Chapitre 4: Article 2 - Waiting for action: A dynamic study of workplace boredom in firefighting

Résumé en français

Le quotidien du pompier peut être ennuyant: aussi peu que 10 pour cent du temps des pompiers serait dédié à des interventions d'urgence et, par conséquent, plus de 90 pour cent de leur temps serait occupé par des activités non urgentes. La littérature scientifique indique que les tâches de routine et les longues périodes d'attente pourraient être particulièrement fastidieuses pour cette population. Cette étude vise donc à répondre aux questions suivantes: comment l'ennui se manifeste-t-il dans les casernes, et quels facteurs influencent sa perception par les pompiers ? Grâce à une approche ethnographique composée de séquences d'observation et d'entrevues individuelles, l'étude montre qu'un contexte organisationnel caractérisé par peu de demandes est perçu comme plus fatigant qu'un quotidien surchargé d'interventions. L'étude souligne aussi que l'ennui chronique conduit à un cercle vicieux dans lequel les individus deviennent de moins en moins en mesure de gérer le temps consacré aux activités non urgentes. Alors que d'autres études ont principalement porté sur les réactions des pompiers dans les situations d'urgence, cette recherche met en lumière leurs réactions à l'ennui et offre des pistes d'action tangibles.

Abstract

Firefighting can be boring: firefighters can spend as little as 10 percent of their time on emergency response and, consequently, over 90 percent of their time is can be occupied by non-urgent activities. Research indicates that routine tasks and long waiting periods may hit firefighters particularly hard. As such, this study aims to answer the following questions: How is boredom manifested in fire stations, and what factors influence its perception by firefighters? Through an ethnographic approach and using extended sequences of participant observation and individual interviews, the study shows that an organizational context where low demands are systematically expected is perceived as more tiring than being constantly overloaded by firefighting activities. The study highlights that being chronically bored leads to a vicious circle in which individuals become less and less able to manage time spent on non-

urgent activities. Whereas other studies have mainly focused on firefighters' reactions in emergency situations, this research sheds light on their reactions to boredom and offers tangible managerial courses of action.

Keywords: Boredom, emergency services, workload, work underload, job crafting, ethnography.

4.1 Context

Although firefighting is often thought of as an exciting job, there is another side to this medal: boredom. An Australian study estimated that as little as 10 percent of firefighters' time is spent on emergency response and, consequently, over 90 percent of their time is occupied by non-urgent activities (Childs et al., 2004). More often than not, contemporary firefighting is about fire prevention, answering false alarms, and most frequently, it is about filling time while waiting for the alarm to ring (Regehr & Bober, 2005; Watt, 2002). This "clean" work is scarcely studied: it represents the various activities that firefighters do daily outside of fighting fires. If successful, these activities reduce the occurrence of future fires and other incidents (Childs et al., 2004). A smaller number of emergency situations is good for a society: fewer fires means fewer lives lost and fewer costs related to property damage.

However, for firefighters, these circumstances mean less time dedicated to what they were trained for: intervening in rapidly changing and very intense critical incidents (Colquitt et al., 2011; Gordon & Larivière, 2014). This small yet extreme part of firefighting has been thoroughly investigated, especially through the lens of post-traumatic stress disorder (PTSD) and coping (Haslam & Mallon, 2003; Heinrichs et al., 2014; Lerias & Byrne, 2003; McGurk et al., 2014; Regehr et al., 2003; Riolli & Savicki, 2012; Saijo et al., 2012; Shakespeare-Finch et al., 2015; Wagner, Heinrichs, & Ehlert, 1998). In contrast, very little is known about the organizational dynamics of the activities carried out in the fire station while waiting for calls, and most of what is known relates to either team cohesion or masculinities in firefighting (Bacharach et al., 2008; Landen & Wang, 2010; Thurnell-Read & Parker, 2008; Varvel et al., 2007; Yarnal et al., 2004). An even smaller number of studies have explored how prolonged exposure to low-risk tasks and waiting periods may lead to sustained workplace boredom (Childs et al., 2004; Regehr et al., 2003; Watt, 2002).

In organizational settings that are usually characterized by volatile conditions, 'clean work' is commonly perceived as boring for firefighters (Watt, 2002). Research suggests that routine tasks and long waiting periods could hit firefighters particularly hard. First, studies show that the experience of boredom is exacerbated when it follows a period of high stimulation: very few professions experience these fluctuations daily more than firefighters (Fisher, 1993; Mael & Jex, 2015; Regehr & Bober, 2005). These conditions of "hurry up and wait" could be particularly harmful to firefighters (Watt, 2002). Salters-Pedneault et al. (2010) have shown that firefighters' typical personality profile on the Big Five scale is associated with a higher need for stimulation than most people. Accordingly, they tend to have a decreased ability to generate their own stimulation. Also, expectations play an important part in the individual experience of boredom (Fisher, 1993; van Tilburg & Igou, 2012); given that firefighters are trained to expect extremely stimulating and dangerous situations, their prolonged exposure to workplace boredom when waiting for emergency calls could make them feel even more bored than other people under the same conditions (Fisher, 1998). These chronic feelings of boredom are unpleasant for firefighters and are also associated with serious repercussions on individuals' health and well-being and on organizational performance (Mael & Jex, 2015; Pekrun et al., 2010; Skowronski, 2012; Watt, 2002). Current research has linked boredom to, among other issues, low job satisfaction, work strain, decreased performance, counterproductive work behaviors, work-related accidents and staff turnover (Guglielmi et al., 2013; Harju et al., 2014; van Tilburg & Igou, 2012). Several researchers have pointed out that, regardless of the significance of these consequences, there is an overall lack of attention given to the phenomenon of workplace boredom by current management research (Guglielmi et al., 2013; Mael & Jex, 2015; Pekrun et al., 2010).

There are significant gaps in knowledge at the intersection of firefighting and workplace boredom. First, no Canadian study has investigated the whole range of firefighters' activity, which includes both time spent in the field and at the fire station, including organizational factors and dynamics that influence perceptions of workload. Second, no study yet has aimed to understand how boredom manifests itself in the context of firefighting, particularly in contrast with the high intensity interventions that occur during work shifts. The only related study, from Watt (2002), explored firefighters' boredom proneness using quantitative measures, and it did not link its findings with the dynamics of this unique emergency context. Third, most up-to-date research on this subject is achieved using questionnaires that may not

represent the full portrait of boredom in the unpredictable settings of emergency services (Carsten, 2014). There is a need for studies that investigate boredom in firefighting using in-depth qualitative techniques to broaden the understanding of this phenomenon, its manifestations, and its perceived repercussions, given that several types of occupations are characterized by such fluctuations.

As such, this study aims to answer the following questions: How is boredom manifested in fire stations, and what factors influence its perception by firefighters?

4.2 Workplace Boredom

Workplace boredom (WB) is hardly a novel topic of research. Studies dating back to the 1970s have investigated this phenomenon as relevant for theory and practice (Abramson & Stinson, 1977; Bernstein, 1975; Frankenhauser & Gardell, 1976). Since then, WB has become increasingly popular in management research (Fisher, 1993; Harju et al., 2014; Mael & Jex, 2015; Shackleton, 1981). Workplace boredom (WB) is a distinct common feeling. van Tilburg & Igou (2012, p. 191) have proposed that "Boredom […] involves feeling restless and unchallenged at the same time, while thinking that the situation serves no purpose". In the context of firefighting, the definition of a purposeful activity is straightforward: the more an action is directly related to emergency relief, the more it is likely to be perceived as meaningful (Regehr & Bober, 2005). Goldberg, Eastwood, LaGuardia, & Danckert (2011) have demonstrated that WB is empirically distinct from apathy, anhedonia, and depression. Fisher (1993) links boredom with low arousal and the symptoms of weariness, lethargy, fatigue and emptiness, while Harju et al. (2014) portray boredom as a state of high arousal (fidgety) and aggravation typified by feeling restless, irritable, and anxious. Feelings of restlessness and of meaninglessness may be particularly intense for firefighters. They train for years expecting to help citizens in critical and dangerous contexts (Malek et al., 2010; Prati et al., 2013); the reality of waiting for hours and filling time with maintenance tasks may instill powerful manifestations of WB.

According to Mael & Jex (2015), workplace boredom is not a homogenous phenomenon. WB may be experienced as an episodic state which is a "situation or experience that is sometimes boring and may at other times be engaging or stimulating" (p.136). Emergency work is usually an example of such situations, in which individuals may experience alternating periods of boredom and emergency relief

during their shifts. It may also be experienced as chronic boredom, in which an individual perceives his job as continually boring, as is the case in some factory assembly line jobs (Harju et al., 2014). While most firefighters experience episodic boredom, firefighters who operate in peripheral, low call volume contexts may experience chronic boredom (Regehr & Bober, 2005). Therefore, within a single occupation, workplace boredom may be perceived very differently according to a large variety of factors.

Despite this, workplace boredom is usually investigated as a fixed state using quantitative methods, which may or may not represent the complexity and the variability of this phenomenon. Quantifying WB as a stable state could take a representation of a particular instance that may not truthfully portray WB the next day or month (de Winter, 2014; Rubio-Valdehita et al., 2004). This study aims to understand the ongoing nature of WB and of the factors that influence its perception in firefighting, and will therefore use a dynamic model of workload understanding (Villeneuve, Fournier & Biron, submitted) to appreciate the versatile nature of WB in this profession (**Figure 1**). It addresses significant knowledge gaps in workload study. It allows to understand workload as a phenomenon subject to multiple dynamic variations, instead of a stable state in daily work. It integrates the complexity of the individual, collective and organizational factors that may influence workload perception. It can be used to study work overload and underload. Finally, it focuses on the active role of individuals in managing their workload: they are not passive recipients of their working conditions and have a role to play in their workload perceptions.

4.3 A Dynamic Framework of Workload Understanding

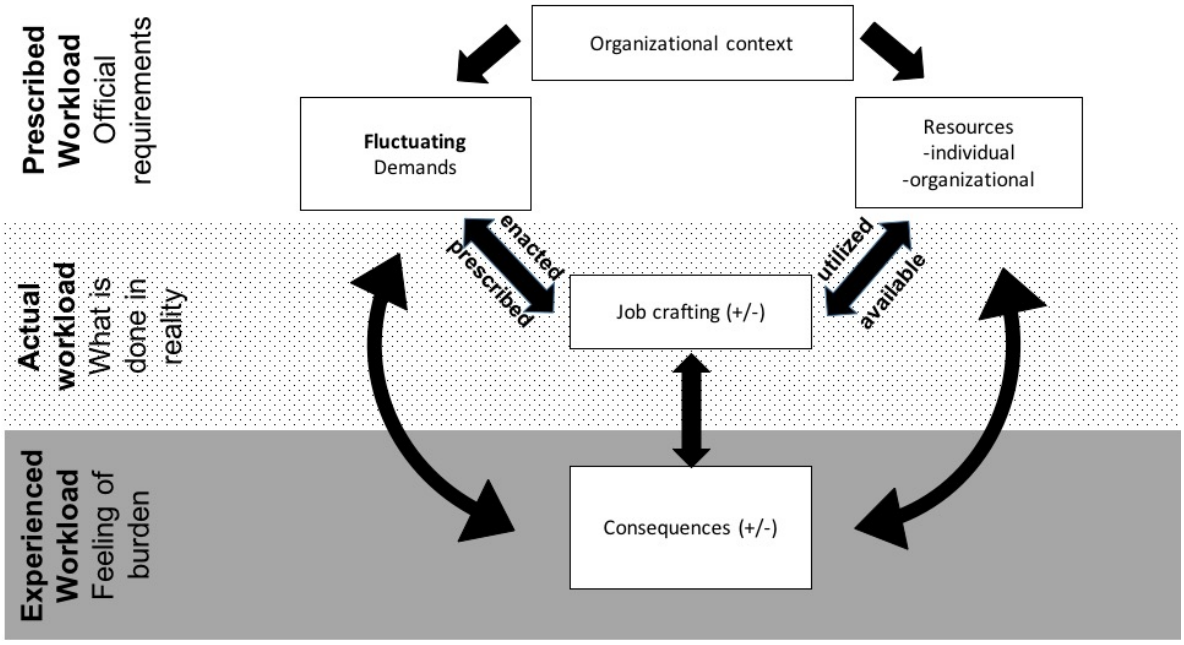

FIGURE 2 : ***A DYNAMIC FRAMEWORK OF WORKLOAD UNDERSTANDING***

This model combines the main elements of job crafting (Tims & Bakker, 2010) as framed in the JD-R model (Bakker & Demerouti, 2006), and integrates conceptual and methodological aspects of ergonomics (Cazabat et al., 2008; Falzon & Sauvagnac, 2004; Poete & Rousseau, 2003) to boost the dynamic potential of its workload representation.

4.3.1 Prescribed workload

Prescribed workload embodies the sanctioned specifications of a work activity in terms of organizational responsibilities and roles (Cazabat et al., 2008). It first includes the organizational context, which portrays the socioeconomic and cultural circumstances that influence and change the nature of work (Fournier et al., 2013). Recent research suggests that societal factors contribute to feelings of boredom. One possible cause of boredom in modern society, which may extend to the workplace, is the heavy use of information technology. People are inundated with a much higher level of visual and audio stimulation than they were in the past. Moreover, these stimulation sources follow them wherever they may be. In addition, the constant availability of cell phones and text messaging makes it difficult for some to be alone with their thoughts without falling quickly into boredom (Turkle,

2011). Employees who display higher levels of information technology usage are more likely to experience higher levels of WB (Gitlin, 2007; Harwood, Dooley, Scott, & Joiner, 2014; Muusses, Finkenauer, Kerkhof, & Billedo, 2014). These last elements may moderate the direct relationship between the work environment and WB: higher levels of boredom proneness, expectations and information technology usage reinforce the effect of workplace characteristics on WB (Mael & Jex, 2015). While most individuals experience a blurring of the boundaries between private life and professional life by importing work into their leisure time, firefighters may experience the opposite. Given that they must endure multiple waiting periods, they may bring parts of their private life and hobbies into their work lives to relieve their boredom.

4.3.1.1 Fluctuating Demands

The JD-R model's definition of job demands describes them as "… those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2006, p. 312). Jobs can be boring in many ways and the consensus on the effect of boring tasks is that meaningless jobs lead to increased perceptions of WB (Mael & Jex, 2015). While the interventions of firefighters are anything but boring, they hardly represent the whole portrait of their work lives. While waiting for calls, firefighters fill their time with small routine and maintenance tasks and when they are done, they are free to occupy themselves with activities of their choice (Childs et al., 2004). Obligatory tasks cannot be too hard or numerous because of the unpredictable nature of interventions. Firefighters need to be rested enough and available to do the core aspects of their jobs. Even when these needs are met, and even when firefighters are exposed to the same variations and unpredictability, there is a wide variability across individuals in this occupation regarding how downtime is occupied and perceived (Douesnard, 2010).

4.3.1.2 Resources

Resources in this model are also defined according to the JD-R Model, that is "those physical, psychological, social, or organizational aspects of the job that are either/or: functional in achieving work goals; reduce job demands and the associated physiological and psychological costs [and]; stimulate personal growth, learning, and development" (Bakker & Demerouti, 2006, p. 312). Organizational

resources can either intensify or contribute to the reduction of WB. While the presence of colleagues can provide direct or indirect stimulation that can decrease WB, uninteresting colleagues can paradoxically increase WB (Leary, Rogers, Canfield, & Coe, 1986). Colleagues can also either accentuate or alleviate WB through social diffusion. Focusing on the negative and boring aspects of work activity has been shown to lead to variations on the perceptions of WB levels (Fisher, 1993; Harju et al., 2014). Elements of the physical work conditions, like hygiene, light and movement, also influence WB (Loukidou, Loan-Clarke, & Daniels, 2009; Mikulas & Vodanovich, 1993). Employee latitude, task autonomy, participation in decision-making and supervisory feedback have all been proposed as organizational factors that can reduce or accentuate WB (Harju et al., 2014; Mael & Jex, 2015; van Hooff & van Hooft, 2014)

Resources are also individual: some are more susceptible than others to feelings of boredom. This stable personality trait, i.e. boredom proneness, has been the object of multiple studies (Farmer & Sundberg, 1986; Kass, Vodanovich, & Callender, 2001; LePera, 2011; Sommers & Vodanovich, 2000). According to Vodanovich (2003), boredom proneness is comprised of two factors: external and internal stimulation. Those who are "boredom prone external" have a general tendency to view their environment as having low stimulation, whereas those who are "boredom prone internal" individuals are unable to occupy themselves or create an interesting, exciting environment. The major implication of the boredom proneness construct is that some individuals are predisposed to experience boredom regardless of the content of their work. Perhaps as important, however, is that a high level of this variable may lead to dysfunctional responses during the more boring moments or activities of a job (Mael & Jex, 2015). Research on firefighters has already suggested that their typical personality profile on the Big 5 scale rates higher on the need for danger, and this leads them to be less skilled at generating their own stimulation when bored (Salters-Pedneault et al., 2010).

4.3.2 Actual workload and job crafting

Actual workload depicts what people do to fulfill the requirements of the prescribed workload. It focuses on the active role that employees play in construing their own organizational context, the demands asked of them and the resources at their disposal. Therefore, this dimension of workload is based on the idea of job crafting (Buchanan, Parry, Gascoigne, & Moore, 2013; Tims & Bakker, 2010). Job

crafting relates to “the changes that employees may make to balance their job demands and job resources with their personal abilities and needs” (Tims et al., 2012, p. 174). Strategies that aim to reduce WB are centered around 4 dimensions: 1) increasing structural job resources; 2) increasing social job resources; 3) increasing challenging job demands; and 4) decreasing hindering job demands (Tims et al., 2012, 2013). Given that WB has not been studied using this framework, the exact ways in which these strategies may be called upon, as well as additional potential strategies, are still unknown.

4.3.3 Experienced workload and consequences

Experienced workload is defined by the feeling of burden caused by the perceived level of workload (Fournier et al., 2013), with reference to work overload (when the burden is too heavy), work underload or boredom (when the burden is too light) or a balanced workload. Boredom is closely related to several negative repercussions, such as fatigue, stress, burnout, absenteeism and turnover (Bowling et al., 2015; Ford & Jin, 2015; Grech et al., 2009; Guastello et al., 2014). However, in this article, consequences are documented as risks in order to reflect the potential for negative repercussions on workers and their organization. Since the chosen methodology did not include validated scales to measure the usual consequences boredom can have on workers’ health, their well-being and on organizational indicators, the repercussions that have been observed by the researcher and expressed by the participants are described as here risks that could be quantitatively documented in further studies.

4.4 Method

4.4.1 Ethnography

Ethnography can be defined as simply observing phenomena within their unique cultural context (Watson, 2011). According to Malinowski (1961), ethnography is positioned at the crossroads between anthropology and sociology. It is the outcome of a combination of methodologies sharing the premise that the dedicated participation of the researcher within the study environment is the key to understanding a culture. Administrative sciences have been using ethnography for decades on subjects as diverse as the medical profession (Becker et al., 1962), high tech (Kunda, 2009), factory life (Collinson, 1992), Wall Street brokers (Ho, 2009), consultants (Whittle, 2005) and

telecommunication manufacturers (Watson, 2001). Still, such research remains marginal in organizational studies: authors have recently called for a wider use of ethnography to understand "how things work" (Van Maanen, 2011; Watson, 2011). While ethnographies can't give full access to an individual's "lived experiences", their contributions are unique. The immersive methods of this approach provide what Tope, Chamberlain, Crowley, & Hodson (2005) refer to as "the benefits of being there": a greater informational yield than interview-based studies, more detailed descriptions of individual behaviors and group dynamics (Hammersley & Atkinson, 2007), an accurate appreciation of the social context, an understanding of the presentation of self-processes (Goffman, 1978) and a decreased desirability bias from participants (Watson, 2011).

In the case of this study, ethnographic research provided direct access to the fluid, multifaceted, complex and sometimes tense conditions of firefighting work. Given that organizational factors were the main focus of interest, the ethnography was achieved through a combination of "activity chronicles" and individual interviews, consistent with French-speaking ergonomist principles of work activity analysis (Darses & de Montmollin, 2006; Rabardel, 2002). Ethnography and ergonomics are compatible in a project aiming to understand the complexity of the work of individuals through the perceptions they have of their daily work, and the meanings they attach to it.

4.4.2 Data collection

The population in this study consisted of permanent firefighters working inside five fire stations located in two major Canadian cities. This data collection took place with permanent firefighters, as opposed to temporary firefighters, because full-time firefighters experience all aspects of firefighting work, including interventions and time spent in teams at the station waiting for fire alarms. However, given the frequent replacement of team members with temporary firefighters, participant observation also included discussions with these firefighters, allowing the opportunity to note some nuances in their daily work lives (working on multiple teams, exposure to multiple cultures, insecurity, etc.). Access to the barracks was arranged by sending an email to representatives of the Provincial Table of Occupational Safety and Health in Fire Service Headquarters. Four municipalities expressed an initial interest in the project and of these four municipalities, two were selected. The first choice was based on proximity and the second was motivated by the need to observe a distinctly different service from the first, thereby

providing a more representative picture of the entire province. Fire stations were located in both urban and peripheral areas of the cities.

4.4.2.1 Activity Chronicles

Participant observation in the first municipality comprised of four sequences of 72 hours grouped into six days. These working periods, called "long stretches" among firefighters, are divided as follows: two 10-hour day shifts (7AM to 5PM), a 24-hour period, and two 14-hour night shifts (3PM to 7AM). Field observation periods for this municipality totaled 288 hours, divided across the four barracks. Observations were made mainly in barracks because municipal insurance did not allow the researcher to get on the truck during service calls. However, a radio was provided and when a call was confirmed, the researcher could follow the contact details using her own vehicle, remaining outside the security perimeter and listening to the communications on the radio. Observations in the second municipality represented a total of 54 hours, divided into three-day shifts of 10 hours and one 24-hour shift. This municipality allowed the researcher to get on the truck during calls, making it possible to document a different segment of firefighters' activity. A total of 28 permanent firefighters were observed in the workplace and more than a dozen temporary firefighters were also met during this time.

4.4.2.2 Interviews.

Individual interviews with members of work teams followed observations in the first municipality. Interviews were semi-structured so as to frame the subject of discussions while leaving the participants free to express themselves on a variety of topics relevant to the study. Interviews were done with at least three members of each team to discuss specific observed sequences and to allow them to verbalize their perceptions of workloads and boredom, and the impact of these conditions on their psychological health. Interviews were conducted during weekday shifts following a "long stretch" and occurred while the firefighters were waiting for a call. A total of 17 individual interviews were conducted, of an average duration of one hour. With the consent of the participants, the interviews were recorded and then transcribed. Saturation was reached after these 17 interviews.

4.4.3 Data analysis

The data produced in this study were the subject of a dual qualitative analysis. First, the activity chronicles revealed how the actions of firefighters are part of a recursive relationship, where past learning experiences influence reactions to current events and these reactions in turn influence subsequent action (Rabardel, 2002). The accumulation of these work sequences experienced by different firefighters in a wide variety of situations allowed for a general understanding of the fluctuation of firefighters' workload and of the factors influencing this fluctuation (Theureau & Jeffroy, 1994). To this first sequential analysis was added a thematic cross-sectional analysis, where the material from the activity chronicles and the interviews were analyzed in order to identify the most relevant theoretical and empirical themes (Barbier, 2000). This second analysis contributed to illustrate the meaning of actions and circumstances, as well as the impact of individual and collective factors in workload perception. While the first analysis allowed to understand how things were done in the fire stations, the second analysis let the researcher understand why they were done this way. This analysis was guided by a code tree (86 subcodes) created using the theoretical framework and supplemented by the emerging elements of the data collection and resulting in the codification of 788 excerpts from the observation notes and interview transcripts. Each code was analyzed individually and then linked into the study model.

4.5 Results

4.5.1 Job demands: Nature of clean work in firefighting

Firefighters did a lot more than just wait at the fire station. However, that didn't mean that all of what they did was perceived as interesting or meaningful. Even though a certain proportion of their time was dedicated to unpredictable and diversified interventions, these activities rarely occupied more than a third of their time, even in busy urban centers. The remainder of their time was spent doing routine and maintenance tasks and waiting for the alarm to ring: these waiting activities were mostly the same across fire stations and fire services (**Table 5**).

TABLE 5 : OBSERVED INTERVENTIONS, WAITING AND ROUTINE ACTIVITIES

Intervention activities	Waiting activities	Routine activities
Fire extinction	Meals and meal preparation	Equipment maintenance
First responder duties	Information technology (phones, tablets, computers)	Truck and equipment cleanup
Car accidents	Work-related discussions	Verification of the equipment's condition
Dangerous substances and gas	Non-work-related discussions	Training
Nautical rescue	Physical training	Meetings with officers
False alarms	Reading	Inventory
	Personal hobbies	Cleaning of living quarters
	Sideline jobs	Residential prevention
		Prevention in schools
	Naps	Commercial prevention
	Television and video games	Administrative duties (officers)

The content of work shifts could be understood as superimposed work cycles. These cycles had differing amplitudes (height and depth of work activation), period lengths (duration of each part of the cycle), and frequencies (quantity of "waves"). A firefighter's basic shift, where no emergency call interrupts their work, was strictly comprised of "clean" work. Such shifts were characterized by a long period, with a modest rise of activation upon arrival at the station, due to the execution of preparation and verification activities, by a low activation during meal times, and a modest activation spike due to maintenance tasks at the end of the shift (low amplitude and low frequency). This basic cycle represented the minimum activity that any firefighter was entitled to expect when arriving at a shift. As a firefighter stated in his interview: "[our job] at the station, it's a fixed routine, and it's just about the most routine job I know". As expected, these routine and waiting situations were connected to perceptions of work boredom. Some planned activities moderately increased these initial expectations (theoretical or practical training, prevention activities and social activities). The intervention component of the shift represented an additional wave that overlaid the basic cycle and modified the time dedicated to "clean" work, as well as the time at which it was executed. Since these intervention cycles were the core meaningful activities for firefighters, even though they had other routine and administrative tasks, it was their occurrence that mainly influenced manifested behaviors and expressions of WB.

After observing numerous cycles, one could discern two patterns that lead to the most pronounced perception of WB. First, for teams that were used to a high frequency of intervention cycles interrupting their clean work, sustained periods of waiting began to generate episodic boredom. Firefighters'

descriptions of being bored increased, and manifestations of jealousy were routinely expressed when other teams were called to the field. Sustained boredom altered the overall climate at the station: a perceivable strain was manifested, where firefighters were short with one another, restlessness was displayed through multiple, often simultaneous, short activities where firefighters just strolled through different areas of the fire stations, looking for anything to do. However, as soon as the alarm rang, the mood resettled and the team displayed less boredom behaviors for a time, or even to the end of a shift, depending on the nature of the intervention.

The second, more pervasive, type of WB occurred in circumstances of chronic WB. In teams and stations where few or no calls were expected, a form of "learned helplessness" (Maier & Seligman, 1976) occurred, in which firefighters had learned that they had no control over the WB that they would be exposed to during their working lives, and so they gave up trying to stay motivated and activated. As a participant declared: "It becomes so heavy that when, finally, there's a small thing to do, you almost don't feel like it because you don't see the point anymore. It gets so boring. You get tired of doing nothing". Feelings of purposelessness were at their highest in these situations, and showed that perceptions of WB were perceived as different depending on the chronic or episodic nature of periods of work underload. Most fire stations were located on a continuum between these two extremes, with some teams experiencing few calls if at all, while others had moderate or high call volumes. As such, while some teams experienced chronic WB for most of their careers in a fire station, most went through periods of chronic and episodic WB. In any case, there was a wide variability in how this WB was perceived and managed: the interplay of resources and crafting strategies in different environmental and organizational conditions affected the dynamics of WB.

4.5.2 Environmental and organizational conditions

There was a very wide variability of perceptions of WB that depended first on environmental factors. The location of the fire station had a very important influence: being located on the periphery versus in an urban center impacted the expected call volume, the demographics of the teams and the nature of the most frequent calls. Urban centers typically had a much higher call volume, and firefighters will expect multiple unpredictable interruptions in their day. Routine tasks were expected to fill relatively small periods of time and were perceived as more meaningful and stimulating, given that the firefighters

were preparing for events that were expected to happen often. Teams observed in these circumstances were usually more homogenous and composed of relatively young and dynamic firefighters. The nature of the calls was usually quite diverse, reflecting the needs of a larger group of citizens: false alarms were perceived as irksome and as a loss of precious time and resources. Given that workload expectations were relatively high, long stretches of boredom were perceived as especially restless, as described above.

Peripheral stations typically had a much lower call volume. This situation lead to a resigned state: firefighters began their day expecting to experience few, if any, calls. Routine and maintenance tasks were perceived as much less meaningful, because intervention calls were so scarce. Instead of increasing the activation level, these tasks increased the perceived level of WB because of the meaninglessness that was attached to the firefighters' everyday life. As a firefighter stated: "The less calls we get, the less we want to get out of the station". Teams observed in these circumstances were heterogeneous, mixing aging firefighters that wanted a lesser call volume and firefighters with no seniority. There was less diversity of intervention types, mostly relating to seasonal changes. False alarms, instead of being irksome, were perceived as a welcome interruption in routine, even if they were canceled before arriving at the site. However, this last point was nuanced by mentioning that new recruits, before approaching this resigned state, were desperate to find any kind of stimulation, related or not to their profession. One of those firefighters stated that "we were so bored, I would have gone out to cut grass if they asked me to". For all firefighters, days without any alarms were perceived as the longest; they stated that they were more tired of doing nothing than they would have been of being out in the field all day, especially for recruits. Organizational contexts where low demands and low workload fluctuations were systematically expected were perceived as the most boring and tiring.

4.5.3 Job resources

Firefighting is a team effort, and therefore it was not surprising that collective factors were more important than individual factors in WB perception. Team cohesion, which relates to both the interpersonal attraction between team members and the commitment to the tasks they have to achieve collectively (Carless & De Paola, 2000), influenced WB in many ways. Teams that manifested high levels of team cohesion through their discourse and behaviors exhibited fewer levels of WB because

of their tendency to find productive ways to spend their time together. However, high cohesiveness wasn't a guarantee of diminished WB perception: teams that followed negative work norms and collectively and cohesively decided to do as little as possible expressed higher levels of WB. This effect was passed along to initially motivated colleagues that adhered to social pressure. As a participant said: "It's a little taboo, because there are some who live very well with the "non-task" and the waiting. They're used to it and they don't have that small voice that says "you should do this" or "you should do something else". They don't care and they are fine". Teams with low cohesion also exhibited higher levels of WB, because their time waiting was typically spent alone in different parts of the fire station. This effect was increased in low-volume stations because fighting fires together builds trust and cohesion, and when there are no fires to extinguish, participants verbalized that achieving cohesion is a lot harder and takes longer.

Leadership skills were crucial regarding WB management in firefighting. Officers had the role to channel the motivation of their teams no matter the call volume and, if necessary, they had to implement and support collective strategies that reduced inertia and WB: "The lieutenant brings ideas and tasks. He also asks us what our motivations are and what we want to do". The experience and the credibility of officers further fostered their impact in decreasing the WB of firefighters. However, lack of experience and skills had a detrimental effect on perceived levels of WB. As stated before, fire stations were the most affected by WB were those characterized by low call volumes, and were the least attractive to al firefighters, including officers. Results showed that the officers in these observed circumstances were generally one of two types. The first were new officers and consequently had minimal experience and very few opportunities to acquire experiences in the field that would have bolstered their credibility and team cohesion. The second were officers that were unmotivated, and as described above, desired low call volume and long, uninterrupted periods of waiting. Through their position of authority, they instilled norms of passivity concerning WB and passed along these norms to their teams. Such teams exhibited higher levels of WB than any other observed team.

While individual resources such as individual expectations, skills, experience, physical shape, motivation and satisfaction were expressed as having some influence of their WB perceptions, most

participants agreed that collective factors were more important concerning their WB levels. As a firefighter stated: “In the field, we have to work well. At the station, we need to have fun together”.

4.5.4 Job Crafting

This study showed two broad categories of strategies that firefighters implemented to manage WB. The first were proactive strategies, that is, strategies that aimed to increase their activation level. This was done by increasing their amount of challenging demands, which could be work-related or not, and by increasing their structural and social resources, which is coherent with Tims & Bakker (2010) model of job crafting. As a firefighter stated: “it's finding personal projects which are stimulants. If you have a project that stimulates you as part of your work, it's much easier to have creativity. If you have a job that is imposed by an officer and which is irrelevant, not challenging, it will be harder”. While strategies weren’t perceived as meaningful as actual interventions, they still allowed firefighters to feel a sense of accomplishment, and thus reduced their perceptions of WB. The second category related to reactive strategies, which simply aimed to fill the firefighters’ time until they clocked out. It was an absence of efficient job crafting. Such passive strategies included taking naps, watching TV, reading books or newspapers, and any other activity that passively filled the shift. Abuse of these strategies was systematically observed at fire stations in which learned helplessness was high: a high perception of lack of control over WB led to higher levels of passivity. These strategies, while technically making time pass faster, paradoxically increased displayed manifestations of WB, particularly in contexts of chronic WB. As stated by a firefighter: “The evolution of boredom, as I said, ensures that your motivations outside of work are more important than those at work, so now you have a mindset of heading to the fire station to pass the time. Or, saying to yourself "Ah, I won’t have time to rest today, if we do [training] activities." It's almost like that”. Relying exclusively on such practices, instead of combining them with proactive strategies, decreased the meaning and purpose that firefighters felt concerning their own profession.

Classifying job crafting strategies as proactive or reactive was not always straightforward. Also, the implementation of several strategies depended on different contextual factors that facilitated or obstructed the frequency of their practice. Watching television, for example, depending on different factors, represented a proactive or reactive strategy. In a firefighting team where the call volume was

regular and where labor norms were positive within a strongly cohesive team, watching television for a reasonable period together embodied a moment of common rest and a way of regaining strength before returning to work. Being present in these contexts also permitted the officer to understand his team's energy levels and to demonstrate his leadership skills. In a team exposed to a low volume of calls on a chronic basis and characterized by weak cohesion or negative labor standards, the same strategy, watching television, was perceived very differently. In extreme cases, firefighters filled most of their time at the fire station watching TV, making it the main occupation of their shift. In the observed contexts, leadership in these cases could further hinder the implementation of proactive strategies, both by the leaders' presence or absence. The systemic presence of officers in front of the TV showed an endorsement of such reactive and passive strategies, while their absence showed a "laisser-faire" kind of leadership where officers disengaged themselves from the actions of their teams (Barber & Warn, 2005; Smith et al., 2016).

A strategy that was supposed to be proactive, that is, the consolidation of routine activities, could also represent a reactive strategy leading to prolonged and intensive periods of workplace boredom. Teams with strong leadership, good standards and strong cohesion tended to concentrate their maintenance activities to be able to carry out these tasks even during the arrival of unpredictable interventions and to be able to plan proactive activities of ongoing training in these free moments. Conversely, teams who are not characterized by such positive norms and organizational factors also consolidated their maintenance tasks, but the objective and repercussions were different. In this case, the goal was to consolidate maintenance tasks so they could spend more time doing non-related activities such as watching television or sleeping. Intervening in these kinds of teams were expressed as being difficult by an officer: "The workload that is officially imposed on us, we finish it like that. When you hear in a barracks elsewhere: "ah, we have too much work", it's because you do not know what to do with your 10 fingers. I choose my fights. I will not fight with them to make them do more work, because I know they do not give a damn". However, as described before, doing as little as possible, in as little time as possible, to do nothing afterwards further accentuated WB and learned helplessness and lead to even less motivation to keep their skills up to date.

4.5.5 Risks of workplace boredom in firefighting

Consequences of WB were not measured in this study. However, risks were detected through the observations and interviews. The way firefighters, their teams, and their leaders perceive their work demands, and how they individually and collectively cope lead to different levels of perceived WB, as verbalized and displayed by them. Results showed that passivity in managing sustained WB had repercussions, as stated by participants: “Work underload in fire stations is unsettling [...] the atmosphere becomes heavy. Guys do not talk, sometimes they fight, and then when you have the chance to catch a fire or an intervention, anything dynamic, there is no more problem. It's different. Give us a chance to do our job”. Another added: “Waiting is the hardest: the longer we wait, the more my passion for my trade weakens”. Firefighters stated that sustained boredom led to an erosion of work identity and a continuous decrease in their work motivation. These perceived consequences of workplace boredom fed back into the workload loop by diminishing the individual resources to which individuals had access to manage their workload (such as increased fatigue, strain, and expectations of work underload and lower team cohesion) and influencing perceptions of actual job demands as being more boring than they were. These in turn, inhibited firefighters from using proactive job crafting strategies, because of that learned helplessness acquired steadily over a long period of time.

4.6 Discussion

Firefighters are trained and willing to face extremely dangerous and challenging emergency situations. It is not a surprise that boredom would be detrimental to their overall work motivation: compared with these expectations, the high proportion of clean work can only be perceived as a letdown. Our study aligns with the findings of Watt (2002), on firefighters’ boredom proneness, who concluded that high boredom proneness was associated with lower levels of personality adjustment, ambition, prudence, sociability and school success. In his study, firefighters who scored higher boredom proneness were also more likely to feel that their education, skills and abilities were not being fully utilized at work. Our study went further, first by studying a Canadian sample of firefighters, but also by focusing on the organizational dynamics rather than the personality profiles of firefighters, on which intervention is more difficult. Boredom was analyzed here for the first time using a model combining models of work stress

and job crafting, thus a dynamic model which considers both organizational processes and individual adjustment strategies.

Boredom influences the overall activity of firefighters; however, this study has highlighted many ways through which WB can be managed in such unpredictable contexts. Even though job demands relating to firefighting are random, introducing challenging and meaningful training periods, increasing team cohesion and leadership skills and working on proactive job crafting strategies are all tangible levers of action. However, this study has highlighted that boredom is not a stable phenomenon and depends on multiple environmental, organizational, collective and individual factors. This study contributes to the body of knowledge and theory concerning workplace boredom. Contrary to Mael & Jex (2015) presumption, WB in emergency services is not strictly episodic. Under the right circumstances, that is low call volume, low resources and few workload fluctuations, WB in firefighting can become chronic, with the associated consequences regarding individuals' health and performance (Harju et al., 2014; van Hooff & van Hooft, 2014). In these cases, the learned helplessness (Maier & Seligman, 1976) displayed by firefighters adds to van Tilburg & Igou (2012) definition of workplace boredom by describing it as more than a feeling of lack of purpose or meaning. Chronic boredom leads to an erosion of their work identity as firefighters, and leads them to counterproductive work behaviors and norms in which they lose the desire to activate themselves and keep their skills up to date. These repercussions could be severe for their own safety and health when they are called to intervene in a critical emergency, and could lead to higher losses in material damages and, most importantly, in human lives.

4.6.1 Implications for practice

First, crucial implications of this research concern the leadership skills and practices of firefighting officers. Most participants cite their team lieutenant or captain as the main source of activation and motivation during routine and waiting periods. Proactive officers in this study lead proactive teams that used their downtime productively and that were motivated to find meaning in routine tasks and to find meaningful ways to fill waiting periods. Officers that could bring their teams together to discuss work situations, to spend time with their colleagues, that developed useful training programs and were able to communicate the usefulness of this training were generally related with teams who manifested fewer signs of WB. However, there are no requirements concerning human resource management training,

even though most services offer internal training programs. Furthermore, leadership literature is not adapted to the realities of command in emergency services: officers live, eat and sleep with their employees, which is not the case for leaders in typical work contexts. The results of this study highlight the need for leadership training adapted to fluctuating demands (i.e., adapted to moderate the repercussions of the boring parts of many occupations) in unpredictable, emergency settings.

Team cohesion is essential in firefighting. Cohesive teams spent more time together, were less affected by WB and displayed more commitment to their profession and organization. The problem is that team cohesion is usually built with the interventions, and thus, teams in low-volume situations take a lot longer to build solid team cohesion. Officers needed to create contexts in which teams could get to know one another in intervention contexts even when there were few real calls. Practical training situations, firefighters' training courses and physical training in team-dependent situations were all ways to enhance cohesion. Furthermore, proactive officers showed their team how lack of preparedness could have drastic consequences on the success of interventions and on the survival of their teammates and of the citizens that they needed to rescue. This helped firefighters to find meaning and motivation in these exercises and allowed for cohesion to build up.

Firefighters begin their careers with very high expectations. School prepares them for a large variety of very intense interventions and there is a consensus that teachers do not prepare their students for the long periods of routine and waiting at the station. Furthermore, current depictions of firefighting in the media, both locally and internationally, show them constantly in very dangerous situations. Consequently, the clash with reality was perceived as brutal in the first years of service, and perceptions of WB were verbalized as enhanced. This is coherent with literature of the effect of unmet expectations and unused skills on workplace boredom (Edwards, Caplan, & Van Harrison, 1998; Franks, Chen, Manley, & Higgins, 2016; Turner, 1999). We recommend raising awareness very early on about the amount of waiting in a firefighting career so that firefighters can be prepared as early as the first year of training to implement individual and collective strategies to proactively fill their time.

4.7 Conclusion

Much can be done to enhance the meaning of the work done by firefighters in routine and waiting situations, among others, through meaningful training exercises, projects and team-building drills. This study aimed specifically to understand how workplace boredom (WB) manifests itself in an unpredictable profession such as firefighting and what factors enhance or reduce WB perception. Through a detailed ethnography, results show that a large variety of individual, collective and organizational factors influence not only the type of WB experienced but also how invasive and intense WB is perceived in these contexts.

4.7.1 Future Research

Future research should document the workload of firefighters in contexts characterized by frequent fluctuations and high levels of demands. Leadership skills and practices specific to waiting and routine situations in emergency services could also be the focus of future research, as many officers have proclaimed the inadequacy of current models of leadership and human resource management for their organizational context. Future research could also concentrate on paramedics, SWAT teams and military services, who are also subjected to the same “hurry up and wait” situations as firefighters. A work boredom scale applied to emergency services that accounts for workload fluctuations will result from these different studies and allow for further generalizations of this theoretical construct in these professions.

4.7.2 Limits

This study is exploratory in nature, and while ethnography allows deep understanding of work perceptions and practices, it presents some limitations concerning the generalization of the findings to all firefighters or emergency services. Also, in most fire stations the researcher was not allowed in the truck during interventions and so the dialogue and practices during these periods were not observed. However, given that these periods account for a minority of the time in the barracks and a debriefing was done when the trucks returned, the loss of data was reduced to a minimum. While study wasn’t longitudinal, and thus effects over time couldn’t be observed, the breakdown of observation periods over a year has made it possible to understand the different monthly and seasonal variations. We also

recognize that using a questionnaire to measure current organizational and mental health issues such as boredom proneness, stress, satisfaction and intention to quit might have helped to better understand the consequences of workplace boredom in this study.

4.7.3 Ethics

This study was approved by the ethics committee of Laval University, and was approved by both management and the unions of the fire services investigated, and confidentiality agreements were signed by all participants.