several respondents, and the researcher herself, experienced loading issues with the application, which oftentimes required to be re-launched before the questionnaire could be accessed. Syncing data (so it would load onto the app's back office) could only be done after completing the final general questions of the survey, so respondents had to go through it several times for their answers to be syncing, and thus being allowed to claiming their vouchers. The application did not allow some respondents to skip the part of taking a picture at the beginning of the daily questionnaire, so they had to upload a random picture everyday to move on the survey part. A couple of respondents expressed some frustration over these technical difficulties, which likely led some of them to give up. It also means that respondents had to be quite motivated, either by incentive or topic of research, to follow through. While use of an app-based survey was initially thought of as allowing greater autonomy for respondents, the almost daily interactions between researcher and participants for troubleshooting highlights that presence of staff during the period of data collection remains a good practice, both for supporting respondents and maximizing data collection.

6.1.3. Difficulties in recruitment and administration

The total number of participants was far below what had been hoped, with only 70 employees who registered on the app and 37 who effectively participated at least once. While the use of an app and technical difficulties may have prevented some to take part, the fact that the researcher was a stranger with no established relationship with STMicroelectronics, that participation took place during the workday probably played a role as well. The impossibility to send an e-mail to all employees to introduce the study was another difficulty. Participant burden probably added to the difficulty of collecting data. It is inherent to EMA methodologies, which solicit respondents in their daily lives (Hand & Perzynski, 2016). In our study, survey had to be completed within working hours, adding to the burden.

6.2. Characteristics of respondents

6.2.1. Representativeness of respondents compared with non-respondents

Representativeness is a major challenge in studies such as this one, relying on voluntary participation, for several reasons. First, as is the case here, characteristics of the whole population might not be shared with researchers by the company. Thus, how respondents compare to non-respondents in terms of sociodemographic characteristics is unknown. Second, the recruitment process put in place may have biased participation, as it took place within the building where worksite cafeterias and take-away outlet were present. It is therefore possible that employees who did not attend the area during the period of recruitment were never exposed to the study, or were exposed once the recruitment phase was over. Third, the nature of the task might have hampered participation from workers who are often or always rushed at lunchtime. Taking part in a survey is time demanding, and it is possible that employees experiencing time pressure self-excluded, precisely because of lack of time. This is in part reflected in cluster analysis, which indicates that respondents experiencing more time pressure participated less often to the study. This is prejudicial to this study, considering its focus on the consequences of time constraints and time pressure. Yet, it is a challenge that all field studies dealing with time constraints, time pressure, or other related constraints such as workload, must face, as highlighted by (Vercruyssen, Roose, Carton, & Van De Putte, 2014), who found that feeling busy generated more non-response to surveys than being busy. This is a major challenge to field studies investigating time pressure. It is difficult to think of a solution to this issue while maintaining participation voluntary, which is necessary from an ethical perspective. Despite these limitations, the repartition of purchase location suggests that respondents are roughly comparable to the other workers on the worksite in terms of attendance, with 88% of lunches that were purchased in one of the two worksite cafeterias, slightly above the attendance rate which was mentioned beforehand by representatives of the worksite (85%).

6.2.2. Representativeness of respondents compared to general working population in France

Representativeness of respondents compared to the general working population in France cannot be assured either, for several reasons. First, respondents had a higher income and a higher socioeconomic status (SES), and had received a higher education than the general working French population. Income, SES, and education are known to influence eating-out habits. Analysis of budget data shows that wealthier households spend relatively more money on food away from home than poorer households (Laisney, 2013). Second, the first part of this thesis has highlighted the critical role of the food environment in attendance of food outlets, and the variety of food environments that French wage-earners encounter around their workplaces. Therefore, nothing can let us think the food environment under consideration in this field study is representative of the food environment of the working population in general, further limiting generalizability of results. Lastly, lunch behaviors in the workplace carry complex dynamics, reflecting the company culture and climate, power struggles, workers' professional identity and standing (Jamard, 2014). As a result, it is difficult to imagine that findings in one worksite could apply as is in another. However, generalizability was not an objective of this study.

6.3. Descriptive results: lunch behaviors, time constraints encountered, adaptive behaviors

Overall, participants mainly attended one of the worksite cafeterias, didn't use their lunch break for personal activities, and faced little time pressure and time demands. The lunch behaviors as they appear in this study contrast quite sharply with those reported by respondents in study 1. Respondents displayed higher fidelity in attendance of worksite cafeterias, which accounts for 88% of all lunch occurrences, against 75.5% among executives with access in the online survey. This finding reflects what was said by the representatives of the company and the caterer before the launch of the study. Respondents used their lunch breaks for personal activities in 23% of lunch occurrences, which is

below what was found in the online survey (at least once: 58.6%). The majority of lunch occurrences occurred with respondents not feeling rushed (78.4%). In comparison, 41.2% of participants in study 1 reported never feeling rushed at lunch in the same time lapse (2 weeks). The majority of lunch occurrences occurred with respondents not feeling they were facing high time demands from work. For a high proportion (48%) of lunch occurrences, respondents were feeling they didn't have time to do everything to be done at home, but it remains below finding of study 1, in which 65.9% of respondents agreed or strongly agreed they didn't have time to do everything that needed doing at home.

Such discrepancies might be due at least in part to differences in the way data was collected. While in study 1, data was collected through recall, it was in this study collected in near real time. It is possible that recall of time-related experiences (such as feeling rushed) measures more of a general feeling, an average of the situation, where real-time collection is more precise (Hand & Perzynski, 2016).

All respondents in this study are executives, thus belonging to a SES that usually reports being the most rushed in their daily life in population surveys (Hamermesh & Lee, 2007). Our findings contrast with this idea, as the overwhelming majority of lunch occurrences happened without time pressure. Expanding on the idea of differences due to data collection methods, it is possible that interrogating people on feeling rushed during one specific moment leads to different results than asking them about their general feeling, which is generally the case in population surveys. While further research is clearly needed on the topic, it should draw attention to the fact that even populations reporting high levels of time pressure in their daily lives in general might not feel it at all times and in all occasions.

Moreover, although results cannot be generalized to the whole working population in France, these findings suggest that assuming workers are 'too

busy' for lunch nowadays is more part of a general discourse on 'acceleration of life' than grounded in facts.

Differences found between the two studies might also be due to differences in working conditions which couldn't be identified through the surveys. It is likely that feeling rushed for lunch is probably very different across workers and/or organizations in which they work.

On average, participants attended 1.6 outlets each day, which reflects the practice of getting coffee at the Green Café after the meal. This finding could not be compared with data from first study, and was rendered possible by access to sales data. This is further discussed below.

6.4. Time constraints at lunch

Overall, findings illustrate the complex relationships between time constraints and time pressure, as presented in the general introduction of this thesis. In factor analysis, feeling rushed was associated with adaptive behaviors on the time pressure factor, but it was not associated with time demands. In parallel, cluster analysis indicated that respondents differed in experience of time pressure, but not in demands they felt were placed on their time. Such findings echo the complex relationship between time constraints and time pressure, suggesting that comparable time demands yield different reactions in individuals. It could also be that the time demands as they were measured in this study are not related to time pressure, but that other measures would.

Cluster analysis also indicates greater variability in respondents of 'unstable participants' group for all three dimensions and attendance (%) of food outlets, as well as higher time pressure. On the contrary, no significant differences were found for mean scores of time demands. This is important for several reasons. First, this result suggests associations between time pressure and attendance of food outlet, indicating individuals do attend different food outlets when faced with time constraints. Second, findings suggest that for individuals experiencing time pressure, such experience varies over time. This is important to note, as most surveys about time pressure focus on the general

experience of time pressure in their questions. Third, these variations participate in nuancing the idea that workers are rushed all the time. It would seem that even among participants reporting higher time pressure, feeling of feeling rushed varies.

The associations between variability and experience of time pressure warrant further investigation. Perhaps respondents from 'stable participants' group, who encounter less variations and less time pressure than 'unstable participants', but comparable time demands, developed coping mechanisms to the point that time demands ceased to induce time pressure. Perhaps to some extent absence of variation more than absolute levels help individuals learn how to cope with time demands and/or time pressure.

The findings are based on one fairly small sample (34 participants). Future research should aim to replicate the study on larger samples, as it is possible that significance levels would have varied with one more or one less participant. Moreover, the importance of variation of experience of time pressure should be further investigated, perhaps by introducing more nuance in measurement. In this study, feeling rushed question was in the form of a yes/no answer. While this was done to force participants positioning themselves, a more nuanced approach could be beneficial in the future.

Factorial analyses revealed different dimensions of time-related constructs in the online survey and the field study. In the online survey, feeling rushed was associated with items related to time demands, whereas in field study it was not. Items included in both analyses were not identical, and respondents and measurement methods differed, limiting relevance of comparisons. Moreover, results of exploratory factor analyses are not comparable, as they are based solely on the respondents' answers, and not on dimensions defined a priori (Davie, 2015). Common findings to both EFA are the association between feeling rushed and shortening of one's lunch break, and the associations between work and personal demands. Confirmatory factor analyses could be

run on both datasets in future research to further investigate associations between time demands, time pressure, and lunch behavior.

In both cases (here and study 1), time demands at home loads with other time demands items in EFA.

6.5. Associations between lunch behaviors and time constraints

Overall, the study's findings point to a link between time pressure and lunch behaviors. Cluster analysis indicates that the second group, that reported higher time pressure, is associated with more variations in attendance of food outlets and fewer lunch occurrences taken at L'Étage. Associations were also found for feeling rushed and each of the lunch behaviors under study (number of attended outlets in one lunch occurrence, amount spent, type of attended outlets). Feeling rushed was associated with fewer outlets attended in one lunch occurrence, less money spent, and more attendance of take-away outlets. These findings suggest adaptive behaviors of reducing time allocated to the meal component of lunch, by attending fewer outlets (i.e. not stopping for coffee after meal) and purchasing lunch that can be eaten on the go. This is consistent with time-deepening strategies identified in the literature, such as multitasking, that individuals develop to cope with time pressure (Rudd, 2019).

Respondents attended on average 1.6 outlets each day for lunch. When rushed, respondents attended fewer outlets on the same lunch occurrence. Based on observation, it is likely due to the fact that rushed respondents did not get a coffee in the office building shop, which proved a popular venue after the meal. This would indicate an adaptive behavior, resulting in reducing part of the overall 'meal-related activity', without necessarily reducing the main part of the meal in the cafeteria, echoing findings from qualitative data of (Mathé & Francou, 2014), where attending a worksite cafeteria was seen as a way to save time due to proximity from the office, this saved time being allocated to the meal itself.

Fewer associations were found for time demands, whether at work or at home. Insufficient time for work was associated with more attendance of take-away outlets, feeling like there is not enough time to do everything to do at work was associated with less outlets attended, feeling like there is not enough time to do everything to do at home was associated with higher spending. The rest of the associations under study were non significant. Findings suggest time demands have little associations with lunch behaviors, at least in this sample. It could be that when encountering time demands, participants in this study chose not to pursue them during their lunch break, which is also reflected in findings that fewer lunch occurrences involved taking care of personal activities, or shortening one's lunch for professional or personal reasons, compared with first study. All of these results indicate an importance given by participants to their meal, echoing findings that French workers spend as much time having lunch as non-workers (Lhuissier et al., 2020), and reflecting the importance of meals in French culture. It could also reflect participants' awareness that lunchtime is unpaid, and that working during this time amounts to give time away to one's employer without compensation.

Overall, it appears that time pressure has tighter associations with lunch behaviors than time demands.

Rushed respondents revealed a lower willingness to pay than non-rushed respondents, all food outlets considered. This is somewhat contradictory with findings from study 2, in which respondents stated higher willingness to pay for time-saving services when facing time pressure. This might be due to the type food environment in which participants to this study were. The take-away outlet on worksite, Green Café, is subsidized as well, like the regular worksite cafeterias, resulting in lower prices than could be found in for-profit catering options. It could also be that rushed respondents purchased fewer items than non-rushed respondents, but we could not test this hypothesis with the available data. Both factors (fewer items and lower prices) could combine.

High time demands were positively associated with attendance of worksite cafeterias in the online survey (see article 2, Chapter I), but not in field study.

6.6. Recovery

Feeling rushed and feeling that there was not enough time to do everything that needed to be done at work or at home were associated with lower levels of recovery after lunch break. Not having time to do one's work properly and being asked an excessive amount of work were not associated with recovery after break. To our knowledge, this is the first study investigating the links between feeling rushed and recovery after lunch break. Insofar as feeling rushed is a tension between time available to carry out a task and time available to do so, it is not surprising that feeling rushed during lunch break does not allow replenishment of resources (see 2.1.2. Taking a break), leading to not feeling recovered after lunch. Workload was found to be unrelated to recovery after lunch in one previous study, in a much larger sample of 1,347 Finnish workers in eleven companies (Sianoja et al., 2016), while one item (out of three) related to workload was found to be associated to recovery in the current study. Different measures for workload and recovery were used in the two studies, which could account for this difference, and populations were different. Based on these conflicting results, further research should investigate the associations between workload and feeling recovered after break. Future research should also investigate associations between feeling rushed during lunch and recovery experiences, as it possible that feeling rushed hampers detachment from work, which plays a key role in lunch recovery (Sianoja et al., 2016).

7. Strengths, limitations, and future research

7.1. Tracking of participants' behavior over several days and access to sales data

This study's design relied on monitoring of participants' lunch behavior over several days. This allowed for closer examination of intra-individual variability, both in occurrence of time pressure and lunch behaviors.

This study could link respondents' questionnaires to actual sales data in most cases. Such precise data enabled examination of how many outlets were attended at each lunch occurrence, and exact amount spent.

7.2. Limitations due to data and context

Attendance of worksite cafeteria above national average was a serious constraint when investigating variations in attendance of food outlets. It was decided to proceed with this worksite, considering how challenging recruitment had been. As was expected, the overwhelming majority of lunch occurrences occurred in worksite cafeterias, limiting the analyses that could be carried out. Future research should aim to conduct a similar study in other worksites, where workers exhibit greater variability in attendance of food outlets. Yet, all results concur with the idea that experiencing time pressure is associated with variation in the type of outlet where lunch is purchased, even in a context where respondents showed little variability.

Too few responses were obtained to conduct some of the analyses that were intended. Autonomy over breaks as a moderator of recovery could not be assessed because of the limited number of responses. Future research with larger samples should address these questions. Moreover, employees of this worksite all enjoyed a flexible working schedule, including for lunch. The associations between feeling rushed, attendance of food outlets, and deadlines could not be explored. Conducting the same study among workers with a strict lunch schedule would also be a relevant avenue for future research, although

access to these worksites might be even more challenging as noted above. The ideal worksite to conduct a future study would include workers with both strict and flexible lunch schedules, working at similar times in the day. Yet, this might be unrealistic due to the reality of the market. Based on conversations with representatives of Elior Entreprises (one of the funders of this PhD project) when trying to identify a worksite, we were told that very few companies had both types of workers on the same worksite. While anecdotal, such statement echoes the findings from the first article presented in this thesis, which highlighted significant differences in access to food outlets between white-collar and blue-collar workers, suggesting these populations do not work in the same areas.

7.3. Technical limitations

The app allowed for retrospective filling of the survey and did not track when the respondent actually replied. We therefore cannot exclude that some respondents replied in the following days for a previous day. Access was granted during the weekends to maximize chances that respondents would synchronize their data (so it would load on back office) in this more relaxed time of the week.

For sales data, we relied on overall amounts to determine revealed willingness to pay. Based on observation during fieldwork, it is possible that some respondents purchased hot drinks for some colleagues, thus driving total amount up.

7.4. Reflection

The idea to investigate how many outlets were attended by respondents in one lunch occurrence arose while the study was being conducted, during which it became apparent that it was very common for workers to go and get coffee in the office building shop (Green Café) after their meal. Long (but fast moving) lines occurred by the coffee counter, and workers lingered in the area, sitting or standing, to drink coffee with their co-workers, or went outside to the smoking area. Investigation was possible because this study could link actual

sales data to almost each lunch occurrences collected. This raises several interesting points about workday lunch as an object of research. First, it stresses that access to the context in which lunch occurs allows finer measurements, which would be too complicated or vague in wide surveys such as the online survey. Researcher's access to the particular context in which the study was conducted allows to make this assumption, grounded in observation. Second, it shows how access to data can facilitate gathering of information without adding to the burden of participants. Third, on a more conceptual level, it echoes the methodological questions surrounding definition of lunch discussed in the introduction of this thesis, and underscores the role of such definitions in data analysis, findings, and interpretation of the latter. Lastly, it also raises the question of what constitutes a 'proper meal': does it include that espresso after lunch? Being constrained to skip this part of the meal could leave some workers feel that they didn't get 'proper lunch' for example, just like eating at one's desk or just like getting a snack from a vending machine perhaps doesn't 'count' as lunch.

Chapter IV: General discussion

This thesis set out to explore the associations between time constraints and lunch behaviors in the workplace. Paucity of data and lack of knowledge of lunch behaviors in the workplace resulted in this thesis being exploratory in nature. Most of the work carried out has been observational, with experimental methods primarily used to enrich theoretical understanding of time constraints.

First, a survey was developed. It aimed at gathering data on access to and attendance of food outlets, time constraints, and time pressure among a large sample (N=1,139) of French wage-earners. Second, an experiment was designed to elicit willingness to pay for time-savings under varied conditions of time pressure and deadlines. Third, a field study was conducted. Participants were recruited on one worksite, and were asked to report daily over a two-week period their attendance of food outlets, time constraints, time pressure, and recovery.

This section summarizes the main results of this thesis, and discusses them with previous literature. The first part summarizes the findings describing respondents' lunch behavior and the time constraints they report encountering during their workday lunch, the second part discusses associations found between time constraints and lunch behavior, and the third part considers the nature of time constraints as revealed by this thesis. The strengths and limitations of this thesis are reviewed in a second section, and directions for future research are presented.

1. Having lunch

This thesis aimed at gathering data on French wage-earners' attendance of food outlets, time constraints, and time pressure, because of lack of data available (research questions I and II: What food outlets do French workers have access to, and which do they attend? Do French workers encounter time constraints and time pressure at lunch during the workday?)

1.1. Having lunch is the norm among respondents

Results from both the online survey and the field study show that the overwhelming majority of respondents did eat lunch during the workday. In online survey, 80% of respondents never skipped lunch, and in field study only 4 occurrences out of 208 report not eating lunch.

That most respondents did have lunch during their workday mirrors research about French eating habits. The three-meal pattern remains strongly embedded in France in the general population, and most French people have lunch on any given day: 94.5% of respondents had lunch in the 2008 Nutrition Health Barometer by the National Institute for Health Prevention and Education (Escalon, Bossard, & Beck, 2009). Our research confirms it is also the case among wage-earners, albeit in a smaller proportion. These differences can be due to differences in methodologies to collect data, as the Nutrition Health Barometer includes both weekdays and weekends. Still, it seems that skipping lunch is more common among workers than non-workers.

1.2. Access

This study was the first attempt at characterizing workers' food environment at lunch by taking into account commercial and institutional food outlets, and domestic provisioning. Therefore, how French wage-earners' broad lunch environment compares with those in other countries remains unknown. Regarding access to worksite cafeterias specifically, findings echo previous studies in other countries, which showed that access to a worksite cafeteria was more frequent for higher occupational classes. In Finland, based on a survey representative of the general population, about 80% of upper white-collar workers had access to a worksite cafeteria, against less than 50% among unskilled blue-collar workers (Raulio et al., 2012). In Brazil, workers with the most education also had more access to a worksite cafeteria (the study did not measure occupational class) (Vinholes et al., 2018).

1.3. Attendance

1.3.1. Proportion of attendance among workers with access

More respondents in the online survey attended a worksite cafeteria than the proportion found among Finnish workers, which is about 50%, controlling for access (Raulio et al., 2012; Roos et al., 2004). Difference in measurement of attendance is likely to play a role to explain these differences. Data used by Raulio et al. (2012) and Roos et al. (2004) elicit the *usual* location where lunch is purchased, while ours include respondents who attended a workplace cafeteria *at least once* in a two-week period. Other explanations could be structural differences in the market, for example differences in the level of subsidization by employers. Cultural differences could also partly explain these differences. Meals in France remain overwhelmingly taken seated at a table, which could encourage workers with access to make use of the worksite cafeteria. It could also be linked to the quality of the food served.

1.3.2. Executives attend worksite cafeterias more often, after controlling for access

The online survey found that when controlling for access, attendance of worksite cafeterias remained higher among executives than blue-collar workers. The same was found in Finland, where upper white-collar workers were more likely than blue-collar workers to attend a worksite cafeteria among workers with an access (Raulio et al., 2012), and workers with higher education (Roos et al., 2004). It could that the cost of meals in worksite cafeterias, although subsidized, remain higher than bringing lunch from home, which is common among workers in lower SES (Raulio et al., 2012). However, in our study, no difference in attendance was found for other food outlets (except full service restaurants) between blue-collar and white-collar workers. Raulio et al. (2012) proposed that control over one's working time could explain this difference. Findings from the online survey support this hypothesis. Autonomy over one's time at work was found to increase likelihood of attending a worksite cafeteria. In Korea, the opposite relation was found, with managers purchasing their lunch in commercial food outlets, and physical

laborers in institutional food outlets (Kim et al., 2016), indicating that structural and cultural factors should be taken into account.

1.3.3. Attendance of other food outlets

Almost all studies about lunch attendance behaviors have focused on worksite cafeterias, limiting comparisons. The study with the focus and population closer to ours, by Lhuissier et al. (2020), focuses on location where lunch was eaten rather than purchased. For example, lunch purchased and eaten in a worksite cafeteria and lunch purchased in a take-away outlet and eaten in a break room at work couldn't be distinguished. As a result, the only comparison that can be drawn is for full service restaurants, for which place of purchase and place of location are similar. Findings differ greatly, with 8.37% of respondents in their study who attended a restaurant, while 27.6% of all respondents, and 41.2% of those with access did in our study. However, the reference periods are quite different, one single day versus two weeks. This variation in results based on two different time frames suggests that workers do vary in their attendance of food outlets. This is also reflected by the average number of food outlets attended by respondents from our study (1.9, s.d. 1.6).

Overall, French workers' workplace food environment seems to be fairly varied, with several types of outlets available, and workers appear to attend various types of food outlets for lunch. This calls for more attention to be allotted to food outlets other than worksite cafeterias. Practitioners and researchers interested in promoting healthy diets in the workplace should take into account all existing possibilities in and around each workplace when planning interventions.

At the same time, French workers' workplace food environment appear to vary based on SES, with blue-collar workers having access to fewer options, including significantly less access to worksite cafeterias, that have been associated with healthier diet. Based on these results, associations between workers' workplace food environment and workers' diet and diet-related

outcomes such as obesity are a relevant path to improve understanding of the complex relationships between SES and diet (Castetbon, 2014).

1.4. A majority of respondents did face some time constraints and time pressure at lunch

One question explored in this thesis is whether French wage-earners do encounter time constraints at lunch. Despite a general discourse about lack of time, whether it applied to lunch during the workday was unknown. Moreover, the fact that workers' lunch duration did not differ from non-workers (Lhuissier et al., 2020) could have suggested that they were not, in fact, concerned by time constraints at that specific moment in their day.

Overall, results suggest that time constraints and/or time pressure were fairly common among respondents in the online survey. 45% of respondents had a strict lunch schedule, indicating the presence of a deadline when taking their lunch break. Shortening of lunch was also common, especially because of work (55.5% of respondents did it at least once), illustrating time allocation decisions made because of competing demands for their time. The majority of respondents (59%) had also experienced time pressure during their lunch break. Results from the field study are more nuanced. Less than 20% of reported lunch occurrences involved shortening of lunch break, and only 22% involved respondents feeling rushed. Closer look at data from the online survey also brings nuance, as only 6% of respondents reported feeling rushed all the time, and 41% reported never having felt rushed.

These findings suggest that while a sizable portion of French workers could face time constraints and time pressure, the general discourse according to which 'nobody has the time anymore' must not be taken at its face value. Experiencing time pressure at lunch is more of a temporary occurrence than a chronic reality workers face every day. Moreover, results from the field study, and especially the discrepancy between findings in the two studies, suggest a wide variety in experiences of time pressure and time constraints among

workers. This raises the question of relevancy of indicators based on mean estimations to investigate time constraints and time pressure.

Our findings reveal that while eating lunch is by far the norm among respondents in both studies, workers skipped lunch more often than the general French population. This question had not been addressed in previous works about French workers, as lunch was defined and studied based on occurrences on food consumption.

2. Associations between time constraints, time pressure, and food outlet attendance

Overall, findings of this thesis support the idea that time constraints and time pressure influence attendance of food outlets by workers. Positive association was found between autonomy and attendance of worksite cafeteria and of full service restaurants, and between time demands and attendance of worksite cafeteria (online survey); willingness to pay to save time was found to be impacted by deadlines and time pressure (online experiment); and attendance of take-away outlets was higher when participants were rushed (field study). Time pressure yielded more consistent association with lunch behaviors than time constraints. Time pressure led to higher willingness to pay to save time than deadlines in the online experiment, and was associated with all lunch behavior outcomes under study in the field study. This echoes findings by Venn & Strazdins (2016), who found that feeling rushed was associated with some eating behaviors (increased frequency of eating out and eating foods high in calories), but that being time poor was not. Perhaps time pressure carries an emotional component (Cœugnet et al., 2011; Szollos, 2009) that prompts individuals to alter their behavior, whereas time constraints relate more to cognition.

These findings are important to enrich interventions aiming to promote healthy eating at work. Interventions have primarily focused on the individual

(providing coaching for example) and/or the food environment (increasing offer of healthy food for example). Working conditions have largely remained ignored in intervention programs, and time constraints and time pressure have never, to our knowledge, been addressed. This thesis provides convincing evidence of an influence of time-related working conditions on lunch behavior of workers, and could help practitioners broaden their approach in interventions. Perhaps as a first step, it could support them to convince employers that time-related working conditions need to be taken into account. The difficulties faced during this thesis to gain access to a worksite for mere observation underscore how sensitive a topic time constraint is for companies. Scientific and evidence-backed arguments could help.

3. Relation of time constraints and time pressure

The literature review drew attention to the complex and unclear relations between time constraints and time pressure (2.4). The work conducted in this thesis allowed exploration of the relation between the two, but it remains elusive.

The online experiment is the first, to our knowledge, to disentangle deadlines and time pressure, as experiments usually induce time pressure by manipulating deadlines, which is a limitation in our understanding how each can affect decisions (Ariely & Zakay, 2001; Ordóñez et al., 2015). Findings show that deadlines and time pressure impacted differently willingness to pay to save time, and no interaction was found between the two, reinforcing the idea of possible independence of these constructs. However, strict lunch schedules were not associated with time pressure in the online survey, and could not be investigated in the fieldwork, as this type of working schedule concerned none of the participants. The relation between time demands and time pressure is quite unclear based on findings from the online survey and field study. Time pressure was associated with time demands in the online survey, but this was not the case in the field study. While differences in

methodologies and samples between the two studies limit relevancy of comparisons (see 6.5. Associations between lunch behaviors and time constraints in chapter III for a discussion on this point), such discrepancy further emphasizes the complexity of the sources of time pressure.

This thesis explored time constraints by focusing on time demands and time pressure. Other dimensions of time could be considered in future works. For example, predictability of working time could play a role in experience of time pressure. Not being able to predict when and for how long work will take place, or tasks within working day could play a role in time pressure by adding uncertainty.

4. Strengths and limitations

This thesis addresses an under researched area, which is lunch behavior in the workplace. Most research on lunch in the workplace has been interventional, and little is known about what workers in fact do, and why.

4.1. Development of a tool specifically designed to investigate lunch

This thesis has addressed this lack of knowledge and paucity of data by proposing a new survey tool to explore workers' food outlet attendance, and by combining several data collection methods. First, a tool specifically devoted to collection of lunch behaviors was developed. Previous descriptive studies have all relied on secondary data, which does not allow the same level of control and precision. For example, due to structure of data, some studies could not exclude respondents working night shifts (Blanck et al., 2009), could not control for access (Lhuissier et al., 2020), and could not investigate variations in workers' attendance of food outlets (Roos et al., 2004). The tool developed distinguishes between place of purchase and place of consumption, controls for access, and enables examination of variations in behavior through frequency questions. While screening questions were aimed at restricting sample to wage-earners working during the day for one employer on one worksite, they

could be adapted to study other working populations, such as shift and self-employed workers. It is the first tool, to our knowledge, to take into account all three modes of food provisioning which can occur at lunch in the workplace. As such, this thesis contributes to advancing knowledge by proposing a new tool to collect primary data on lunch in the workplace. Because it took into account the idea that lunch during the workday was not only a meal but also a moment, it included the possibility for workers to report *not* eating lunch. Previous studies about workers' lunch (Lhuissier et al., 2020; Mathé & Francou, 2014) studied it by restricting analysis of sample to respondents engaging in food consumption in a time slot, so consequently 100% of their samples had lunch. Such approach highlighted that while having lunch was very common for French workers, skipping lunch was more frequent for this population than for the general French population.

This survey was first administered to a large sample of French wage-earners, and an adaptation of it was used for the field study. The field study on the other hand, based on an adaptation of the survey tool, allowed tracking of participants' behaviors during two weeks. Collection of data in real time or near real time minimizes recall bias, which could exist in the first survey. Thus, tracking lunch behaviors of participants over several days allowed to take into consideration individual variations on a much precise scale than the online survey. Conducting a field study allowed to investigate lunch behavior in a population evolving in one unique worksite and environment.

4.2. Collection of an important dataset about lunch behaviors

The online survey is, to our knowledge, the largest existing dataset specifically dedicated to lunch in the workplace in France. While it is not representative of the wage-earner population (and didn't aim to be considering dearth of available data about the structure of the exact population under study, excluding night workers for example), the sampling procedure allowed examination across all four SES where workers are mostly wage-earners (INSEE, 2016). The screening procedure restricted data collection to workers

sharing similar work characteristics relevant for this study (working during the day, whose workday includes lunch time), thus allowing gathering of data for a population homogeneous in key characteristics. This is an important contribution, as previous studies could not reach this level of detail because of the structure of the data (see 3.2.2). This makes the differences found across SES all the more striking, as they cannot be explained by blue-collar workers working more night shifts for example.

4.3. Investigation of time demands and time pressure

This study is one of the first to investigate time constraints in a specific context rather than through general statements referring to life in general.

This research offers a new way of studying time allocation decisions. Generally, wide-scale population surveys about time spent on various activities, and limitations on individuals' time operationalized through computing of an indicator based on threshold below which respondents are considered facing time shortage. Instead on investigating durations, this thesis has focused on competing time demands and the experience of time pressure. By conceptualizing lunch during the workday as a moment potentially encompassing professional and personal activities that may intervene on lunch behavior, the focus is shifted from duration (time allocation) to interactions between activities and their influence on lunch behavior operationalized (mainly) by food outlet attendance. While this is possible only in contextualized situations and is not appropriate for larger, population-wide investigations, this thesis offers a conceptual tool to investigate the relationships between time demands, time pressure, and behavior.

4.4. The role of time demands in attendance of food outlets

In this thesis, internally-imposed time constraints at lunch were conceptualized as activities competing for one's time, and operationalized as time demands related to work and personal activities. Associations of these time demands

with lunch behavior are inconclusive. They were found to be positively associated only with attendance of worksite cafeterias (online survey), and the part of the variance explained was low (16.8%, see Table 6, page 56). It is possible that the items included in the exploratory factor analysis were too broad and related only remotely to lunch behaviors. The field study was more conservative in its approach to time demands, including only items directly related to daily work and personal demands (see Table 18, page 119). Yet, associations between these items and lunch behaviors were not indicative of a strong relation and could be due to the limited sample size. It is possible that time demands only play a weak role in workers' lunch behaviors. It is also possible that the way time demands were operationalized were not specific enough. It is also possible that other dimensions of time demands are more relevant. For example, organizational time norms could relate to time demands and influence workers' lunch behaviors. Companies valorizing overwork and/or presentism could lead workers to feel high work demands are put on their time. Future research could expand on this work and include other time demands.

4.5. Role of co-workers in lunch behaviors

This research has not taken into consideration the role of co-workers in workers' lunch behaviors. This is a major limitation, as lunches at work in France appear to be massively taken with co-workers, eating alone being seen as an accident (Mathé & Francou, 2014). Where one's colleagues want to go for lunch is likely to play a role in choice of food outlet. Sociological works have shown that where workers have lunch may carry important symbolical weight and be linked with one's professional identity and sense of belonging (Jamard, 2014). Moreover, social activities during lunch breaks seem to play a role in fatigue at the end of the workday (Trougakos et al., 2014) and on recovery (Sianoja et al., 2016), and vigor and recovery experience (detachment from work) (Dreden & Binnewies, 2017). These results indicate that relations between socialization at lunchtime and recovery are not necessarily positive. For example, spending lunch break with others was not associated with

recuperation from work (Sianoja et al., 2016). However, this study focused on workers facing time constraints, which could limit the influence of other factors in lunch behaviors.

5. Directions for future research

Several questions pertaining to time constraints, time pressure and lunch behaviors emerge from this thesis, which could be addressed in future research.

5.1. Bringing lunch from home

Domestic provisioning was found to be a common lunch behavior in the online survey. Among respondents for which it was possible, 69.2% reported having brought their lunch from home at least once in the two-week period before answering the survey (data shown in appendix M). Future research should investigate how domestic provisioning relates to time constraints and time pressure at lunch in the workplace. By already having something ready to eat, domestic provisioning could be the quickest way to get lunch during the workday, hence alleviating time constraints and time pressure. On the other hand, preparing one's lunchbox the evening before might add to demands on one's time at home, increasing impression of not having time to do everything that needs to be done at home. The repartition of bringing lunch from home across SES and workplace food environments should be included in such future research, to explore the possibility that workers in lower SES use this option more often than others, as suggested in 1.3.2.

5.2. Associations between point of purchase, point of consumption, and time

Based on data from the online survey (appendix N), eating lunch at one's desk is quite common when possible for respondents. Out of the 662 respondents who reported that eating at their desk for lunch was possible during their workday, 65.7% did it at least once. Eating at one's desk was found to be more common among participants in field study who reported feeling rushed,

and who shortened their lunch because of work or personal activities (appendix N). These results suggest that where lunch is eaten could also be influenced by time constraints and time pressure, perhaps reflecting a continuum with purchase location, as food purchased in take-away outlets can be eaten on the go. On a side note, such proportion seems especially high considering that eating at a workstation is prohibited by French law. Let us also note that such consumption behavior is likely to be highly related to the type of occupation: workers in assembly lines or in contact with clients might not have the possibility to eat at their workstation. Again, SES should be taken into consideration.

5.3. Focus on specific populations

Discrepancies in results between the online survey, which was broad in scale, and field study, which focused on workers from one particular worksite, suggest that lunch behaviors, time demands, and time pressure can vary importantly across populations.

Exploring associations between sociodemographic characteristics and time constraints, time pressure, and lunch behaviors would allow refinement of analysis while maintaining a broad scope. In particular, the question of gender should be explored. Working men and women differ in attendance of food outlets (Lhuissier et al., 2020). Women report higher levels of time pressure than men (Hamermesh, 2019). It is possible that women more than men use their lunch breaks to take care of personal obligations, or work through lunch to leave earlier and take care of their children (Poulain, 2002). On the other hand, one ethnographic work has shown that lunch breaks for women could be a relief from paid but also from domestic work (Jamard, 2014): having lunch in the worksite cafeteria was seen as a way to avoid meal preparation, which they typically handle at home for their husbands and children, and spending the lunch break at their desk allowed them to engage in personal activities they couldn't pursue otherwise (reading a magazine, knitting...). The interactions between work demands, personal demands, recovery and lunch behaviors among women should be further investigated.

The developed surveying tool could also be used to investigate other working populations besides wage-earners to get a broader picture of time constraints encountered by workers at lunch. Independent workers (which is a very broad category in itself, encompassing workers in the gig economy as well as farmers) might encounter different time constraints. Previous research has emphasized that independent workers worked longer hours and had to hurry in their work more than wage-earners (DARES, 2009) with more difficulties in articulating working and personal times, especially women (Landour, 2019). Moreover, this thesis has focused on lunch on workdays while on one's *worksite*. Other working environments, such as working from one's *home*, should also be investigated in relation with time constraints and lunch behaviors, as they become more common.

6. Contributions to knowledge and conclusion

6.1. Studying time in laboratory settings

Experimental economics has only recently started to investigate the issue of time in relation with decision-making, and no study was found with an incentive-compatible design investigating willingness to pay to save time. This research has highlighted the difficulties lying in designing time-based, incentive-compatible design. A key concern to investigate time allocation decisions in laboratory settings is to keep duration of the experiment constant, so as not to induce variations in responses based on considerations external to the experiment. Whillans & Dunn (2018) have argued that turning to online experiments might alleviate this difficulty, as respondents in online experiments 'leaving' the experiment early can spend the time gained at their discretion in their own surroundings. This is quite ironical considering the importance given to laboratory settings in experimental methods. Yet, this is quite an appealing argument when considering time as an incentive in experiments. Perhaps a middle ground that ought to be considered is the use

of 'laboratory in the field' methods, where experiments are run in natural contexts.

The question of time-based incentives in experiments is fairly new, and much more research is needed on the topic before a gold standard can be achieved. This thesis did not purport to thoroughly address these questions. However, by shifting focus in its experiment from response time to time allocation decisions, it sheds light on an under-researched area which brings important methodological challenges.

6.2. Time as a variable of diet

Surprisingly little research has been devoted to time constraints, time pressure, and food behaviors, diet, and diet-related outcomes, although plenty of research assume a connection between them. The complexity and lack of conceptual clarity between internal and external time constraints, and time pressure further complicates the matter. This results in the somewhat paradoxical situation where the equivocal 'lack of time' is quickly held responsible for unhealthy habits such as reliance on convenience foods, attendance of fast food outlets, secondary eating (eating while pursuing another activity), not exercising, yet evidence is lacking.

Calls for taking into account time constraints and/or time pressure in dietary and health behaviors, and more broadly in relation with wellbeing have been emerging (Strazdins et al., 2011; Strazdins, Welsh, Korda, Broom, & Paolucci, 2016; Whillans, Dunn, Smeets, Bekkers, & Norton, 2017; Williams et al., 2016). We believe this thesis contributes to this emerging scholar conversation in several ways. First, it conceptually distinguishes between time constraints and time pressure, and provides tools to investigate them in relation with one specific moment. Second, it highlights associations between these constructs and food outlet attendance, which is one step to diet, as purchase location is associated with diet quality (Ziauddeen et al., 2017). Lastly, it highlights negative associations between time pressure and recovery after lunch break,

suggesting that how time is experienced could be at play in replenishment of resources.

6.3. Concluding remarks

This present thesis is the first to investigate associations between time constraints, time pressure, and lunch behaviors of workers. Food in the workplace has mainly been handled in an interventional perspective, although the current situations of workers' lunch behaviors are not well known. This thesis provides evidence of associations between time constraints, time pressure, and attendance of food outlets. While more research is needed in this area, these findings should encourage public health officials and practitioners to shift focus from worksite cafeteria interventions and to take into account the broader food environment workers encounter while at work.

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Appendix A. Questionnaire (online survey, French version)

Questionnaire effectivement passé aux répondants
Inclut les filtres et erreurs commises par le prestataire en charge de la passation

Bonjour, et merci d'avoir accepté de répondre à ce questionnaire.

Celui-ci porte sur votre journée de travail, et sur la pause déjeuner. Il n'y a pas de bonne ou de mauvaise réponse, l'important est ce que vous pensez et ressentez.

Il est anonyme et confidentiel : vos réponses serviront à une recherche et ne sont pas destinées à un usage commercial. Elles ne seront en aucun cas communiquées à votre employeur. Nous ne vous demanderons PAS le nom de votre employeur, ni aucune caractéristique qui pourrait nous permettre de l'identifier, ni de vous identifier.

[Q1] Etes-vous :

Une femme

Un homme

[Q2] Quel âge avez-vous :

Réponse ouverte

Si -18 ans screen out

[Q3] Etes-vous actuellement salarié ?

On entend par salarié une personne liée à un employeur par un contrat de travail, quel que soit la durée ou le type de contrat

Oui

Non Screen out

[Q4] Avez-vous actuellement plusieurs employeurs ?

Oui Screen out

Non

[Q5] Etes-vous travailleur itinérant ?

On entend par travailleur itinérant un employé qui travaille principalement à l'extérieur des locaux de son entreprise, comme certains commerciaux, les chauffeurs-livreurs, les visiteurs médicaux...

Oui Screen out
Non

[Q6] A quelle catégorie socioprofessionnelle appartenez-vous ?

Agriculteurs exploitants
Artisans, commerçants, chefs d'entreprise
Cadres, professions intellectuelles supérieures (par exemple : professeur de l'enseignement supérieur, ingénieur, journaliste, contrôleur de gestion)
Professions intermédiaires (par exemple : assistant de direction, agent de maîtrise, instituteur)
Employés (par exemple : auxiliaire de puériculture, agent de sécurité, secrétaire, esthéticien)
Ouvriers (par exemple : soudeur, couvreur, magasinier, agent de propreté)

• • Si =1 ou 2 ==> screen out

[Q7] Habituellement, travaillez-vous en horaires alternés ?

Oui -> screen out
Non

[Q8] Habituellement, travaillez-vous en « horaires coupés » ?

Oui -> screen out
Non

[Q9] Dans votre emploi principal, travaillez-vous habituellement entre minuit et 7h du matin ?

Oui -> screen out
Non

[Q10] Votre journée de travail habituelle comprend-elle la période du déjeuner (que vous fassiez ou non une pause) ?

- Oui
- Non -> screen out

[Q11] Avez-vous été absent de votre travail (arrêt, congé...) ces deux dernières semaines ? (les congés type jour férié ne comptent pas)

- Oui -> screen out
- Non

--- FIN DES QUESTIONS SCREENING

[Q12] Combien de jours travaillez-vous habituellement par semaine ?

Réponse ouverte

[Q13] De quelle manière sont fixés vos horaires ?

- Ils sont fixés par l'entreprise, sans possibilité de changer
- Vous pouvez adapter vos horaires de travail dans une certaine limite
- Vos horaires de travail sont entièrement déterminés par vous-même

[Q14] A quel type de contrôle d'horaires êtes-vous soumis ?

- Aucun contrôle
- Horloge pointeuse, badge
- Signature, fiche horaire et assimilé

[Q15] Travaillez-vous à :

	All
Total	N=1176
Temps complet	91% 1065
Temps partiel	9% 111

[Q16] Quel est le type de ce temps partiel ?

Moins d'un mi-temps (moins de 50%)
Mi-temps (50%)
Entre 50 et 80%
80%
Plus de 80%

[Q17] Vous supervisez une ou plusieurs personnes :

Oui
Non

[Q18] Quel type de contrat de travail avez-vous ? :

Contrat à durée indéterminée
Contrat à durée déterminée
Contrat d'une agence de travail temporaire (intérim)
Apprentissage ou tout autre programme de formation (st
Autre (préciser)
NSP

[Q19] Combien de personnes travaillent sur votre lieu de travail ?

Je travaille seul(e)
2 à 9 salariés
10 à 49 salariés
50 à 249 salariés
250 à 499 salariés
500 salariés et plus

[Q20] L'entreprise pour laquelle vous travaillez est :

Une PME (moins de 250 personnes)
Une entreprise de taille intermédiaire (entre 251 et 5000 personnes)
Une grande entreprise (plus de 5000 personnes)

[Q21] Travaillez-vous dans :

Le secteur privé
Le secteur public
Une organisation ou entreprise mixte public-privé
Un secteur à but non lucratif ou associatif, organisation r gouvernementale
Autre, (préciser) :

[Q31b] De manière générale...

For "Pour effectuer correctement mon travail, j'ai en général un temps suffisant"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "On me demande d'effectuer une quantité de travail excessive"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Il m'arrive de me dépêcher sans raison pour retourner à mon poste de travail"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "J'ai l'impression de ne jamais avoir le temps de faire tout ce que j'ai à faire au travail"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "J'ai l'impression de ne jamais avoir le temps de faire tout ce que j'ai à faire à la maison"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je peux planifier à l'avance la plupart de mon travail"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je peux intervenir sur la quantité de travail qui m'est donnée"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je peux organiser mon travail de la manière qui me convient le mieux"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Pour faire mon travail, je peux facilement faire varier les échéances"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "En cas d'imprévu personnel ou familial, il est facile de m'absenter de mon travail, même quelques heures"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

[Q32] Voici quelques affirmations concernant votre journée de travail. Pour chacune d'entre elles, indiquez ...

For "Il m'arrive d'emporter du travail chez moi..."

Toujours
Souvent
Parfois
Jamais

For "Mes proches se plaignent que mes horaires de travail me rendent trop peu disponible pour eux"

Toujours
Souvent
Parfois
Jamais

For "Il m'arrive de travailler au-delà de l'horaire prévu"

Toujours
Souvent
Parfois

Jamais

For "Mon travail m'empêche de consacrer le temps voulu à mes proches"

Toujours
Souvent
Parfois
Jamais

For "Mes responsabilités personnelles ou familiales m'empêchent de consacrer le temps voulu à mon travail"

Toujours
Souvent
Parfois
Jamais

[Q33] Voici quelques affirmations concernant votre journée de travail. Pour chacune d'entre elles, indiquez à quel point vous êtes d'accord.

For "Les gens avec lesquels je travaille ne font pas attention si je reviens tard de ma pause déjeuner"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Ce n'est pas bien vu dans mon entreprise de faire une pause déjeuner"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Ce n'est pas bien vu dans mon entreprise de ne pas faire de pause déjeuner"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Les gens sont tenus responsables de leur façon de gérer leur temps dans mon entreprise"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

[Q34] Quel est votre diplôme le plus élevé ?

- Pas de diplôme
- CAP, BEP, brevet
- Baccalauréat général, technologique, ou professionnel
- Niveau bac+2 : BTS, DUT, DEUG
- Diplôme de niveau bac +3 ou bac +4 : licence, master 1
- Diplôme de niveau bac+5 et plus : master 2, doctorat, Grande Ecole

[Q35] En moyenne, quel est votre revenu net mensuel ? (c'est-à-dire le salaire que vous percevez de votre employeur)

- Moins de 1100€
- Entre 1101 et 1500
- Entre 1501 et 1800
- Entre 1801 et 3100
- Plus de 3101
- Je ne sais pas
- Refus de répondre

[Q36] Vous vivez :

- Seul(e)
- En couple (marié ou non)
- Chez des parents
- En colocation

[Q37] Des enfants âgés de moins de 18 ans vivent-ils actuellement avec vous ?

- Oui
- Non

[Q38] Combien d'enfants vivent avec vous actuellement ?

Réponse ouverte

[Q39] Sans compter les enfants, avez-vous des personnes à charge qui vivent avec vous actuellement (parent, beau-parent...)

- Oui
- Non

si Q39 = oui

[Q40] Combien de personnes ?

Réponse ouverte

[Commune] Quel est le code postal de votre commune?

Réponse ouverte

[Q22] Voici quelques questions portant plus spécifiquement sur l'organisation de votre entreprise lors de votre pause déjeuner. Vous avez des horaires stricts pour prendre une pause déjeuner

- | |
|-----|
| Oui |
| Non |

[Q23] Quels sont les dispositifs mis en place par votre entreprise pour le déjeuner ?

- | |
|---|
| Tickets restaurant |
| Restaurant d'entreprise |
| Local avec équipements pour déjeuner sur place (réfrigéré, micro-ondes, vaisselle...) |
| Espace sans équipement |
| Autre (préciser) |
| Rien |

[Q24] Voici quelques affirmations sur différentes options pour acheter votre déjeuner lorsque vous êtes au travail. Il s'agit de possibilités, même si vous ne le faites pas.

For "Il y a de nombreuses possibilités pour acheter à déjeuner autour de mon lieu de travail"

- | |
|----------------------|
| Pas du tout d'accord |
| Pas d'accord |
| D'accord |
| Tout à fait d'accord |

For "Ramener mon déjeuner de chez moi est pratique"

- | |
|----------------------|
| Pas du tout d'accord |
| Pas d'accord |
| D'accord |
| Tout à fait d'accord |

[Q25] Voici quelques affirmations sur différentes options pour acheter votre déjeuner dans le cadre de votre journée de travail. Il s'agit de possibilités, même si vous ne le faites pas. Indiquez si vous êtes d'accord avec chacune d'elle.

For "...au restaurant d'entreprise"

OUI
NON

For "...dans un distributeur automatique"

OUI
NON

For "...dans un espace annexe au sein mon entreprise (espace sandwicherie, espace pause café qui propose de la nourriture)"

OUI
NON

For "...dans un supermarché ou une supérette autour de mon lieu de travail"

OUI
NON

For "...dans des lieux qui proposent de la vente à emporter (type boulangerie, restaurants offrant des formules à emporter, traiteur...)"

OUI
NON

For "...dans des restaurants qui servent à table"

OUI
NON

For "...dans des lieux qui proposent de la vente à emporter et/ou de la vente au comptoir"

OUI
NON

For "...sur internet, et de me faire livrer sur mon lieu de travail"

OUI
NON

- Cette question a un doublon de réponse (« lieux qui proposent de la vente à emporter » et « lieux qui proposent de la vente à emporter et/ou de la vente au comptoir »), créé par le prestataire au lieu de fusionner deux réponses d'une ancienne version du questionnaire

[Q26] Classez les possibilités que vous avez sélectionnées de celle qui vous prendrait le moins de

temps à celle qui vous prendrait le plus de temps (incluant le temps de se rendre sur place, de choisir, régler etc...)

==> module de ranking

Obligation de classer tous les items choisis en Q25

[Q27] Ces deux dernières semaines, les jours où vous avez travaillé, où avez-vous acheté votre déjeuner ?

For "Au restaurant d'entreprise"

Jamais
Parfois
Souvent
Toujours

For "Dans un distributeur automatique"

Jamais
Parfois
Souvent
Toujours

For "Un espace annexe au sein de mon entreprise (espace sandwicherie, espace pause café qui propose de la nourriture)"

Jamais
Parfois
Souvent
Toujours

For "Dans un supermarché ou une supérette autour de mon lieu de travail"

Jamais
Parfois
Souvent
Toujours

For "Dans des lieux qui proposent principalement de la vente à emporter (type boulangerie, restaurants offrant des formules à emporter, traiteur, food trucks...)"

Jamais
Parfois
Souvent
Toujours

- Contrairement à Q25, le doublon de réponse n'a pas été proposé (pas de proposition portant sur « lieux qui proposent de la vente à emporter et/ou de la vente au comptoir »)

For "Dans des restaurants avec service à table"

Jamais
Parfois

Souvent
Toujours

For "Sur internet, pour me faire livrer sur mon lieu de travail"

Jamais
Parfois
Souvent
Toujours

For "Je l'ai fait chez moi (ou quelqu'un l'a fait pour moi)"

Jamais
Parfois
Souvent
Toujours

For "J'ai demandé à des collègues de me ramener à manger"

Jamais
Parfois
Souvent
Toujours

[Q28] Voici quelques affirmations sur différentes options pour consommer votre déjeuner dans le cadre de votre journée de travail. Il s'agit de possibilités, même si vous ne le faites pas.

- Q28 et Q29 sont le miroir de Q25 et Q27, appliqué au lieu de consommation (vs acquisition). MAIS le prestataire a appliqué un filtre (contrairement à Q25 et Q27) : seules les réponses sélectionnées comme possibles en Q28 ont été proposées en Q29

For "Au restaurant d'entreprise"

OUI
NON

For "Un espace annexe au sein de mon entreprise (espace sandwicherie, espace pause café, salle de pause...)"

OUI
NON

For "Dans un parc, square, zone extérieure"

OUI
NON

For "A mon poste de travail"

OUI
NON

For "Dans un restaurant"

OUI
NON

For "Dans la rue, en marchant"

OUI
NON

For "Chez moi"

OUI
NON

[Q29] Ces deux dernières semaines, les jours où vous avez travaillé, où avez-vous consommé votre déjeuner ?

- Q28 et Q29 sont le miroir de Q25 et Q27, appliqué au lieu de consommation (vs acquisition). MAIS le prestataire a appliqué un filtre (contrairement à Q25 et Q27) : seules les réponses sélectionnées comme possibles en Q28 ont été proposées en Q29

For "Au restaurant d'entreprise"

Jamais
Parfois
Souvent
Toujours

For "Dans un espace annexe au sein de mon entreprise (espace sandwicherie, espace pause café, salle de pause...)"

Jamais
Parfois
Souvent
Toujours

For "Dans un parc, square, zone extérieure"

Jamais
Parfois
Souvent
Toujours

For "A mon poste de travail (en travaillant ou non)"

Jamais

Parfois
Souvent
Toujours

For "Dans la rue, en marchant"

Jamais	81%
	532
Parfois	16%
	107
Souvent	3%
	18
Toujours	0%
	3

For "A table dans un restaurant"

Jamais
Parfois
Souvent
Toujours

For "Chez moi"

Jamais
Parfois
Souvent
Toujours

[Q30] Ces deux dernières semaines, les jours où vous avez travaillé...

For "J'ai utilisé ma pause déjeuner pour faire des activités personnelles (en plus ou à la place du déjeuner)"

Jamais
Parfois
Souvent
Toujours

For "Je me suis senti pressé à l'heure du déjeuner"

Jamais
Parfois
Souvent
Toujours

For "J'ai réduit au maximum la durée de mon déjeuner à cause de ce que j'avais à faire au travail"

Jamais	44%
	520
Parfois	39%

	454
Souvent	13%
	158
Toujours	4%
	44

For "J'ai réduit au maximum la durée de ma pause déjeuner à cause d'obligations ou d'activités personnelles"

Jamais	60%
	703
Parfois	33%
	386
Souvent	6%
	73
Toujours	1%
	14

For "Je n'ai pas déjeuné du tout à cause de ma charge de travail"

Jamais
Parfois
Souvent
Toujours

For "Je n'ai pas déjeuné du tout à cause d'obligations personnelles dont je me suis occupé.e pendant ma pause déjeuner"

Jamais
Parfois
Souvent
Toujours

For "Je n'ai pas déjeuné du tout pour d'autres raisons (personnelles...) (préciser)"

Jamais
Parfois
Souvent
Toujours

-  Cette proposition a été codée comme facultative par le prestataire

[Q31a] De manière générale...

For "J'aimerais avoir plus de temps pour déjeuner"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je trouve que la pause déjeuner est une perte de temps"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Le moment du déjeuner est l'occasion de me changer les idées"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction du temps dont je dispose"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je consomme mon déjeuner en fonction du temps dont je dispose"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction de mon budget"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction de ce que j'ai envie de manger"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction des envies de mes collègues"

Pas du tout d'accord
Pas d'accord
D'accord
Tout à fait d'accord

For "Je choisis où je vais consommer mon déjeuner en fonction des envies de mes collègues"

Pas du tout d'accord
Pas d'accord
D'accord

Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction de la proximité avec mon lieu de travail"

Pas du tout d'accord

Pas d'accord

D'accord

Tout à fait d'accord

For "Je choisis où je vais acheter à déjeuner en fonction de la rapidité du service"

Pas du tout d'accord

Pas d'accord

D'accord

Tout à fait d'accord

Appendix B. Questionnaire (online survey, English translation)

Hello, and thank you for agreeing to answer this questionnaire.

It concerns your working day, and the lunch break. There is no right or wrong answer, the important thing is what you think and feel.

It is anonymous and confidential: your answers will be used for research and are not intended for commercial use. In no case will they be communicated to your employer. We will NOT ask you for the name of your employer, or any other characteristic that would allow us to identify or identify you.

Q1] Are you:

A woman

A man

[Q2] How old are you:

Re answer open

If -18 years old screen out

[Q3] Are you currently a wage-earner?

Wage-earner means a person linked to an employer by an employment contract, whatever the duration or type of contract

Yes

No **Screen out**

[Q4] Do you currently have several employers?

Yes **Screen out**

No

[Q5] Are you an itinerant worker ?

The term itinerant worker refers to an employee who works primarily outside the premises of his company, as some commercials, delivery drivers, pharmaceutical representatives...

Yes Screen out
No

[Q6] What socio-professional category do you belong to?

Farmer
Artisans, shop keeper, business owner
Executive, intellectual professions (eg professor, engineer journalist, auditor)
Intermediate professions (for example: assistant, supervisor , school teacher)
Employee s (eg auxiliary childcare worker, security agent, secretary)
Workers (for example: welder, roofer, cleaning agent)

- If = 1 or 2 ==> screen out

[Q7] Do you usually work shift work?

Yes - > screen out
No

[Q8] Do you usually work " cut hours" ?

Yes - > screen out
No

[Q9] In your main job, do you usually work between midnight and 7am?

Yes - > screen out
No

[Q10] Your usual workday includes the period of the lunch (whether you take a break or not) ?

Yes
No - > screen out

[Q11] Have you been absent from work these last few weeks?

Yes - > screen out
No

--- END OF SCREENING QUESTIONS

[Q12] How many days do you usually work per week?

Open answer

[Q13] How is your working schedule fixed?

- Set by the company, with no possibility of change
- You can adapt your working hours within a certain limit
- You freely define your working hours

[Q14] How is your schedule controlled by your employer?

- No control
- Time clock, badge
- Signature, timetable and similar

[Q15] Do you work:

- | |
|-----------|
| |
| Total |
| Full time |
| Part-time |

[Q16] What is the type of this part-time job?

- Less than ' a half-time (less than 50%)
- Half-time (50%)
- Between 50 and 80%
- 80%
- More than 80%

[Q17] You supervise one or more people:

- Yes
- No

[Q18] What type of work contract do you have? :

- No end-term contract
- End-term contract
- Temporary work
- Apprenticeship or any other training program (internship, etc.)

Other (specify)
DK

[Q19] How many people work at your workplace?

I work alone
2 - 9 employees
10 - 49 employees
50 - 249 employees
250 - 499 employees
500 employees and more

[Q20] the company you work for is:

An SME (less than 250 people)
A medium-sized company (between 251 and 5,000 people)
A large company (more than 5000 people)

[Q21] Do you work in:

The private sector
The public sector
A public-private organization or joint venture
A non-profit or associative sector, non-governmental organization
Other, (specify):

[Q31b] In general...

For "To properly perform my work, I have sufficient time"

Strongly disagree
Disagree
Agree
Strongly agree

For "I am asked to ' perform an excessive amount of work"

Strongly disagree
Disagree
Agree
Strongly agree

For "I hurry to get back to my workstation with no reason"

Strongly disagree
Disagree
Agree
Strongly agree

For "I feel like I never have the time to do everything I have to do at work"

Strongly disagree
Disagree
Agree
Strongly agree

For " I feel like I never have the time to do everything I have to do at home"

Strongly disagree
Disagree
Agree
Strongly agree

For "I can plan most of my work ahead"

Strongly disagree
Disagree
Agree
Strongly agree

For "I can intervene on the amount of work that I am given"

Strongly disagree
Disagree
Agree
Strongly agree

For "I can organize my work in the way that suits me best"

Strongly disagree
Disagree
Agree
Strongly agree

For "To do my job, I can easily vary the deadlines"

Strongly disagree
Disagree
Agree
Strongly agree

For "In case of personal emergency, I can leave work unexpectedly even for a few hours"

Strongly disagree
Disagree
Agree
Strongly agree

[Q32] Here are some statements regarding your workday.

For "I take work home ... "

Always
Often
Sometimes
Never

For "My loved ones complain that my working hours make me too little available for them"

Always
Often
Sometimes
Never

For "I work beyond scheduled time"

Always
Often
Sometimes
Never

For "My work prevent me from devoting the necessary time to my family"

Always
Often
Sometimes
Never

For "My personal or familial responsibilities prevent me from devoting the necessary time to my work"

Always
Often
Sometimes
Never

[Q33] Here are some statements regarding your work day. For each of ' them, tell how you agree.

For "The people I work with don't care if I come back late from my lunch break "

Strongly disagree
Disagree
Agree
Strongly agree

For "This is not well seen in my company to take a lunch break"

Strongly disagree
Disagree
Agree
Strongly agree

For "This is not well seen in my company to not take a lunch break "

Strongly disagree
Disagree
Agree
Strongly agree

For "People are held accountable for how they manage their time in my company"

Strongly disagree
Disagree

- Agree
- Strongly agree

[Q34] What is your highest diploma?

- No diploma
- Vocational training
- High school diploma
- 2 years after high school
- 3 or 4 years after high school
- 5 years and more after high school

[Q35] On average, what is your monthly net income? (the wages you receive from your employer)

- Less than 1100 €
- Between 1101 and 1500
- Between 1501 and 1800
- Between 1801 and 3100
- More than 3101
- I do not know
- Refusal to answer

[Q36] You live:

- Alone
- As a couple (married or not)
- With parents
- Colocation

[Q37] Are there children under 18 currently living with you?

- Yes
- No

[Q38] How many children live with you now?

[Q39] Besides children, do you have any dependents currently living with you (parent, step-parent, etc.)

- Yes
- No

[Q40] How many people?

Re answer open

[postCode] Please enter the postal code of your town

[Municipality] What is the postal code of your municipality?

**[Q22] Here are a few questions about the organization of lunch in your company
You have strict schedule to take a break lunch**

- Yes
- No

[Q23] What are the options put in place by your company for lunch?

- Meal voucher
- Worksite cafeteria
- Room with equipment for lunch on site (fridge ,
microwave, dishes, etc.)
- Space without equipment
- Other (specify)
- Nothing

**[Q24] Here are some statements about different options for buying your lunch when you
are at work. We are asking you whether it's possible, even if you don't do it.
For "There are many options to buy lunch around my workplace"**

- Strongly disagree
- Disagree
- Agree
- Strongly agree

For "Bringing my lunch from home is convenient"

- Strongly disagree
- Disagree
- Agree
- Strongly agree

**[Q25] Here are some statements about different options for buying your lunch as part of
your work day. We are asking you whether it's possible, even if you don't do it.
For "... at the worksite cafeteria"**

- YES
- NO

For "... in a vending machine"

YES
NO

For "... in an annex space within my company (sandwich shop, coffee break space that offers food)"

YES
NO

For "... in a supermarket or a convenience store around my workplace"

YES
NO

For "... in places that offer take-away food(bakery type, restaurants offering take-out options , caterer, etc.)"

YES
NO

For "... in full service restaurants"

YES
NO

For "... in places that offer take-out and / or counter sales"

YES
NO

For "... on the internet, and to have it delivered to my workplace"

YES
NO

🍏 This question has a duplicate answer (" places that offer take-away sales " and " places that offer take-out sales and / or counter sales "), created by the service provider instead of merging two re replies of ' an old version of the questionnaire

[Q26] Rank the possibility you selected from the one that you take the least time one that you take the most time (including the time to go there, choose, settle etc ...)

==> ranking module

Obligation to classify all the items chosen in Q25

**[Q27] In the past two weeks, on the days you worked, where did you buy your lunch?
For "worksite cafeteria "**

Never
Sometimes
Often
Always

For "In a vending machine"

Never
Sometimes
Often
Always

For "An annex space within my company (sandwich shop, coffee break space that offers food)"

Never
Sometimes
Often
Always

For "In a supermarket or a convenience store around my workplace"

Never
Sometimes
Often
Always

For "In places that mainly offer take-away (bakery type, restaurants offering take-out options , caterer, food trucks, etc.)"

Never
Sometimes
Often
Always

☛ Contrairement to Q25, the re duplicate response n ' no é té proposed (no proposal on " places that offer the sale to carry and / or the counter sales "

For "In full service restaurant"

Never
Sometimes
Often
Always

For "On the internet, to have it delivered to my workplace"

Never
Sometimes
Often
Always

For "I made it myself (or someone did it for me)"

Never
Sometimes
Often
Always

For "I asked colleagues to get lunch for me"

Never
Sometimes
Often

Always

[Q28] Here are some statements about different options for eating your lunch during your work day. We are asking you whether it's possible, even if you don't do it.

- 🍏 Q28 and Q29 are the mirror of Q25 and Q27, applied to the place of consumption (vs acquisition). BUT the provider applied a filter (unlike Q25 and Q27) : only replies selected as possible in Q28 were proposed in Q29

For "worksite cafeteria "

YES
NO

For "An annex space within my company (sandwich shop , coffee break space, break room ...)"

YES
NO

For "In a park, square, outdoor area "

YES
NO

For "At my workstation"

YES
NO

For "In a restaurant"

YES
NO

For "In the street, while walking"

YES
NO

For "At home"

YES
NO

[Q29] In the past two weeks, on the days you worked, where did you eat your lunch?

- 🍏 Q28 and Q29 are the mirror of Q25 and Q27, applied to the place of consumption (vs acquisition). BUT the provider applied a filter (unlike Q25 and Q27) : only replies selected as possible in Q28 were proposed in Q29

For "worksite cafeteria "

Never
Sometimes
Often
Always

For "In an annex space within my company (sandwich shop , coffee break space, break room ...)"

Never
Sometimes
Often
Always

For "In a park, square, outdoor area "

Never
Sometimes
Often
Always

For "At my workstation (working or not)"

Never
Sometimes
Often
Always

For "In the street, while walking"

Never
Sometimes
Often
Always

For "At a table in a restaurant"

Never
Sometimes
Often
Always

For "At home"

Never
Sometimes
Often
Always

[Q30] These past two weeks, the days you worked ...

For "I have used my lunch break for personal activities (in addition to or instead of the lunch)"

Never
Sometimes
Often

Always

For "I felt rushed during lunch"

Never
Sometimes
Often
Always

For "I shortened my lunch as much as possible because of what I had to do at work "

Never
Sometimes
Often
Always

For " I shortened my lunch as much as possible because of personal activities"

Never
Sometimes
Often
Always

For "I didn't get lunch at all because of my workload"

Never
Sometimes
Often
Always

For "I didn't get lunch at all because of personal obligations which I dealt with during my break lunch"

Never
Sometimes
Often
Always

For " I didn't get lunch at all at for other reasons"

Never
Sometimes
Often
Always

🍏 This proposal has été coded e as optional by the provider

[Q31a] Generally speaking

For "I'd like to have more time for lunch"

Strongly disagree
Disagree
Agree
Strongly agree

For "I find that the lunch break is a waste of time"

Strongly disagree

Disagree
Agree
Strongly agree

For " Lunch time is an opportunity to change my mind "

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I'll buy lunch depending on the time available to me"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I eat my lunch based on the time I have available"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I'll buy lunch depending on my budget"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I'll buy to lunch based on what I feel like eating"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I'll buy lunch according to the desires of my colleagues"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I will eat my lunch according to the desires of my colleagues"

Strongly disagree
Disagree
Agree
Strongly agree

For "I choose where I'll buy lunch depending on the proximity to my workplace"

Strongly disagree
Disagree
Agree

Strongly agree

For "I choose where I'll buy lunch depending on the speed of the service"

Strongly disagree

Disagree

Agree

Strongly agree

Appendix C. Article 1 (original French version)

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COMMUNICATION BRÈVE

La pause déjeuner des salariés en France : environnement de choix et comportements des cadres et des ouvriers



French workers' lunch break: Choice environment and eating behaviors of white-collar and blue-collar workers

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MOTS CLÉS

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choix ;
CSP ;
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alimentaires

KEYWORDS

Workplace;
Choice environment;
Occupational class;
Food access;
Eating habits

Introduction

Les conditions de travail comprennent notamment les composantes matérielles et organisationnelles d'un emploi [1]. En ce sens, les dispositifs organisant la prise alimentaire des travailleurs dans le cadre de leur journée de travail constituent une condition de travail à part entière [2]. Ils restent cependant mal connus [3], alors même que la promotion d'une alimentation saine sur le lieu de travail paraît une piste prometteuse pour favoriser un régime alimentaire équilibré, compte tenu de la fréquence et de la régularité des repas pris par les travailleurs dans le cadre de leur journée de travail [4]. De fait, les actions de promotion de la santé s'y intéressant se limitent en majorité au cadre du restaurant d'entreprise, restreignant de facto la question aux travailleurs les fréquentant.

Or, le restaurant d'entreprise ne représente qu'une minorité des repas des travailleurs en France. La part exacte des actifs en bénéficiant n'est pas connue, mais dans une enquête de 2013, 79 % des actifs n'y mangeaient jamais, seuls 17 % au moins une fois par semaine, et très peu chaque jour [5]. Quatre millions de salariés français (sur environ 25 millions en 2017 [6]) bénéficieraient par ailleurs du dispositif alternatif des titres restaurant [7]. Le lieu d'approvisionnement étant un déterminant de la qualité des options alimentaires disponibles, ces constats invitent à s'interroger sur le type de lieux disponibles aux salariés pour leur déjeuner, d'autant que des différences d'accès semblent exister selon la catégorie socioprofessionnelle (CSP) — ainsi, en 2013, 36,3 % des cadres, contre seulement 11,9 % des ouvriers, fréquentaient un restaurant d'entreprise au moins une fois par an [5].

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Cet article présente les résultats d'une enquête explorant la perception par les salariés, en fonction de leur CSP, des lieux qui leur sont accessibles pour déjeuner, et leurs habitudes de fréquentation.

Matériel et méthodes

Population et échantillonnage

Le périmètre de l'étude a été restreint aux salariés français travaillant de jour, pour un seul employeur, avec un bureau fixe, et dont la période de travail habituelle comprend le déjeuner, à l'exclusion des autres types de travailleurs et des CSP comprenant majoritairement ou en totalité des non-salariés selon l'INSEE [8]. L'absence de données socio-démographiques consolidées sur la population salariée en France, rend difficile l'évaluation de la représentativité de cette population. Une stratégie d'échantillonnage par stratification a été donc adoptée pour constituer des sous-groupes d'intérêt équilibrés en termes de CSP, d'âge et de sexe.

Développement du questionnaire

Un questionnaire en cinq parties (dont trois présentées dans cet article) a été développé, en s'appuyant lorsque possible sur des questionnaires déjà validés et publiés :

- environnement de choix : pour chacun des types de lieux (TL) proposés (voir **Tableau 1** ci-dessous), les répondants devaient indiquer s'il leur était possible de fréquenter ce TL pour acheter leur déjeuner. L'approvisionnement domestique faisait l'objet d'une question à part : « rapporter mon déjeuner de chez moi est pratique » ;
- fréquentation effective : sur une échelle en quatre points (jamais, parfois, souvent, toujours), les répondants devaient indiquer leur fréquentation de chaque TL, ainsi que leur recours à l'approvisionnement domestique, sur la période des deux semaines précédant la passation de l'enquête ;
- caractéristiques des participants : âge, sexe, caractéristiques sociodémographiques.

Passation du questionnaire

Le questionnaire a été administré en ligne, entre le 26 juin et le 23 juillet 2018, par le prestataire Bilendi, auprès de 1139 participants issus d'un panel de volontaires et selon les critères présentés plus haut. Ceux-ci sont rétribués sous forme de cadeaux ou bons d'achat en fonction de leur participation à différentes études du même prestataire. Ils sont pour cela sollicités par e-mail, et peuvent choisir de participer ou non aux études proposées.

Analyses statistiques

Les analyses descriptives présentées ici ont été menées avec le logiciel SPSS version 21. Les comparaisons entre groupes se sont appuyées sur des tests du Chi² (pour les variables catégorielles), de Student (pour les échelles), et de Welch (en cas d'hétérogénéité des variances), avec un seuil de significativité fixé à $\alpha = 0,05$.

Résultats

Le **Tableau 1** récapitule les résultats concernant les caractéristiques, l'environnement de choix perçu pour le déjeuner et le comportement déclaré de l'échantillon complet et des deux sous-groupes sur lesquels se concentre le reste de l'analyse : les cadres et professions intellectuelles supérieures (CPIS), et les ouvriers.

En moyenne, les salariés de l'échantillon global déclarent avoir 3,5 TL possibles parmi lesquels choisir pour leur déjeuner. Ce chiffre masque des disparités entre CPIS et ouvriers, les premiers déclarant avoir accès à 4,2 TL pour le déjeuner, contre 2,7 pour les ouvriers ($p < 0,001$). Il est à noter en outre que 1,1 % des CPIS et 12,5 % des ouvriers ont rapporté n'avoir accès à aucun des TL proposés (non représenté dans le **Tableau 1**).

La nature des options de TL perçues comme accessibles diffère significativement entre CPIS et ouvriers. Plus de la moitié des CPIS déclarent avoir accès à un lieu qui propose de la vente à emporter, un supermarché ou supérette, un restaurant qui sert à table, un restaurant d'entreprise, et à la commande sur internet. Comparativement, seuls ces trois premiers TL sont accessibles à une majorité d'ouvriers. Le seul TL pour lequel il n'y a pas de différence significative d'accès entre CPIS et ouvriers est le distributeur automatique, qui ne concerne dans tous les cas qu'une minorité de la population (22,8 % au global).

Les CPIS ont fréquenté plus de TL pour leur déjeuner ($p < 0,001$) ; même si ce nombre demeure faible au regard du nombre de lieux annoncé comme accessibles. L'écart entre nombre de TL accessibles et fréquentés est plus réduit pour les ouvriers.

Parmi les CPIS, 12,1 % et 37,5 % des ouvriers ont déclaré n'avoir fréquenté aucun des TL proposés, soit une proportion bien plus importante que les répondants n'ayant pas accès aux TL proposés. L'importance de l'approvisionnement domestique explique sans doute en grande partie ce résultat, 69,2 % des répondants au global ayant déclaré y avoir eu recours, devant tous les TL proposés.

À accès égal, les comportements de fréquentation des deux groupes tendent à ne pas différer significativement, sauf les restaurants classiques avec service à table ($p = 0,005$) et le restaurant d'entreprise ($p < 0,05$).

Discussion

Si des études internationales [9] avaient déjà relevé un accès plus important des cadres à un restaurant d'entreprise, la présente étude, qui met en lumière des différences dans le nombre et le type de lieux perçus comme accessibles aux CPIS et aux ouvriers, est, au meilleur de notre connaissance, la première à s'intéresser à l'étendue et au type d'options perçues comme disponibles aux travailleurs pour leur pause déjeuner. Globalement, le nombre de lieux accessibles rapporté par les CPIS est supérieur à celui des ouvriers. Ces écarts peuvent provenir, d'une part, de différences objectives dans l'environnement des lieux de travail des salariés, en lien avec leur localisation. L'emplacement du lieu de travail pourrait ainsi être un facteur différenciant, avec des CPIS travaillant plus souvent dans des centres urbains où l'offre serait plus variée. En particulier, cette population pourrait être plus spécifiquement visée par les offres nouvelles de commande en ligne qui se développent depuis quelques années (qui

Tableau 1 Principaux résultats du questionnaire.				
	Échantillon total (n = 1139)	CPIS (n = 281)	Ouvriers (n = 272)	p ^a
<i>Caractéristiques (%)</i>				
Sexe				= 0,001
% Femme	49,9	45,9	31,6	
CSP				
CPIS	24,7			
Professions intermédiaires	26			
Employés	25,5			
Ouvriers	23,9			
Éducation				< 0,001
Pas de diplôme	2,2	1,1	5,9	
CAP, BEP, brevet	21,6	2,5	55,1	
Bac	19,8	7,5	25,4	
Bac+2	20,8	13,9	9,6	
Bac+3, +4	18,3	22,8	4	
Bac+5 et plus	17,2	52,3	0	
Âge				< 0,001
18–24	19,9	17,1	7,4	
25–49	42,4	34,2	53,3	
50 et plus	37,7	48,8	39,3	
Revenu mensuel				< 0,001
Inférieur à 1100 €	9,5	6,4	6,6	
1101–1500	24,6	3,2	45,2	
1501–1800	16,5	6	22,8	
1801–3100	30,8	39,5	17,6	
Supérieur à 3101	9,8	34,2	1,5	
Ne sait pas	1,1	1,4	0,7	
Refus de répondre	7,7	9,3	5,5	
Type de contrat				= 0,05
CDI	79,5	85,1	78,7	
Autre	20,5	14,9	21,3	
Environnement perçu				
Nombre moyen de TL accessibles ^b	3,5	4,2 (± 1,5)	2,7 (± 1,6)	< 0,001 ^c
% du groupe ayant accès à chaque TL				
Lieu qui propose de la vente à emporter	79,2	86,5	68,4	< 0,001
Supermarché ou supérette	75,6	79,7	66,5	< 0,001
Restaurant qui sert à table	67,2	80,1	51,1	< 0,001
Commande sur internet et livraison sur le lieu de travail	41,2	59,1	17,3	< 0,001
travail				
Restaurant d'entreprise	37,3	56,6	23,2	< 0,001
Espace annexe au sein de l'entreprise	27	37,4	16,5	< 0,001
Distributeur automatique	22,8	23,1	25,4	> 0,5
<i>Comportement</i>				
Nombre de TL fréquentés	1,9 (± 1,6)	2,3 (± 1,6)	1,5 (± 1,6)	< 0,001
% du groupe fréquentant chaque TL parmi ceux y ayant accès				
Lieu qui propose de la vente à emporter	56,9 (n = 513)	57,6 (n = 140)	52,7 (n = 98)	> 0,1
Supermarché ou supérette	51,5 (n = 443)	47,3 (n = 106)	51,4 (n = 93)	> 0,1
Restaurant qui sert à table	41,2 (n = 315)	49,8 (n = 112)	34,5 (n = 48)	< 0,005
Commande sur internet et livraison sur le lieu de travail	21,3 (n = 100)	23,5 (n = 39)	25,5 (n = 12)	> 0,1

Tableau 1 (Suite)

	Échantillon total (n = 1139)	CPIS (n = 281)	Ouvriers (n = 272)	p ^a
Restaurant d'entreprise	68,2 (n = 290)	75,5 (n = 120)	60,3 (n = 38)	< 0,05
Espace annexe au sein de l'entreprise	48,9 (n = 150)	46,7 (n = 49)	55,6 (n = 25)	> 0,1
Distributeur automatique	32,3 (n = 84)	27,7 (n = 18)	42 (n = 29)	= 0,1

CPIS : cadres et professions intellectuelles supérieures ; CSP : catégorie socioprofessionnelle ; TL : types de lieux.

^a Valeur de p d'après un test d'indépendance Chi² ou un test de Student non-apparié ou de Welch, entre les répondants appartenant à la catégorie CPIS et les répondants appartenant à la catégorie ouvriers.

^b Indicateur construit par addition des lieux déclarés comme accessibles par les répondants à partir des lieux proposés.

^c Variances non homogènes.

sont mentionnées comme une option pour 59,1 % des CPIS mais seulement 17,1 % des ouvriers). Les CPIS pourraient également être favorisés par une plus grande implication de leur employeur (mise en place de restaurant d'entreprise et/ou d'espaces annexes), dans un souci de rétention et satisfaction des travailleurs qualifiés. D'autre part, il est également possible qu'à environnement objectif de choix égal, la perception de l'accessibilité des TL varie selon les caractéristiques des types de postes occupés. Par exemple, des horaires peu flexibles pourraient limiter les possibilités d'accès à d'autres TL [10], les éliminant de fait des lieux perçus comme accessibles.

Lorsqu'un même TL est accessible, on relève, en outre, des écarts de fréquentation uniquement dans le cas du restaurant d'entreprise (ce qui avait déjà été identifié dans d'autres contextes [9]) et du restaurant classique, tandis que CPIS et ouvriers fréquentent les cinq autres TL sans écart significatif. Ainsi, les résultats de cette enquête suggèrent que les différences de perception des environnements de choix sont une piste prometteuse pour expliquer en partie les différences observées dans les comportements des travailleurs, et pourraient participer à éclairer les liens complexes entre CSP et alimentation.

Il serait ainsi intéressant de coupler l'approche retenue, se fondant sur la perception des répondants, avec des mesures objectives de leur environnement de choix. Une autre piste pertinente serait d'explorer dans quelle mesure les modalités d'organisation du travail participent à façonner ces perceptions, comme la flexibilité des horaires et leur contrôle. Des différences dans les conditions de travail sont en effet susceptibles d'influencer la perception de l'environnement de choix des travailleurs [10], qui impacterait en retour leur comportement et participerait à expliquer les écarts constatés entre CSP dans la présente étude.

Conclusion

Cette étude est la première, à notre connaissance, à chercher à qualifier les liens entre options disponibles et choix effectifs de lieux de déjeuner des salariés en France. Elle révèle d'importantes différences dans l'environnement de choix perçu des salariés français selon leur CSP. Si une exploration approfondie des raisons de ces écarts est nécessaire, nos résultats pointent vers les environnements de choix

comme une piste prometteuse pour éclairer les liens entre CSP et alimentation au travail, et plaident pour leur prise en compte lors de la mise en place d'interventions sur l'offre alimentaire sur le lieu de travail.

Déclaration de liens d'intérêts

Étude en partie financée par APICIL et Elior Entreprises.

À RETENIR

- Des salariés français ont été interrogés via un questionnaire en ligne sur les types de lieux auxquels ils avaient accès pour déjeuner, et leur fréquentation de ces lieux.
- Les environnements de choix perçus varient largement entre cadres et ouvriers, ce qui impacte leurs comportements.
- Il paraît nécessaire de prendre en compte les environnements de choix des travailleurs lors de la mise en place d'interventions sur l'offre alimentaire sur le lieu de travail.

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Appendix D. FENS poster



RESEARCH
Science & Innovation



Flexibility in work time impacts workers' lunch habits

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CONTEXT

- A widely held view in developed countries is that people are increasingly busy¹
- Lack of time has been associated to unhealthy diet²
- Although workplaces are advocated as promising venues to promote healthy lifestyles³, they are also places where time is likely to be especially constrained for individuals. Yet, we know very little about the consequences of time constraints on eating behaviors at work

PURPOSE OF THIS STUDY

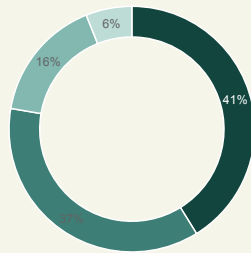
Investigate the relationships between two time-related working conditions, flexibility and control, and lunch habits

METHODS

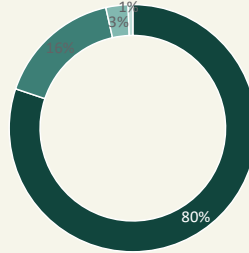
A questionnaire was developed and administered to French wage-earning workers (n=1139). Respondents were asked about their lunch behavior over a 2-week period prior to the questionnaire and about their time constraints. Stratified sampling was used based on gender, age and socioeconomic status (SES)

RESULTS

I felt hurried during my lunch break



I skipped lunch because of work



Legend: ■ Never ■ Sometimes ■ Often ■ Always

45% of respondents had a **strict lunch schedule**

Almost **60%** of respondents **felt hurried** during lunch, with varying recurrence

1 in 5 skipped lunch at least once because of workload

Lack of flexibility increases **feeling of hurriedness** while flexibility is linked to **reductions in lunch duration**, both of which likely to impact lunch purchase choices and eating behaviors

	I felt hurried during my lunch break				I shortened my lunch break as much as possible due to work				I skipped lunch because of work				VIF
	B	95% CI	β	t	B	95% CI	β	t	B	95% CI	β	t	
Flexible lunch schedule	-.184	[-.293 -.075]	-.102**	-3.315	.207	[.110 .304]	.127***	4.200	.137	[.073 .200]	.129***	4.195	1.095
Schedule controlled by employer	.023	[-.052 .098]	.018 n.s.	.597	.034	[-.033 .102]	.030 n.s.	1.009	.033	[-.011 .077]	.044 n.s.	1.456	1.037
SES	-.061	[-.111 -.011]	-.075*	-2.401	-.125	[-.170 -.081]	-.170***	-5.554	.001	[-.028 .030]	.002 n.s.	.059	1.132

Multiple regression analyses summary. *** p<.0001 ** p=.001 * p<.05 n.s.: non significant

PERSPECTIVES

Significant correlations between SES and flexibility of lunch schedule and control call for further investigation of these factors in controlled settings (although no collinearity issue was found in model) (currently underway)

Further analyses of data will investigate relationships between time-related lunch habits and location of lunch purchase, one of the first steps of lunch during the workday

¹Szollós, 2009; ²Welch et al., 2009; ³Wanjenk, 2005

Appendix E. Online experiment

08/08/2019

https://app.evalandgo.com/edit/print_content.php

Vos informations

1.

Êtes-vous actuellement salarié(e) ?

On entend par salarié(e) une personne liée à un employeur par un contrat de travail, quels que soient la durée ou le type de contrat

*

- Oui
 Non

2.

Êtes-vous travailleur itinérant ?

On entend par travailleur itinérant un employé qui travaille principalement à l'extérieur des locaux de son entreprise, comme certains commerciaux, les chauffeurs-livreurs, les visiteurs médicaux...

*

- Oui
 Non

3.

Habituellement, travaillez-vous en horaires alternés ?

On entend par horaires alternés des horaires comme le 2×8 ou 3×8

*

- Oui
 Non

4.

Habituellement, travaillez-vous en horaires coupés ?

On entend par horaires coupés une journée de travail comprenant deux périodes de travail, séparées de 3 heures ou plus. Par exemple, de 10h à 14h puis de 18h à 21h.

*

- Oui
 Non

https://app.evalandgo.com/edit/print_content.php

1/29

5.
Dans votre emploi principal, travaillez-vous habituellement entre minuit et 7h du matin ?

*

- Oui
 Non

6.
Votre journée de travail habituelle comprend-elle la période du déjeuner ?

*

- Oui
 Non

7.

Pendant vos jours travaillés, vous arrive-t-il d'acheter votre déjeuner au moment de votre pause (peu importe où vous l'achetez : restaurant d'entreprise, vente à emporter, supermarché...) :

*

- Jamais
 Parfois
 Souvent
 Toujours

Il est important que vous preniez connaissance des définitions suivantes :

8.

Le temps de repas : le temps qui commence dès que vous vous mettez en chemin avec l'objectif d'aller déjeuner et qui se termine lorsque votre repas est consommé. Si vous faites d'autres activités avant de déjeuner (exemple : vous allez faire une course avant de vous rendre au restaurant d'entreprise), cela ne fait pas partie de votre temps de repas. En revanche, si vous faites quelque chose tout en allant manger ou en mangeant (exemple : téléphoner sur le chemin de la cafétéria), cela est inclus dans votre temps de repas.

Pour information, pendant une journée de travail, le temps de repas est en moyenne de 35 minutes pour un salarié français.

Quelle est habituellement la durée de votre temps de repas ?

*

Réponse attendue en minutes

9.

La durée rigide : la durée maximale de votre temps de repas est déterminée par votre employeur. Votre entreprise contrôle vos temps de travail et de pause. Vous devez badger dès que vous prenez votre pause déjeuner et à la fin de celle-ci grâce à un système d'enregistrement d'arrivée et de départ mis à votre disposition par votre entreprise.

La durée flexible : la durée de votre repas est déterminée par vous-même. Vous êtes libre d'organiser votre temps de déjeuner et de travail comme vous l'entendez. Vous n'êtes soumis à aucun contrôle d'horaires (vous arrivez et partez comme vous voulez).

La durée de vos temps de travail et de pause est plutôt :

*

- Rigide
 Flexible

10.

La pression temporelle : vous manquez de temps pour prendre votre repas et vous ressentez le besoin de vous dépêcher pour ne pas être en retard.

L'absence de pression temporelle : votre temps de déjeuner est suffisant pour obtenir votre repas et le consommer.

Evaluez la pression temporelle que vous ressentez habituellement lors du temps de repas au travail avec le curseur ci-dessous.

*

Absence de pression temporelle
Pression temporelle élevée

- NSP (Ne Sais Pas)

Situation 1

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **8 minutes**.

11.

Combien êtes-vous prêt(e) à payer **au maximum, en plus des 10 € du repas**, pour que votre panier repas soit livré **en 2 minutes** (au lieu des 8 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Ok

12.

Dans cette même situation :

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer **au maximum, en plus des 10 € du repas**, pour que votre panier repas soit livré **en 6 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 2

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **20 minutes**.

13.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes** (au lieu des 20 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

14.

Dans cette même situation

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 3

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **8 minutes**.

15.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 2 minutes** (au lieu des 8 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

16.

Dans cette même situation

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 6 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 4

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **20 minutes**.

17.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

18.

Dans cette même situation

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 5

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **8 minutes**.

19.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 2 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

20.

Dans cette même situation

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous ressentez de la **pression temporelle** (vous manquez de temps, vous devez vous dépêcher).
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 6 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 6

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

21.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

22.

Dans cette même situation

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 7

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **8 minutes**.

23.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 2 minutes** (au lieu des 8 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

24.

Dans cette même situation

- Votre temps de repas est de **20 minutes**.
- La durée de votre temps de repas est **flexible** (vous arrivez et partez comme vous le voulez).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 6 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 8

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

25.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes** (au lieu des 20 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

26.

Dans cette même situation

- Votre temps de repas est de **50 minutes**.
- La durée de votre temps de repas est **rigide** (durée imposée, vous devez badger, vous êtes contrôlé(e)).
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 9

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner)
- L'offre standard vous sera livrée en **8 minutes**.

27.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 2 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

28.

Dans cette même situation

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner)
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 6 minutes** (au lieu des 8 minutes) ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 10

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Néanmoins, vous **manquez** de temps pour prendre votre repas et vous ressentez le besoin de vous **dépêcher** pour ne pas être en retard.
- L'offre standard vous sera livrée en **20 minutes**.

29.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

30.

Dans cette même situation

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Néanmoins, vous **manquez** de temps pour prendre votre repas et vous ressentez le besoin de vous **dépêcher** pour ne pas être en retard.
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes) ?**

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 11

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

31.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 5 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Ok

32.

Dans cette même situation

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Vous **ne ressentez pas** de pression temporelle (Vous disposez d'un temps de repas suffisant pour déjeuner).
- L'offre standard vous sera livrée en **20 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 15 minutes (au lieu des 20 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 20 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

Situation 12

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Néanmoins, vous **manquez** de temps pour prendre votre repas et vous ressentez le besoin de vous **dépêcher** pour ne pas être en retard.
- L'offre standard vous sera livrée en **8 minutes**.

33.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 2 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

34.

Dans cette même situation

- Votre temps de repas **n'est pas imposé** par votre entreprise.
- Néanmoins, vous **manquez** de temps pour prendre votre repas et vous ressentez le besoin de vous **dépêcher** pour ne pas être en retard.
- L'offre standard vous sera livrée en **8 minutes**.

Combien êtes-vous prêt(e) à payer au **maximum, en plus des 10 €** du repas, pour que votre panier repas soit livré **en 6 minutes (au lieu des 8 minutes)** ?

Si vous cochez 0, cela signifie que vous ne payez pas pour l'offre express, et que vous êtes livré(e) en 8 minutes. Si vous cochez 5 €, vous payez 5 € en plus des 10 € de votre repas, soit 15 € au total.

Vous avez tout le temps nécessaire pour choisir vos réponses.

*

- 0 €
- 0,5 €
- 1 €
- 1,5 €
- 2 €
- 2,5 €
- 3 €
- 3,5 €
- 4 €
- 4,5 €
- 5 €

35.

Avez-vous eu tout le temps que vous vouliez pour répondre aux questions ?

*

- Oui
- Non

Questions sociodémographiques

36.

Êtes-vous ?

*

- Une femme
- Un homme

37.

Quel âge avez-vous ?

*

38.

A quelle catégorie socioprofessionnelle appartenez-vous ?

*

- Agriculteurs, exploitants
- Artisans, commerçants, chefs d'entreprise
- Cadres, professions intellectuelles supérieures (par exemple : professeur de l'enseignement supérieur, ingénieur, journaliste, contrôleur de gestion)
- Professions intermédiaires (par exemple : assistant de direction, agent de maîtrise, instituteur)
- Employés (par exemple : auxiliaire de puériculture, agent de sécurité, secrétaire, esthéticien)
- Ouvriers (par exemple : soudeur, couvreur, magasinier, agent de propreté)

39.

Quel est votre diplôme le plus élevé ?

*

- Pas de diplôme
- CAP, BEP, brevet
- Baccalauréat général, technologique ou professionnel
- Diplôme de niveau bac+3 ou bac +4: licence, master 1
- Diplôme de niveau bac +5 et plus: master 2, doctorat, Grande Ecole

40.

Vous vivez :

*

- Seul(e)
- En couple (marié ou non)
- Chez des parents
- En colocation

41.

En moyenne, quel est votre revenu net mensuel ?

*

- Moins de 1100 €
- Entre 1101 et 1500 €
- Entre 1501 et 1800 €
- Entre 1801 et 3100 €
- Plus de 3100 €
- Je ne sais pas
- Je ne souhaite pas répondre

42.

Quels sont les dispositifs mis en place par votre entreprise pour le déjeuner ?

*

- Tickets restaurant
- Restaurant d'entreprise
- Local avec équipements pour déjeuner sur place (réfrigérateur, micro-ondes, vaisselle...)
- Espace sans équipement
- Autre
- Rien

43.

Avez-vous des commentaires ?

Questions sociodémographiques

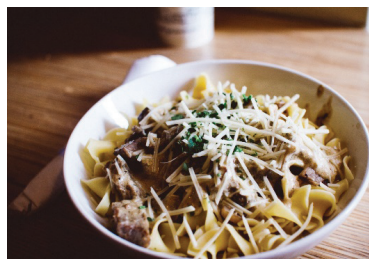
44.

Vous avez coché "autre", veuillez préciser le dispositif mis en place par votre entreprise pour le déjeuner

*

Appendix F. Recruitment leaflet (field study)

VOUS MANGEZ OÙ CE MIDI ?



Vous avez l'habitude d'acheter votre déjeuner pendant votre journée de travail ?

Nous recherchons des participants pour une étude **sur les habitudes de déjeuner**.

Votre participation consistera à répondre à un **bref questionnaire**, chaque jour après le déjeuner, pendant deux semaines (uniquement les jours où vous travaillez), directement sur votre smartphone.

Cette étude s'inscrit dans un **projet de recherche**, et est indépendante de ST Electronics et d'Elior. Vos réponses sont **strictement confidentielles**.

Pour plus d'informations ou pour vous inscrire :

- Téléchargez notre application 'Institut Paul Bocuse Food and Lifestyle Observatory'
 - Contacter la chercheuse responsable du projet :

Camille Massey, doctorante Institut Paul Bocuse / Université Lyon 1 sous la direction de Laure Saulais, professeur agrégée à l'Université Laval (Canada)

(camille.massey@institutpaulbocuse.com, 06.62.24.39.74)

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Appendix G. Confirmation email (field study)

Bonjour,

Merci de votre intérêt pour ma recherche. Votre inscription a bien été prise en compte.

Pour vous guider dans l'utilisation de Flow, vous trouverez en pièce jointe le livret d'information.

Vous trouverez également en pièces jointes les formulaires de consentement. Je vous invite à les lire attentivement. Vous pouvez me retourner le formulaire de consentement concernant les données d'achat signé par retour de mail, ou le déposer au stand à l'entrée du bâtiment de restauration lors de la pause déjeuner.

L'enquête est désormais ouverte, et vous pourrez y répondre dès votre retour de déjeuner aujourd'hui.

Le **mot de passe** pour accéder à l'enquête sur Flow est le suivant : **Dejeuner2020 (sans accent)**.

Vous pouvez répondre à l'enquête **entre 11h30 et 16h30, chaque jour ouvré du 27 janvier au 7 février**.

N'oubliez pas :

Trois questionnaires complétés : un **café offert** au Green Café

Six questionnaires complétés : un **dessert offert** dans l'un des restaurants (Green Café, L'Etage, Le Cosy)

Dix questionnaires complétés : un **repas offert** dans l'un des restaurants (Green Café, L'Etage, Le Cosy)

Venez me voir ou ma collègue Hanène pour récupérer votre bon cadeau.

Quelques rappels :

- Si vous n'avez pas encore transmis votre **formulaire de consentement** sur l'accès à vos données d'achat, je vous invite à le faire dès que possible (par mail ou en me le déposant lors de votre pause déjeuner). J'ai également des exemplaires imprimés disponibles, n'hésitez pas à venir vers moi pour en récupérer un.
- N'oubliez pas de faire une **photo de votre ticket de caisse**. Si vous avez accepté que j'accède à vos données d'achat, vous n'êtes pas concerné-e et pourrez passer cette étape.
- N'oubliez pas de remplir votre **profil utilisateur** (petit bonhomme en haut à gauche de l'application, rubrique 'modifier mon profil')
- Une fois que vous avez complété le questionnaire quotidien, n'oubliez pas de synchroniser vos données, en allant sur votre profil utilisateur et en cliquant sur '**synchroniser mes données**'.

En cas de question ou de difficultés, n'hésitez pas à me contacter, en répondant à ce mail, en m'appelant au 0662243974, ou en passant me voir au Green Café !

Merci!

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Appendix H. Participant consent form (field study)

FEUILLET D'INFORMATION POUR UN CONSENTEMENT IMPLICITE ET CONFIDENTIEL

TITRE DE LA RECHERCHE :	Contraintes de temps et choix du lieu de déjeuner pendant la journée de travail
CHERCHEUR PRINCIPAL :	Camille Massey, Université Lyon 1, Centre de Recherche de l'Institut Paul Bocuse
CONTEXTE DU PROJET :	Projet de doctorat, dirigé par Dr. A. Giboreau ¹ et Dr. L. Saulais ² ¹ Université Lyon 1 ² Université Laval (Canada)

RENSEIGNEMENTS SUR LE PROJET :

Notre projet de recherche vise à explorer les liens qui peuvent exister entre les contraintes de temps durant la journée de travail et les habitudes de déjeuner des salariés.

Les résultats de cette recherche permettront de mieux comprendre dans quelle mesure les contraintes de temps impactent les habitudes de déjeuner des salariés, et si cela a des conséquences sur leur expérience du déjeuner/leur bien-être. Peu de recherches ont été conduites sur le déjeuner sur le lieu de travail, bien que l'on suppose que ce moment est important pour favoriser le bien-être chez les salariés. Ce projet vise à améliorer les connaissances sur le sujet.

VOTRE PARTICIPATION :

Votre participation à cette recherche consistera à remplir à votre retour de déjeuner chaque jour travaillé pendant deux semaines un questionnaire portant sur le ou les lieu(s) que vous avez fréquenté(s) pour le déjeuner, les contraintes de temps que vous avez rencontrées, et votre ressenti sur votre pause déjeuner. Cette recherche se déroulera sur une période de deux semaines, soit un total de 10 jours travaillés. L'intégralité de l'enquête se fera depuis votre téléphone portable, à partir de l'application téléchargeable gratuitement « Flow ». Vous recevrez chaque jour de la semaine une notification à 14h30 pour vous inviter à participer. Vous pourrez compléter le questionnaire chaque jour entre 12h30 et 16h.

Vous êtes libre de ne pas participer chaque jour.

A l'issue de la période d'enquête, il vous sera demandé de compléter un bref questionnaire de 10 questions sur vous et les caractéristiques de votre emploi.

Bien que les réponses à chacune des questions soient importantes pour la recherche, vous demeurez libre de choisir de ne pas répondre à l'une ou l'autre d'entre elles ou encore de mettre fin à votre participation à tout moment, sans avoir à vous justifier.

Si vous décidez de mettre fin à votre participation, il est important d'en prévenir le chercheur dont les coordonnées sont incluses dans ce document. A cette occasion celui-ci vérifiera si vous l'autorisez à conserver vos données et à les utiliser pour la recherche, malgré votre retrait. Si vous refusez, elles seront détruites. Si vous acceptez, elles seront conservées selon les mesures décrites ci-après et qui seront appliquées pour tous les participants.

Compensation

Pour vous remercier de votre participation, vous recevrez les avantages suivants :

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- Une boisson chaude offerte au Green Café pour 3 questionnaires complétés
- Un dessert offert sur un des sites de restauration de votre choix pour 6 questionnaires complétés (dessert au choix parmi les offres proposées, montant maximal : euros)
- Un repas offert sur un des sites de restauration de votre choix pour 10 questionnaires complétés
- Un moment de convivialité sera proposé pour la présentation des résultats, en présence de la chercheuse (courant avril)

CONFIDENTIALITÉ

Les chercheurs sont tenus d'assurer la confidentialité aux participants. A cet égard, voici les mesures qui seront appliquées dans le cadre de la présente recherche :

Durant la recherche :

- votre nom sera remplacé par un code dans tout le matériel et les données de la recherche contenant des renseignements personnels;
- seul le chercheur aura accès à la liste contenant les noms et les codes, elle-même conservée séparément du matériel de la recherche et des données;
- tout le matériel de la recherche sera conservé dans un tiroir fermé à clé, dans un local sous clé;
- les données en format numérique seront, pour leur part, conservées dans des fichiers encryptées dont l'accès sera protégé par l'utilisation d'un mot de passe et auquel seul le chercheur aura accès;

Lors de la diffusion des résultats :

- les noms des participants ne paraîtront dans aucun rapport;
- les résultats seront présentés sous forme globale de sorte que les résultats individuels des participants ne seront jamais communiqués;
- les résultats de la recherche seront publiés dans des revues scientifiques, et aucun participant ne pourra y être identifié ;
- un court résumé des résultats de la recherche sera expédié aux participants qui en feront la demande au chercheur dont les coordonnées sont fournies dans le présent document.

Après la fin de la recherche :

- la liste des noms et des codes sera détruite afin que les données qui seront utilisées dans le cadre d'autres recherches, soient rendues anonymes sans possibilité absolue d'identifier les participants les ayant fournies.

REMERCIEMENTS :

Votre collaboration est précieuse pour nous permettre de réaliser cette étude. C'est pourquoi nous tenons à vous remercier pour le temps et l'attention que vous acceptez de consacrer à votre participation.

ATTESTATION DU CONSENTEMENT :

*Ce projet a été approuvé par le Comité d'éthique de la recherche de l'Université Laval :
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Le simple retour du questionnaire rempli sera considéré comme l'expression implicite de votre consentement à participer au projet.

RENSEIGNEMENTS SUPPLÉMENTAIRES:

Si vous avez des questions sur la recherche, sur les implications de votre participation, pour se retirer du projet ou pour recevoir un résumé des résultats, veuillez communiquer avec Camille Massey (camille.massey@institutpaulbocuse.com, 06.62.24.39.74)

PLAINTES OU CRITIQUES :

Si vous avez des plaintes ou des critiques relatives à votre participation à cette recherche, vous pouvez vous adresser, en toute confidentialité, au bureau de l'Ombudsman de l'Université Laval aux coordonnées suivantes :

Pavillon Alphonse-Desjardins, bureau 3320
2325, rue de l'Université
Université Laval
Québec (Québec) G1V 0A6
Renseignements - Secrétariat : (418) 656-3081
Ligne sans frais : 1-866-323-2271
Courriel : info@ombudsman.ulaval.ca

*Ce projet a été approuvé par le Comité d'éthique de la recherche de l'Université Laval :
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Appendix I. Participant consent (sales data, field study)

FEUILLET D'INFORMATION POUR UN CONSENTEMENT EXPLICITE ET CONFIDENTIEL

TITRE DE LA RECHERCHE :	Contraintes de temps et choix du lieu de déjeuner pendant la journée de travail
CHERCHEUR PRINCIPAL :	Camille Massey, Université Lyon 1, Centre de Recherche de l'Institut Paul Bocuse
CONTEXTE DU PROJET :	Projet de doctorat, dirigé par Dr. A. Giboreau ¹ et Dr. L. Saulais ² ¹ Université Lyon 1 ² Université Laval (Canada)

Données d'achat

Dans le cadre de cette étude, nous vous demanderons de renseigner le lieu, l'heure, et le montant de votre achat de déjeuner. Si vous l'acceptez, ces informations pourront nous être fournies par le prestataire du service de restauration. Ces informations seront traitées de façon strictement confidentielles, et ne seront jamais transmises à votre employeur ni au prestataire de façon nominative. Si vous ne l'acceptez pas, nous vous demanderons de charger sur l'application une photo de votre ticket de caisse.

- J'accepte que mes données d'achat de déjeuner (lieu, heure, montant total du repas) soient partagées par le prestataire, uniquement dans le cadre de cette recherche et pour un traitement non nominatif
- Je n'accepte PAS

*Ce projet a été approuvé par le Comité d'éthique de la recherche de l'Université Laval :
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Appendix J. 'Flow' app notice



Déjeuner au travail Enquête avec l'application FLOW : Comment ça marche ?

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1



1 Téléchargement de l'application

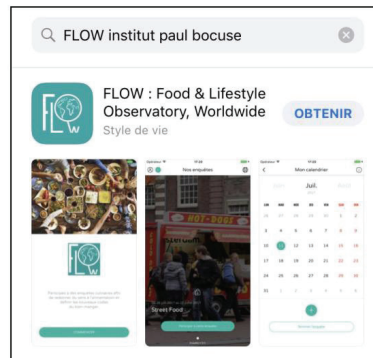
2

Téléchargement



L'application est téléchargeable gratuitement depuis les stores Android et iPhone.

Mots clés : FLOW Institut Paul Bocuse



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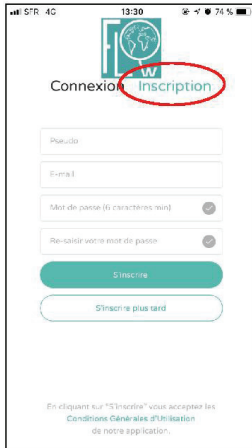
3



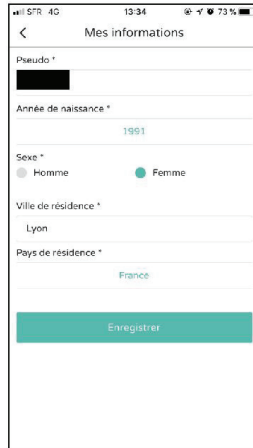
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2 Inscription

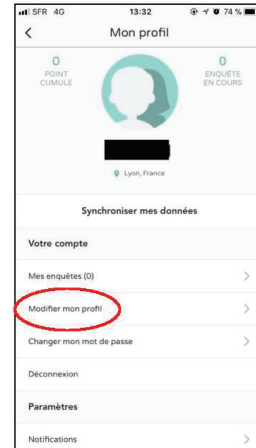
Inscription et Profil



Vous pouvez utiliser l'adresse email de votre choix (professionnelle ou personnelle)



Renseignez votre profil utilisateur

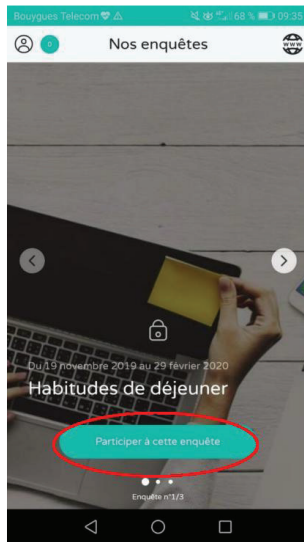


Vous pouvez modifier vos informations dans la rubrique 'modifier mon profil'

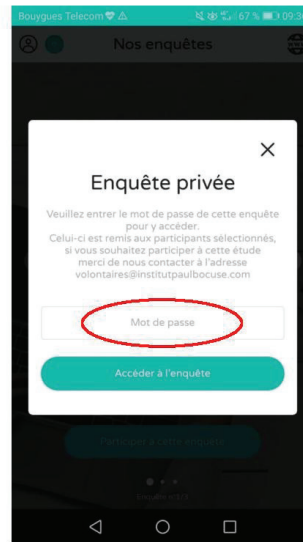


3

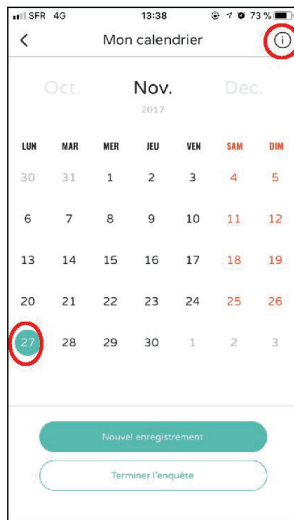
Démarrage de l'enquête



Sélectionnez l'étude 'Habitudes de déjeuner'



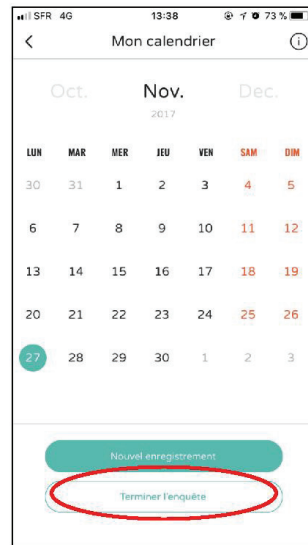
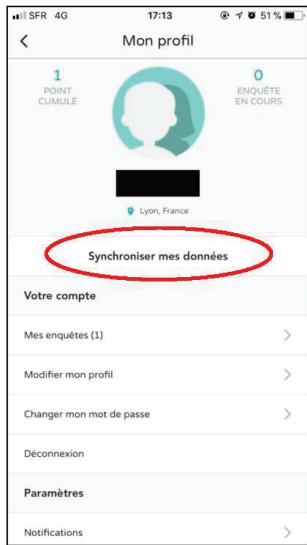
Un mot de passe vous sera demandé.
Vous le recevrez dans le mail vous annonçant le démarrage de l'étude



Sélectionnez la date du jour pour commencer à répondre au questionnaire
Pour revoir le **tutoriel**, appuyer sur l'icône « i ».
Vous retrouvez les informations et consignes données au début de l'enquête.
A n'importe quel moment !

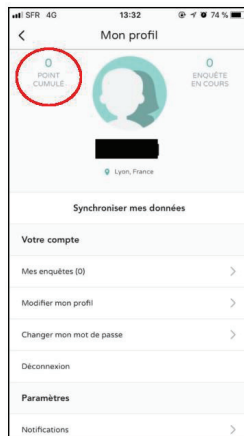


Chargez une photo de votre ticket de caisse de déjeuner du jour
Si vous avez accepté que nous récupérions cette information directement auprès du prestataire, vous n'êtes pas concerné.e par cette étape



Une fois que vous avez répondu au questionnaire quotidien, allez sur votre profil pour synchroniser vos données
Cette étape est très importante, elle nous permet de recevoir vos réponses

Le dernier jour, allez sur 'terminer l'enquête', répondez aux dernières questions, puis synchronisez vos données






A chaque questionnaire complété, vous gagnez
 1 point
 Le solde de points est visible sur votre profil
3 points = 1 café offert
6 points = 1 dessert offert
10 points = 1 repas offert

MERCI !

Vous avez des questions ?

Vous pouvez joindre la chercheuse
responsable de l'étude, Camille Massey :
Camille.massey@institutpaulbocuse.com
06.62.24.39.74

Appendix K. Daily questionnaire (field study)

Bouygues Telecom    84 % 18:34


Questionnaire

Où avez-vous acheté votre déjeuner aujourd'hui ?

- Au Green Café
- A L'Étage
- Au Cosy
- Dans un distributeur automatique
- Dans un supermarché ou une supérette autour de mon lieu de travail
- Dans des lieux qui proposent principalement de la vente à emporter (type boulangerie, restaurants offrant des formules à emporter, traiteur, food trucks...)
- Dans un restaurant avec service à table

- Sur internet, pour me faire livrer sur mon lieu de travail
- Je l'ai fait chez moi (ou quelqu'un l'a fait pour moi)
- J'ai demandé à des collègues de me ramener à manger
- Autre :

Suivant



Questionnaire

Où avez-vous consommé votre déjeuner ?

- Au Green Café
- A L'Étage
- Au Cosy
- Dans un parc, square, zone extérieure
- A mon poste de travail
- Dans un restaurant
- Dans la rue, en marchant
- Chez moi
- Autre :

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez utilisé votre pause déjeuner pour faire des activités personnelles (en plus ou à la place du déjeuner)

- Oui
- Non

Précédent

Suivant

Questionnaire

Aujourd'hui, vous vous êtes senti.e
pressé.e à l'heure du déjeuner

- Oui
- Non

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez réduit au maximum la durée de votre déjeuner à cause de ce que vous aviez à faire au travail

- Oui
- Non

Précédent

Suivant



Questionnaire

Aujourd'hui, vous avez réduit au maximum la durée de votre déjeuner à cause d'obligations ou d'activités personnelles

- Oui
- Non

Précédent

Suivant

Questionnaire

Aujourd'hui, vous auriez aimé avoir plus de temps pour déjeuner

- Oui
- Non

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez un temps
suffisant pour effectuer correctement
votre travail

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, on vous demande
d'effectuer une quantité de travail
excessive

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez l'impression de ne pas avoir le temps de faire tout ce que vous avez à faire au travail

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez l'impression de ne pas avoir le temps de faire tout ce que vous avez à faire à la maison

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez le sentiment d'avoir décidé de ce que vous feriez pendant votre pause déjeuner

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, votre pause déjeuner a été un moment de récupération

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, après votre pause déjeuner, vous vous sentez prêt·e à vous remettre au travail

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, vous avez fait ce que vous vouliez pendant votre pause déjeuner

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, après votre pause déjeuner, vous vous sentez plein d'énergie

- Pas du tout d'accord
- Pas d'accord
- D'accord
- Tout à fait d'accord

Précédent

Suivant

Questionnaire

Aujourd'hui, quel est votre niveau de satisfaction vis-à-vis de votre pause déjeuner ?

- Pas du tout satisfait
- Pas satisfait
- Satisfait
- Très satisfait

Précédent

Suivant

Questionnaire

Aujourd'hui, vous étiez présent.e sur le site de ST Grenoble

- Oui
- Non

Précédent

Terminer

Appendix L. Final questionnaire (field study)

Bouygues Telecom

77 % 19:06

Questionnaire

A quelle catégorie socioprofessionnelle appartenez-vous ?

- Cadres, professions intellectuelles supérieures (par ex : professeur de l'enseignement supérieur, ingénieur, journaliste, contrôleur de gestion)
- Professions intermédiaires (par ex : assistant de direction, agent de maîtrise, instituteur)
- Employés (par ex : auxiliaire de périculture, agent de sécurité, secrétaire, esthéticien)
- Ouvriers (par ex : soudeur, couvreur, magasinier, agent de propreté)

Suivant

Questionnaire

Vous supervisez une ou plusieurs personnes

- Oui
- Non

Précédent

Suivant

Questionnaire

Quel type de contrat de travail
avez-vous ?

- CDI
- CDD
- Autre :

Précédent

Suivant

Questionnaire

De quelle manière sont fixés vos horaires ?

- Ils sont fixés par l'entreprise, sans possibilités de changement
- Vous pouvez adapter vos horaires de travail dans une certaine limite
- Vos horaires de travail sont entièrement déterminés par vous-même

Précédent

Suivant

Questionnaire

A quel type de contrôle d'horaires
êtes-vous soumis ?

- Aucun contrôle
- Horloge pointeuse , badge
- Signature, fiche horaire et assimilé

Précédent

Suivant

Questionnaire

Vous avez des horaires stricts pour déjeuner

- Oui
- Non

Précédent

Suivant

Questionnaire

En moyenne, quel est votre revenu net mensuel ? (c'est-à-dire le salaire que vous percevez de votre employeur)

- Moins de 1100€
- Entre 1101€ et 1500€
- Entre 1501€ et 1800€
- Entre 1801€ et 3100€
- Plus de 3101€
- Je ne sais pas
- Je préfère ne pas répondre

Précédent

Suivant

Questionnaire

Vous vivez :

- Seul.e
- En couple (marié ou non)
- Chez des parents
- En colocation

Précédent

Suivant

Questionnaire

Des enfants âgés de moins de 18 ans vivent-ils actuellement avec vous ? Si oui, combien ?

Oui (précisez combien dans "autre")

Non

Autre :

Précédent

Terminer

Appendix M. Domestic provisioning (online survey)

In the last two weeks, on the days you worked, how often did you bring lunch from your home?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	351	30.8	30.8
	Sometimes	197	17.3	48.1
	Often	275	24.1	72.3
	Always	316	27.7	100.0
	Total	1139	100.0	100.0

In the last two weeks, on the days you worked, how often did you eat lunch at your house?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	169	14.8	37.3
	Sometimes	95	8.3	58.3
	Often	89	7.8	77.9
	Always	100	8.8	100.0
	Total	453	39.8	100.0
Missing	System ¹⁴	686	60.2	
Total		1139	100.0	

¹⁴ Missing system: respondents who reported that going home for lunch was not possible

Appendix N. Eating lunch at one's desk

In the last two weeks, on the days you worked, how often did you eat your lunch at your workstation?

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Never	227	19.9	34.3	34.3
	Sometimes	192	16.9	29.0	63.3
	Often	141	12.4	21.3	84.6
	Always	102	9.0	15.4	100.0
	Total	662	58.1	100.0	
Missing	System ¹⁵	477	41.9		
Total		1139	100.0		

		Ate at their desk (%)	p value
Felt rushed	Yes	15.6%	<.05
	No	0.6%	
Shortened lunch because of work	Yes	13.5%	<.05
	No	1.8%	
Shortened lunch because of personal activities	Yes	11.8%	<.05
	No	2.3%	

Table 34: Proportion of participants in field study who ate at their desk by time pressure and adaptive behavior (N=208, lunch occurrences)

¹⁵ Missing system: respondents who reported that eating at their workstation was not possible