



Department of Management Chair of Strategic Management of Innovation

SIX WORKING HOURS TO FOSTER INDIVIDUAL CREATIVITY

HOW ADDITIONAL LEISURE TIME & WELL BEING IMPACT THE EMPLOYEES' CREATIVE
OUTPUT

SUPERVISOR

Prof. Andrea Prencipe

CANDIDATE

663971

CO-SUPERVISOR

Prof. Francesca Tauriello

ACADEMIC YEAR 2015/2016



SIX WORKING HOURS TO FOSTER INDIVIDUAL CREATIVITY

HOW ADDITIONAL LEISURE TIME & WELL BEING IMPACT THE EMPLOYEES' CREATIVE OUTPUT

Abstract

Today's competition requires us to understand the root of innovation; Creativity. Indeed, this human ability that resides in every person, can lead to improved organizational resilience and valuable solutions for company's bottom line. This thesis wants to confirm if creativity might be an outcome of the 'Six hours working day' welfare practice. It explores if improved work force's conditions may facilitate creativity through a narrative exposition based on the existing literature and on experts' interviews. As a result, the qualitative nature of this work allows for the framing of a general model that can explain the connection between this working practice and creativity. Indeed, it will explore how employees, benefiting of the value generated by this shorter working day, return this welfare gain in terms of creative productivity. Furthermore, this thesis presents a psychological perspective about the effects on the working environment of happiness, motivation, stress, health, leisure, and other life dimensions. In other words, what are the outcomes of a working environment that do not overburden, stress, or exhaust workers? What about the effects of a different work/life balance? Are those linked to creativity? Following this path, the work is going to explore a novel connection between existing topics to inform on innovative management practices and managerial theories.

Acknowledgements

I would like to express my gratitude to my supervisors Andrea Prencipe, Federica Ceci, Daniel Ljungberg, and Evangelos Bourellos for their time, cheer, accuracy, and suggestions. Throughout this thesis project, I had to learn from a lot of people. In particular, I would like to thank all the respondents Gunnar Andersson, Maths Pillhem, Leif Denti and another kind respondent, who have shared good times, and their experience with me. Then, heartfull thanks to all the professors and Handel's personnel as a whole.

Table of Contents

Acknowledgements.....	2
Introduction	3
Background – Innovation & Labour Market Challenges (Opportunities?)	3
Problem Description.....	5
Research Objective.....	7
Research Questions.....	7
Theoretical Framework.....	8
Introduction.....	8
Working Hours & Leisure Time	8
Creativity	27
Conclusion – The Creative Person and the Creative Conditions.....	39
Methodology.....	41
Data Collection	44
Research Quality and Limitations	46
Empirical Findings	48
Respondent X, Chief HR Manager, Hospital.....	48
Gunnar Andersson – Psychologist (Stress and Working Hours)	50

Maths Pillhem – Politician.....	56
Leif Denti – Industrial Organizational Psychology (Leadership, Innovation Management).....	58
Analysis	64
Stress	67
Health	68
Positive Affect and Mood.....	68
Happiness	70
Productivity	72
Leisure Time	72
Conclusion.....	75
References.....	79

Introduction

Background – Innovation & Labour Market Challenges (Opportunities?)

Today change pace is astonishing in comparison with the past, and this trend seems to grow on globalization, affecting all human life's domains. The knowledge society arises in few years and the resulting "Shift to [an]... innovative-driven economy has been abrupt" (Amabile & Khair 2008). Organizations, teams and individuals cope with the disruption that technological and social novelty brings. Subsequently, individuals and social formations are shaped by the unknown events of the future; both have to be flexible, resilient and creative to survive and grow. In particular, this applies when it comes to the novelty realm and its challenges. "Rapidly developing technology paves the road for development of new products", writes Ozge, (2010), "the market becomes highly competitive both for established firms and new comers due to fast developing technology". Therefore, commercially innovations "Are becoming the linchpin of

success in global markets” (Yusuf, 2009), or alternatively the only way to create consistent and lasting value for organization’s stakeholders (George 2007).

Creativity to foster innovation is an important opportunity to survive and compete in today’s markets. All the turmoil calls for innovation and creativity as the tools to be part of the present and to face global and dynamic challenges. In particular, under the business perspective, being creative is an incredible source of competitive advantage; an evolutionary effort to be more resilient against the environment. As a result, innovation. The market struggle to be the most innovative is leading companies to implement hard and soft solutions to fuel their processes. Among the soft perspective, it is possible to mention the setting of the work culture, climate and processes to tackle the root of innovation: employees’ creativity.

But what about the antecedent causes of creativity outside the working environment? The Six Hour Working Day is exemplary like monopoly for microeconomics. An extreme case of a working space that is likely to be relaxed, intense and productive. Could employees living a work/life balance define the proper environment for cooperation? The need for a reflection on this topic is strengthened also by the labour market’s change. In particular, new generations are behaving differently from past ones. According to Twenge and Campbel (2010), “The younger generations expects to achieve [growth and work meaningfulness] while maintaining a work-life balance.” Indeed, Millennials have a different perspective about the notion of good work. This reflects greatly different values: it is not anymore a matter of being punctual or dedicating long hours to work, on the contrary it is a matter of delivering the required work (Burke, 2004). Work is starting to be considered a partial dimension of life, new employees are more committed to meeting parenting and family obligations (Twenge & Campbel, 2010). As a consequence, organizations that recognize the generational trends and offer a well-being enhancing environment, in line with the workforce’s needs, what would be gained?

It depends, as everything. Generational trends or human resources’ difficulties and quests have the potential to become opportunities. For sure, organizations will adapt to

those trends in order to achieve a sustainable growth. But today, those new human side challenges can turn into competitive advantage for every company.

Problem Description

We are focusing on organizations, structured networks of people organised around a legal fiction (Harari, 2011). Consequently, humans in flesh and bones gave consistency and are collectively responsible for the organization's achievements. The sum of their coordination, teamwork and individual performances is what characterise the company itself and its outcomes. Everything is the result of the collective actions of single workers; those workers' energies are the invisible input of every process within an organization.

It is common wisdom that humans' performance is linked with the inner subjective affect and state of mind; since flesh & bones employees are the real structure of organizations, the possibility to perform out of issues and with a mind clear of problems should be nurtured by the company. Otherwise, the employees' performance, and in particular the creative one, might be affected by feelings and life occurrences; this is especially true when a company navigates in innovative spaces where workers perform into knowledge domains of specific disciplines. Indeed, those workers deal with exceptional creativity (as opposed to ordinary creativity, which solves everyday problems) that contributes to a particular discipline (Simonton, 2010). In other words, people work with intellectual or aesthetic contents, different and numerous variables and have to coordinate themselves at a higher degree. Consequently, works that deal with exceptional creativity could be more sensitive to the same psychological factors. In brief, it is important to not omit the important variables that might influence those processes, otherwise the employees' innovative performance could be suboptimal.

Managing for innovation means to understand what the factors of the organizational innovative performance are and the role that creativity has. This performance results from an array of factors. For example, relevant factors are the innovative process itself, the culture, the reward system, the application of knowledge or the interactions between people (Ozge, 2010). Meanwhile, creativity is a complex phenomenon at the base of every innovation, it "Is essential to the entrepreneurship that gets new business

started and that sustains the best companies after they have reached global scale” (Amabile & Khaire, 2008).

“Creativity is the act of turning new and imaginative ideas into reality. Creativity is characterised by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions.” (Naiman, 2016)

The focus is on creativity; there are two broad reasons why this should be managed. It drives progress and it “Is unpredictable, and thus has the potential to reduce levels of predictability and reliability” (George 2007).

After recognizing the underline causes of a creative climate and of the capability itself, several papers define the culture, office, organizational and leadership characteristics that a company should develop to foster innovation. Moreover, several studies analyse how to foster creativity leveraging ad hoc processes, supervisor behaviour, leadership styles, job design, goals, performance evaluation (George, 2007) or othern forms of external inputs. Those contextual factors are surely an important attempt to foster the production of relevant innovation but they only tackle work related processes. What drives the individual performance may have roots in his inner self, in a domain hardly reachable by the attempts of a company (Amabile & Kramer, 2011). Creativity is an ability within the person; fostering it may be possible with an increase of the well-being dimensions. However, the analysis of the connection between leisure time, working hours, shifts and wellbeing with creativity is clearly addressed by the academic world.

This thesis wants to dig into the topic of creativity; it is expected to be more important in our future. Sawyer (2012) asserts that there are at least three broad reasons for studying this mental process. First, the understanding of creativity is useful to unleash people’s creative talent, problem solving capacities and positive mental attitudes. This would make societies, institutions, workplaces and families better off. Second, it is important to get rid of false beliefs or “Creativity myths” (Sawyer, 2012) about creativity

because those are detrimental to the science of human innovation. Third, and related to the previous reason, creativity's objectivities would avoid demystifications and relativistic uses. For those reasons, the study and explanation of creativity is becoming more relevant

Research Objective

There is a common theme that spans across many different strands of research and this thesis: "How can creativity be understood, supported and harnessed to enable higher quality innovations in products, processes and services" (Dodgson, Gann, & Coopmans, 2008). However, this work tries to understand if a relation between creativity and 'Otium', the Latin term that encompasses leisure as one of the possible meaning, exists. In other words, I am interested in understanding if innovation may be correlated with the time employees spend working, enjoying life or developing their social network and family. For instance, a better work-life balance has different effects on the individual wellbeing; this thesis wants to explore if someone of those outcomes may foster creativity.

Research Questions

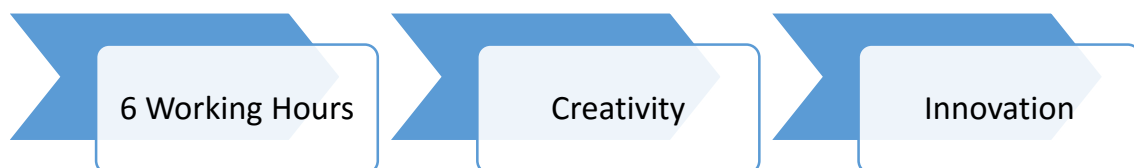


Figure 1 Working Hypothesis (Own elaboration)

Does a causal relationship between a working day reduction to six hours and employees' creativity exists?

Which are the possible interlinkages between the two phenomena?

Theoretical Framework

Introduction

The following literature review has the goal to inform the hypothesis generation about the linkages between the independent and dependent variable. How can an increase in the leisure time (decrease in working time) affect employees' life in general and working performance in particular? What about the resulting effect on creativity? Following those main questions, this review is going to display a focus duality. On the one hand, it wants to provide the reader with knowledge about the effects of a working hour reduction on the single employee and therefore on the organizational performance; on the other, it wants to grasp the development of the research on creativity and set a clear framework. The outcome will be presented in the analysis: all the possible connections, for a deeper understanding of the "soft issues" an organization should take into account to foster creativity.

Working Hours & Leisure Time

The debate about the optimal human working schedule started in the middle of the eighteen century during the first industrial revolution (Pencavel, 2014). Within this period, the working dimension of life changed dramatically posing several issues in front of intellectuals and scholars. Since then, work continued to evolve becoming an extremely complex and multidimensional phenomenon (De Grazia, 1962). According to Pencavel (2014), different perspectives may be related to this issue. First, there is a discussed political economy topic on how to alleviate unemployment by reducing the average working hours. Secondly and more importantly for this thesis, much research tries to understand the relationship between labour input and the following outcome. Finally, a research stream wants to understand the consequences of reducing the working burden on employees physical and psychological state. For the sake of this thesis I will consider only the literature production made about the working time and its effects.

There are many reasons that have paved the way for the employees' working condition research; moreover, a new current is taking into account the private life of the worker as a performance enhancing dimension. In particular, the concept of "Work-Life

Balance” comes in hand to inform the discussion about this duality that every person faces during their life span. Historically, this concept appeared for the first time in the UK’s publication “New Ways to Work and the Working Mother’s Association in the United Kingdom” in the late 1970s. This deals with lifestyle choice, and it tries to capture the duality born with the discovery of leisure. Indeed, according to De Grazia (1962), before ancient Greek society, the only dimension of life was the working one; only with Aristotle we assist at a primordial definition of leisure centred on public life participation. Since then, those two life aspects are bounded in a relationship of mutual exclusion. As a result, the interplay between those two can greatly affect individual’s characteristics and therefor, as discussed in the introduction, it may have an important role for the organizational innovation. This thesis wants to inform on management evidence based decision regarding how to design the working hours. Indeed, employers may realize great performance improvements and savings in compensation costs (Golden, 2012) with the right mix of work and leisure. In brief, this dichotomy has the potential to be part of a business strategy. Therefore, I focus on the 6 hour’ practice because it is widely studied in Sweden and I had the opportunity to get in contact with organizations implementing it. However, this working model is only one possible design that could become part of a business strategy.

The following literature review draws its information from different research areas (management, psychology, and anthropology), and it is build on the contributions of researchers from all over the world: (Ahn, 2013; Akerstedt T., 2001; Applebaum, 1992; Brogmus, 2007; Caldwell, 2005; De Grazia, 1962; Golden, 2012; Lu & Argyle, 1994; Moen, Kelly, & Hill, 2011; Olsson, 1998; Pencavel, 2014; Roberts, 1999; Stebbins, 2001; Wright, Bonett, & Cropanzano, 2007).

Defining the Fundamentals

To understand the trade-off effects of work and leisure on an organization that advances into an innovative environment, it is important to state their meanings. Those are two similar but different, if not opposed, clusters of activities that characterise our human existence. Indeed, work and personal life are the dimensions that shape our time on this earth; both are important to assure personal meaning, satisfaction and well-being

(Haworth & Lewis, 2005); additionally, those are the domains where our social nature develops.

Work is “An activity, such as a job, that a person uses physical or mental effort to do, usually for money” (Cambridge, 2016) and it includes unpaid work like childcare or voluntary work. According to the work anthropologist Applebaum (1992), in our western societies, work is highly valued and respected; indeed, the notion of self-made man or economic autonomy are socially important. This centrality somehow reflects our nature; it is intrinsic into our genes. “Work is like the spine which structures the way people live, how they make contact with material and social reality, and how they achieve status and self-esteem”, writes Applebaum (1992), “[It] is basic to the human condition, to the creation of the human environment, and to the context of human relationships. ... The human condition compels the existence of work as the condition of life.”

Work has changed during the centuries and nowadays, it has largely gained a contract exchange value. This characteristic streams from the selling of time done in order to reach other people or organization objectives, becoming de facto a quasi-commodity. Indeed, among the different reasons why a person chooses to work, the self-sustainability (earn a living) is the predominant one and it leads people to work also when this activity is not meaningful at all (Anderson, 1961). There are other reasons that lead people to work but those will be discussed in detail afterward; as this thesis will argue, work is important for humans’ well-being and mental stability.

Leisure, on the contrary, can be defined as the time not spent working or as the set of activities engaged for intrinsic satisfaction (Haworth & Lewis, 2005); a negative or residual definition of work. Likewise, it can be defined as the set of “Activities in which people engage in their free time, because they want to, for their own sake, for fun, entertainment, self-improvement, or for goals of their own choosing, but not for any material gain” (Argyle, 1997). The problem, according to Roberts (1999), is that this definition lacks to fit people that do not work and it does not take into account personal chores and obligations. Consequently, a third definition is widely used by researchers, this focus “On dimensions of positive experience, such as intrinsic motivation and

autonomy, and enjoyment” (Haworth & Lewis, 2005). Following those reasons, I use a restricted version of the third definition to sum up all the relevant aspects of the phenomenon: “Leisure activities are the ones people engage in for their dimensions of positive experience and enjoyment; those are not done to acquire directly any material gain”. In addition, leisure can be broadly categorized in serious or active leisure and passive leisure; both are required for an optimal leisure lifestyle (Stebbins, 2001). On the one hand, serious or active leisure time requires effort and therefore can provide different rewards. On the other hand, ‘unserious’ leisure is rewarded with immediately intrinsic rewards (Stebbins, 2001).

Why a Shorter Working Day?

A shorter working day may have different positive outcomes. Some derives from the direct organizational effects of this choice. For instance, if the output is maintained, it is straightforward that a lower use of human resources leads to relevant cost savings. A lower employees’ presence may be conducive to lower wages. Indeed, the willingness of employees to trade wages or other benefits for more leisure time (Golden, 2012; Pencavel, 2014) can cut compensation costs. Generally, it affects many other variable costs; for example, shorter business hours conduct to a lower use of resources under several dimensions, indeed different costs are linked with the operational time. Additionally, it is reported by White (1987) that, as a consequence of the processes reorganization, which follows a shift toward a different working day, the business efficiency and efficacy is strengthened. Indeed, the introduction of a new working-hours’ schedule brings a reorganisation that can lead to important cost savings. It is the case of the Sodertalje Hospital Project; under the constraints to not recruit more employees, to avoid overtime and to not increase the budget, it was possible to maintain the output with less input because of the planned change (Olsson, 1998). Furthermore, a shorter working day creates social value because of the additional time people can use to cultivate their personal life, interests and social circles. That is, more time for friends and family, more time to conduct a healthy lifestyle, community participation, etc.; those are just some examples of the possible positive uses of the additional time, a mature person can engage in.

The direct effects on the performance that follow a reduction of working hours are many; however, the gains are more related to the increase in leisure time. The organization can create value out of the positive externalities that stream from an employee benefiting of an increase life satisfaction given by the additional social and personal value. According to Dolan & Gosselin (2000), that have tested the existing studies on the relationship between job and life satisfaction, it is likely (under a contingency model) to have a spillover effect between the two. In other words, the behaviour, affect, practices and so on, developed in one sphere of life, may “spill over” to the other. Consequently, it is possible to start a self-reinforcing spiral of value creation: the company grant more free time (or programs like employee assistant, recreational activities etc.); this create value for a more engaged employee that operate in a better way his tasks. Later this point will further be displayed and analysed; there is a great deal of literature that sheds light on how life satisfaction, subjective well-being, happiness, quality of life, health, positive affect, and so on, can positively impact the individual propensity and engagement in working places.

As a consequence of more engaged employees, the social nature of organizations triggers an additional positive spiral effect, that enhances the value creation. “Since in most organizations performance is the result of collaborative effort,” writes Bakker & Oerlemans (2010), “the engagement of one person may transfer to others and indirectly improve team performance”. The sum of the single employee’s performance, their impact on the overall climate and their predisposition to nurturing good working-social relationships can greatly affect the value generation of an organization. Furthermore, happy employees, not burdened by stress or negative life issues are better team members (Quick, 2004). As a result, more efficient and effective teams can give an incredible competitive advantage boost to the organization.

Another interesting reasons that Pencavel (2012) points out is the following: in the moment that afterhours are needed to face unexpected events, adding more hours to a 30 hours work week have a different effect than adding it to a 48 hour one. It is straightforward that when there is need for additional work it must be accomplished but the burden of overwork should not detriment the employees and their motivation.

The precedent reasons regard why employees' life outside working contexts may have relevance for the organization; at the same time, many other rationales have paved the way for real trials. In particular, experiments with shorter working hours were conducted to face unemployment (job or work sharing) and fight sicknesses, stress and exhaustion (Olsson, 1998). This last reason explains why those experiments are and were run mainly in the health and care sector.

The following paragraphs will try to understand, from the working environment perspective, how more personal time at disposal changes the human attitude. The cited studies use numbers about the performance of test subjects and try to understand their emotions and life issues with questionnaires. However, researchers could only grasp the surface of the individual life complexity.

Working Hours Reduction, Effects

Long working hours adversely affect workers in different ways. Because of the detrimental effects of long working pressure, the lack of adequate leisure time, and family-work conflicts. On the contrary, according to the interviews of personnel conducted by Olsson (1998) the strategy of a shorter working day is perceived as a welfare gain, (Olsson, 1998). Not only is what we do in our free time able to cope against the negative issues that arise at work (for example, stress release), but a good use of it is able to nurture the first and most intimate social circle of the person. In other words, people that experienced a working day reduction reported how it became easier to live and the positive impact of additional time for their relatives (Olsson, 1998). For example, several studies show how usually there is a dramatic effect of social time increasing after the working day reduction (Akerstedt T., 2001). Additionally, the person could also take care of themselves and have time to handle the necessities of life. This may result in less overall stress and more rest (Akerstedt T., 2001). Moreover, this working practice enhances the 'circle of production and reproduction':

The shorter working day may contribute to reduction of the work load of the individual and at the same time liberate capacity which can be channelled to [working] duties but also, obviously, to family life. The

time for production is reduced and will be available to enrich the individual's social and cultural life. The reduction of the working-day becomes the link which enables more people to utilize time so that it lasts for an entire life in which the orbit of work functions. One conclusion is that a shorter workday can be a way to a more ecological working-life where the circle of production and reproduction functions better as a whole. (Olsson, 1998)

Therefore, having more time for themselves, employees display several trends related to productivity, health, accidents, stress, turnover, motivation & morale, happiness, and positive affect.

Productivity

Productivity stands as one of the main objectives for companies that are profit-oriented; naturally those desire more or equal output for the same level of input. In macroeconomics it is established that labour productivity depends on three main factors: technology, physical and human capital. However, when it comes to working hour design, the focus is only on the human capital level. Much can be accomplished to strengthen the labour productivity of a company through a reduction of hours. For instance, Pencavel (2014) reports that according to the "Growth accounting research current", there are potential important gains from a working time reduction. Similarly, and more specifically, White (1987) states that shorter hours, under the right conditions, "May lead to or form an integral part of productivity improvements, which can be used to offset all or much the apparent cost of the reductions in working time". Along the same line of thought, Golden (2012) writes about "Win-win working practices" for the employer and the employee; those new practices spur productivity and are nowadays essential to overcoming global competition. "Work/life practices reflect better management practices and better conditions generally for employees in companies," writes Golden, "making them more productive." In other words, supportive work practices, are more than a subcomponent of a high-performance strategy designed to boost productivity (Berg, Appelbaum, Bailey, & Kalleberg, 2004) (Golden, 2012). In brief,

taking into account the needs of the employees seems to have more than an altruistic purpose behind it.

Employees display a diminishing marginal productivity in relation with the working hours; as a result, the relationship between hours and output is nonlinear (Pencavel, 2014; Golden, 2012). Scholars recognize that “Changes or differences in working hours do not entail the same changes or differences in effective labour input because individuals tend to work with greater efficacy at shorter hours” (Pencavel, 2014). In particular, as Golden (2012) states, overtime work lowers the average productivity. Furthermore, the performance reduction can be particularly strong for workers that have responsibilities or important duties outside the workplace (like a family). Indeed, according to White (1987), energy for production tasks is finite. For example, fatigue affects productivity because it impairs focus and increases the time needed to complete a task (Brogmus, 2007). Indeed, Pencavel (2014) reports that this was a major cause of productivity losses among full time workers that is not displayed by part time ones.

Various experiments and studies employed since the last century give validity to the conclusion that long working hours are detrimental for productivity. Two main lines of research have built knowledge on this field. On one side, meta-analyses studies of business cases have underpinned the topic from the inductive point of view. Usually, the approach is given by a comparison between an ex ante and ex post working situation or comparing at least two working groups. On the other side, models have considered the trade-offs displayed by workers between wages and working conditions (compensating wage differential and hedonic wage equation models) (Golden, 2012).

It is widely accepted that long working hours tend to undermine a worker's performance under different dimensions that affect in particular the individual rate of labour productivity. Why is that happening? The labour outcomes can dramatically sink because of different work stressors, non-work stressors, and stressors that arise from the interactions between work and family (Grant-Vallone & Donaldson, 2001). Moreover, “Employees at work for a long time may experience fatigue or stress that not

only reduces his or her productivity but also” writes Pencavel (2014), “increases the probability of errors, accidents, and sickness that impose costs on the employer”. Additionally, “Cardiovascular disease, high risk of diabetes, stress and poor mental health and work family conflicts” are associated with a prolonged working time (Ahn, 2013). This happens in the short and in the long term, in a direct and indirect way.

On the other hand, productive efficacy and efficiency, linked to a shorter working day, arise mainly because of two potential reasons (Golden, 2012; White, 1987; Pencavel, 2014). First, the physiological benefits (positive psychology and less mental and physical fatigue) and behavioural changes of the workers lead to an increase in the individual marginal productivity. This is particularly true for works that require great efforts and where the risk of errors or accidents is high (Brogmus, 2007). At the same time, costs or loss of performance given by sicknesses, accidents, injuries and turnover decrease as misbehaviours like absenteeism and tardiness (those aspects are going to be further discussed). Second, changing under new constraints, the processes that inform the working flow, usually trigger serendipity results (White, 1987; Olsson, 1998). Indeed, the limitations to meet the performance level of eight hours in a shorter amount of time, lead to better processes. As White (1987) suggests, this improvement is triggered by (1) improvements in “Management skills and knowhow concerning the productive utilization of time”; (2) “New patterns of working time, such as flexible hours’ systems; and (3) a general reorganization of processes and practices. As a result, the change leads to an increased organizational productivity. For instance, it is possible to “Reduce the number of working days and give full wage compensation”, writes Olsson (1998), “without any negative effects on costs or performances”. In other words, according to Olsson (1998) the diminishing personnel costs, the money saving and the operations rationalization lead to a general productivity increase.

Health & Injuries

As mentioned in the previous paragraph, long or irregular working hours limit productivity because of a range of physical and mental health consequences or an increase in the injury risk (Ahn, 2013; Pencavel, 2014; Olsson, 1998; Golden, 2012):

“Human suffering, health disorder, and illness are the antithesis of health, vitality and well-being. ... [S]uffering and health problems can drain positive energy otherwise used to achieve happiness and productivity” (Quick, 2004)

Also, according to the quantitative study conducted by Brogmus (2007), employees who have experienced fatigue in the previous two weeks are three times more likely to have health problems. The study confirms the literature findings on the matter through a model running on a large injury database. Indeed, the researcher writes “Hours per shift, number of consecutive shifts, time of day, time of shift and time between breaks have all been associated with different levels of injury risk” that would keep employees away from work or less productive during the working time.

Not only is productivity affected by those side effects on health of long working hours, but also the employees’ psychological stability suffers. For example, a study conducted by Akerstedt T. (2001) on four different care units and one geriatric department in Sweden, tested the effects on health and mental well-being of a reduction to a 6-hour day. Through questionnaires validated by previous studies, 134 subjects divided in participant and control groups, were observed ex ante and ex post the implementation of a shorter working schedule. Shifting to 6 hour lead to a positive change for all the variables under scrutiny (work climate, psychosomatic symptoms and social effects). In particular, “The results showed a significant interaction of year group for social factors, sleep quality, mental fatigue, and heart/respiratory complaints, and attitude to work hours” (Akerstedt T., 2001). Moreover, according to the literature review performed by Wright and Staw (1999), poor mental health and all the consequences (alcoholism, drug addiction. Job changes, hypertension, loss of self-esteem, person environment misfit and role stress) are highly related to declines in work outcomes.

Unhealthy lifestyle habits are casually linked with long working hours. According to the literature review performed by Ahn (2013), detrimental behaviours that conduct to chronic diseases like smoking, heavy alcohol consumption and lack of physical exercise (the time for non-work activity is limited) are linked with long working hours.

Furthermore, workers compensate for job stress by consuming more junk food or increasing cigarette consumption. Alternatively, there are many positive outcomes on workers when they experience a shorter working day:

A reduction in work hours leads to individuals' healthy lifestyles. Reducing work hours induces individuals to exercise regularly. A reduction in work hours also decreases the likelihood of smoking, with impacts somewhat more pronounced for heavy smokers. While work-hour reduction increases the probability of drinking participation, it decreases the likelihood of frequent and daily drinking habits. (Ahn, 2013)

To summarize, "Individual and organizational health are interdependent" (Quick, 2004), shifting to a 6 hour working day returns healthier human resources that in turn create more value.

Stress

Stress is the nonspecific response to any demand (*Selye, 1956*)

This core definition for the state of the science around stress, states how a stressful situation is something that brings the individual outside the homeostasis condition, the condition of normal functioning, our "Internal milieu" (Claude Bernard, 1854). In other words, stress is an external pressure that activates a response within the individual. The nature of stressful events is clearly stated by Schuler (1980), who has condensed the body of knowledge about the topic to conceptualize this phenomenon inside organizations; he provides this definition of stress:

Stress is a dynamic condition in which an individual is:

- a) confronted with an opportunity for being/having/doing what (s)he desires and/or*
- b) confronted with a constraint on being/having/doing what (s)he desires and/or*

*c) confronted with a demand on being/having/doing what (s)he desires
and for which the resolution of is perceived to have uncertainty but which
will lead (upon resolution) to important outcomes.*

The focus, according to Schuler (1980), is on the word 'Desire' that summarizes the needs and values of an individual and their relative importance. The individual has to resolve the opportunity, constraint and/or demand to produce the desired outcome. The degree of importance and uncertainty will highly determine the level of stress perceived by the employee. Moreover, the strains the individual faces, vary because of subjective and organizational varying characteristics (Schuler, 1980).

Cannon (1929) states that stress responses are meant to solve upcoming uncertain situations and return to the condition of homeostasis; therefore, the strain against stress is a coping response not bad per se. Schneiderman & all (2005) write that "Various situations tend to elicit different patterns of stress responses". For example, when "Fight-or-flight" strategy is possible, there is "Increased autonomic and hormonal activities that maximize the possibilities for muscular exertion" (Cannon, 1929). Similarly, when an active reaction is not feasible, a vigilance response that activates the sympathetic nervous system is deployed (Adams, Bacelli, Mancina, & Zanchetti, 1968). Indeed, depending on the individual and organizational qualities (Schuler, 1980), and on the magnitude of the stressful situation, stress can be a positive mechanism to face daily challenges. For example, according to the widely accepted psychological "Yerkes–Dodson law" (Yerkes & Dodson, 1908), moderate stress makes us alert and activated, helping us to perform better. However, as shown in the following figure, after an optimal point, stress becomes detrimental because the individual "May spend more time in coping with stresses, and his effort for job performance may be reduced" (Jamal, 1984).

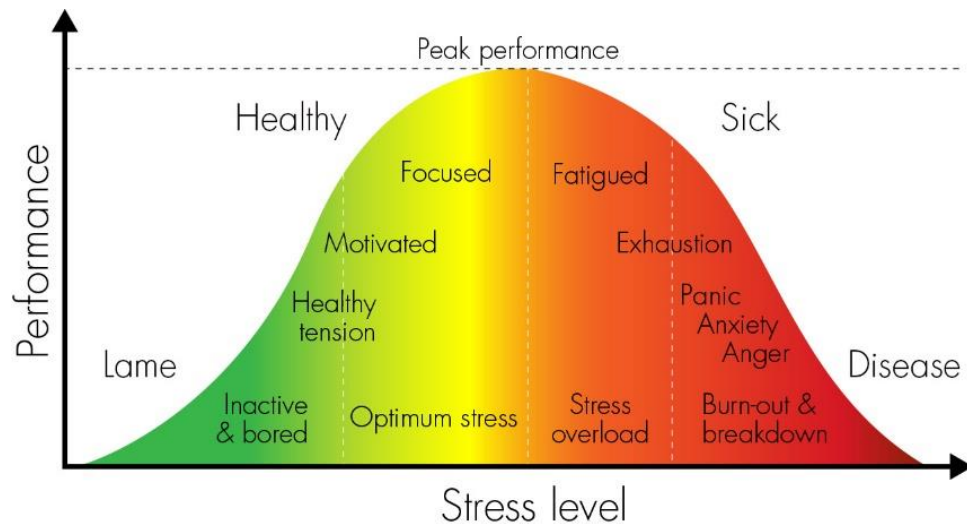


Figure 2 Yerkes - Dodson Law (Pieterse, 2016)

In addition, the long term performance of stressed employees could be affected by different symptoms caused by stress. Indeed, acute stress responses, against situations where the individual experience short-term stressors, do not entail a health threat. “However, if the threat is persistent,” writes Schneiderman and all (2005), “particularly in older or unhealthy individuals, the long term effects of the response to stress may damage health”. Moreover, the capacity for symbolic thought may increase the likelihood of lasting stress, or chronic stress, as a response to different life situations (Schneiderman, Ironson, & Siegel, 2005). Beehr & Newman (1978) have grouped all the detrimental symptoms of stress that can hinder human performance. Those can be divided in three main categories: physiological, psychological (cognitive/affective), and behavioural.

Individual Symptoms of Stress

1. PHYSIOLOGICAL (VS HEALTH)
 - a. *Short term* Heart rate, GSR, respiration, headache
 - b. *Long term* Ulcer, blood pressure, heart attack
 - c. *Nonspecific* Adrenaline, noradrenaline, thymus deduction, lymph deduction, gastric acid production, ACHT production
2. PSYCHOLOGICAL RESPONSES (AFFECTIVE & COGNITIVE) (VS TEAM, FAMILY, AND SOCIAL CLIMATE)

- i. Fight or withdrawal
- ii. Apathy, resignation, boredom
- iii. Regression
- iv. Fixation
- v. Projection
- vi. Negativism
- vii. Fantasy
- viii. Expression of boredom with much of everything
- ix. Forgetfulness
- x. Tendency to misjudge people
- xi. Uncertainty about whom to trust
- xii. Inability to organize self
- xiii. Inner confusion about duties or roles
- xiv. Dissatisfaction
- xv. High intolerance for ambiguity, do not deal well with new or strange situations
- xvi. Tunnel vision
- xvii. Tendency to begin vacillating in decision making
- xviii. Tendency to become distraught with trifles
- xix. Inattentiveness: Loss of power to concentrate
- xx. Irritability
- xxi. Procrastination
- xxii. Feelings of persecution
- xxiii. Gut-level feelings or unexplainable dissatisfaction

3. BEHAVIOUR

a. *Individual Consequences (VS HEALTH)*

- i. Loss of appetite
- ii. Sudden, noticeable loss or gain of weight
- iii. Sudden change of appearance: decline/improvement in dress
- iv. Sudden change of complexion (sallow, reddened, acne)

- v. Sudden change of hair style and length
- vi. Difficult breathing
- vii. Sudden change of smoking habits
- viii. Sudden change in use of alcohol

b. Organizational Consequences

- i. Low performance – quality/quantity
- ii. Low job involvement
- iii. Loss of responsibility
- iv. Lack of concern for organization
- v. Lack of concern for colleagues
- vi. Loss of creativity
- vii. Absenteeism
- viii. Voluntary turnover
- ix. Accident proneness

Table 1 Individual Symptoms of Stress (Beehr & Newman, 1978)

Stress is highly related to the challenges that happen at work (Talbot, Cooper, & Barrow, 1992). The sources of stress inside organizations, according to Talbot and all (1992), can be summarized as follows:

Factors Intrinsic to the Job	The job itself, including variety of work, working hours, making important decisions, ...
The Managerial Role	Role ambiguity, role conflict, role changes, ...
Relationships with Others	Dealing with people in the organization: office politics, meetings, lack of encouragement, ...
Career and Achievement	Career advancement, recognition and rewards.

Organizational Structure and Climate	The way the organization functions and its design and climate
Home/Work Interface	Conflict in the relationship between home life and work life.

Table 2 Sources of Stress (Talbot and all, 1992)

According to the literature review and evidences collected by Ahn (2013), high job stress is one of the many outcomes of long working hours. Nevertheless, stress arises from all life domains, and in particular the combination of family and work issues may pose a chronical threat to the individual. According to Schuler (1980) stress is an additive concept, the employee's total stress is the sum of all stress sources of his/her life.

The 6 hour working day is likely to benefit employees under this dimension (Ahn, 2013; Olsson, 1998). Indeed the above stress symptoms derive from work pressures, home pressures, and inter-role conflicts, that can affect personal and organizational outcomes if workers do not have control of their life and have time imbalances between home and work (Grant-Vallone & Donaldson, 2001).

Turnover & Recruitment Costs

It is common knowledge that the costs associated with turnover are an important economic burden; the employer has interest in retaining human capital, in particular top talents that greatly contribute to the overall organizational performance. Not only does a valuable and experienced employee leave the chair, but also the recruitment process comes with a cost. Besides, the phenomenon is increasing a lot: "Contemporary employment paths are often marked by turnover in light of global economic forces and job conditions [(low job satisfaction, insecurity, poor health, low tenure)]" (Moen, Kelly, & Hill, 2011).

A shorter working day proves to reduce turnover because of the positive consequences that employees experience. According to the interviews held by Olsson (1998), a shorter working day with partial or full wage compensation is seen by the employees as a welfare gain. Indeed, "Positive work-life outcomes for employees", write Twenge & Campbel (2010), "are key factors in retaining both male and female employees and thus

ingredients for successful business strategy.” The researchers stress the previous concept: “Organizations that foster employee well-being are recognized as desirable places to work” (Twenge & Campbel, 2010). In other words, turnover and, for example, time pressure come together. On the contrary, “Greater work-time control and flexibility,” that are important 6 hour working day objectives, “lower the odds of turnover” (Moen, Kelly, & Hill, 2011).

Motivation

Motivation is defined as the “Desire or willingness to do something; enthusiams” (Motivation, 2016). It is reported as one of the main conditions of human performance, both under the productive and creative perspective (the latter will be disussed further on). For instance, it is “Accepted wisdom ... that a motivated workforce means better corporate performance” (Nohoria, B., & Lee, 2008). Morale is strictly linked with motivation. It is a measure of the commitment employees have regarding the company. Indeed, high morale leads people to devote their attention and mental energies to the working tasks. On the contrary, several factors can inhibit employee motivation. Overtime, for example, is a cause of poor employee morale; subsequently, this affect productivity but also other measures like absenteeism (Golden, 2012).

According to the work of Nohoria & all (2008) motivation rises when the organization is able to meet “Four basic emotional needs”; those are “The drives to acquire (obtain scarce goods, including intangibles such as social status), bond (form connections with individuals and groups), comprehend (satisfy our curiosity and master the world around us), and defend (protect against external threats and promote justice). There are linkages with the effects of a working day reduction but those are not only indirectly adressed by the literature on the topic.

Mistakes & Accidents

Employees that have a long working day, are more likely to make mistakes (Brogmus, 2007; Golden & Wiens-Tuers, 2006; White, 1987; Pencavel, 2014). According to Golden (2012), those are more likely to report that workers “Have to work on too many tasks simultaneously”, and they “Get interrupted at work” with important costs on the

organization. For example, works related to human health, concerns about patient safety or works related to security or transport are important. Not only the probability of errors rises significantly after long shifts (Pencavel, 2014) but in those sectors there are human lives at stake. This is the reason why many experimentations with lower working hours are held inside hospitals or day cares (Olsson, 1998). Lower working hours increase the worker's focus with important results for health patients.

Happiness & Positive Affect

Happiness (or subjective well-being, SWB) is defined by Argyle (1997) as "A combination of an enduring positive mood, the absence of negative moods like anxiety or depression, and satisfaction with life". This is a broad psychological definition; it does not fit academic research in working contexts. Therefore, measurements of job satisfaction or other proxies usually operationalized it (Wright & Cropanzano, 2004).

Organizations should highly consider workers' happiness as one of the main variable of operative performance. Indeed, happy employees "Perceive the world as safer and feel more confident", Myers (2014) writes, "they make decisions, cooperate more easily, and are more tolerant. They ... savour their positive past experiences without dwelling on the negative, and are more socially connected. They live healthier and more energized and satisfied lives". As a result, the working environment is likely to benefit from all those general and positive life attitudes. In other words, a positive relationship between job satisfaction (a proxy for happiness, well-being, and positive affect) and job performance exists (productivity) (Quick, 2004; Wright, Bonett, & Cropanzano, 2007). Moreover, several literature reviews (Isen & Baron, 1991; George & Brief, 1992) support the idea that positive affect has different performance enhancing outcomes inside organizations. That is, "Employees are more helpful, creative, better negotiators, and more persistent on uncertain tasks" (Wright & Staw, 1999). More specifically, according to the review conducted by Wright and Staw (1999), positive affect has a motivational role and is a determinant of helping behaviour; motivation is enhanced by a positive interpretation of reality or a state of happiness, there is higher self-efficacy and different optimistic biases; failure as well is not a performance stopper because it is interpreted as a momentary setback caused by external forces. Employees at the same time are able

to provide each other with better social support being “More adept at the interpersonal aspects of organizational life.” (Wright & Staw, 1999).

A long working day can be detrimental for the well-being or happiness of an employee. On the contrary, a reduced workday leads to the achievement of a better life equilibrium because it permits to avoid, for example, work-family conflicts (Quick, 2004; Ahn, 2013). Moreover, “Leisure activities that are enjoyable and satisfying”, write Haworth & Lewis (2005), “are ... vital to sustain well-being”. Also, Vallone’s research (2001) starts from the analysis of the outcomes given by the scarcity of energy and time required by different life domains. Although our time is fixed, we live in different life clusters and consequently we have different roles. Imbalances between those can increase stress, anxiety, depression, physical ailment, and decrease life satisfaction, quality of family time and energy levels (Grant-Vallone & Donaldson, 2001). Furthermore, the presence of children can increase the likelihood and magnitude of those effects.

Additional leisure time, a direct consequence of a shorter working week, brings leisure satisfaction. This is strongly correlated with happiness and positive moods (Lu & Argyle, 1994) (Argyle, 1997). For example, according to Argyle (1997), sport and exercise induce positive moods because of the release of endorphins, the social interaction, and the increase of the self-esteem through successful performance. More important, serious leisure (e.g. hobbies and leisure groups with a purpose) brings deep satisfaction that is related to the challenges and skills that enhance. In addition, direct effects on health (just consider sport) are provided by those kinds of activities.

There are other considerations on the matter. Briefly, happiness triggers a ‘spiral effect’ into a working environment. There are positive benefits for those who are exposed to happy co-workers (Wright & Cropanzano, 2004). Also, there is a strong causal relationship, in both directions, between happiness and health that reinforce the positivity of this new working practice (Argyle, 1997; Lu & Argyle, 1994).

Creativity

Creativity in organizations is becoming an increasingly important concern both for organizational decisions and academic research. The body of knowledge around this human ability is reaching a critical mass (Amabile & All, 2012; Ceci & Kumar, 2016; George, 2007; Csikszentmihalyi M. , 1996; Runco & Jaeger, 2012; Sawyer, 2012; Simonton, 2010; Talbot, Cooper, & Barrow, 1992; Woodman, Sawyer, & Griffin, 1993; Yusuf, 2009). Many research areas are studying creativity (psychology, anthropology, sociology ...), and several research methodologies are deployed as Mayer (1999) suggests: a) psychometric, b) experimental, c) biographical, d) biological (cognitive neuroscience), e) computational, and f) contextual. Indeed, the resulting multidisciplinary and different approaches are needed in order to understand this complex, and heterogeneous phenomenon. As a result, the disciplinary trajectories have departed one from another, thus the coverage of the different aspects on the matter is piling up. "Research on creativity is proceeding in anything but a linear fashion," writes George (2007), "it is developing in a variety of different promising directions that, while building from the common ground of the existing literature, are not necessarily reflective of a unified paradigmatic thrust". Thanks to the interest of the academic world, even if the scientific validity should be strengthened and a clear and univocal definition is needed (Chan, 2013), the produced knowledge is now enough to claim some understanding on the matter (Sawyer, 2012). There is still much work that needs to be done, however, research on creativity is allowing for the comprehension of this human ability.

A better understanding of creativity is vital to improving organizations' efforts toward innovation. Indeed, the creative result of the human minds is the root of every innovation. "Creativity has always been at the heart of business ... [it is] essential to the entrepreneurship" (Amabile & Khairi 2008). Still, it starts with nothing more than a single idea, a novel connection of thoughts, mental images. The result, according to George (2007), is that creativity is always assumed to be a positive force. However, the presence of the creative capital met a necessary but insufficient condition. Afterward, several steps are needed to develop a useful innovation. Yusuf (2009) writes that

“Commercially success is a function of organizational capability and the coordinated use of multiple skills, managerial, financial, marketing and legal”. The creative idea is only a starting point; afterwards, something concrete needs new knowledge creation and many organizational resources. In conclusion of their paper, Shalley and colleagues point out how research on creativity has not yet demonstrated the relevance of creativity for innovation.

Definition

“Creativity is the cultural equivalent of the process of genetic changes that result in biological evolution. ... The analogy to genes in the evolution of cultures are memes. ... It is these memes that a creative person changes, and if enough people see the change as an improvement, it will become part of the culture”.

(Csikszentmihalyi M. , 1996)

The creativity concept development, for academic purposes, has gone through different waves (Runco & Jaeger, 2012). Additionally, those reflect the main approaches of social sciences on the issue: the individualistic and sociocultural (or organizational) perspective (Sawyer, 2012).

Individual Creativity

The individualistic perspective describes how creativity works in the mental domain of a single person. It studies the brain processes and structures that allow this capability and how those are affected by inner sensations, affects or external conditions and inputs.

There are several definitions that can highlight the characteristics of creativity. For example, Sawyer (2012) defines creativity as “A new mental combination that is expressed in the world”. It is important to shed light on the reason behind those words. As a necessary condition, a creative idea should be expressed to the world; without communication, representation or formalization it is impossible to gain knowledge of its existence. More important, a new idea is nothing more than a combination of existing

thoughts, concepts or ideas. Something that was never done before but that heavily relies on past contributions. That is, the more unrelated concepts come in contact inside the human mind, the more the novelty of the idea (Csikszentmihalyi M. , 1996). However, novelty is not sufficient to claim creativity; in fact, the ideas association provides mostly raw material that has to be evaluated. Indeed, academics agree on a standard definition of creativity (Runco & Jaeger, 2012), that elicits more attributes: “A creative thought is defined as the process or set of processes that generate ideas that are both (a) original, novel or surprising and (b) useful or adaptive” (Simonton, 2010). First, originality or novelty is required for definition; otherwise, it is like reinventing the wheel, a conventional idea. Second, effectiveness, usefulness, fit or appropriateness is a characteristic that makes an original idea also valuable and therefore creative. Not all the ideas that come to mind are interesting and useful. Especially in business an idea should be appropriate, useful and actionable (Amabile T., 1998).

The exceptional creativity process is not only a matter relative to the singular person and his capabilities, it is not an individual phenomenon (Csikszentmihalyi M. , 1996). Instead, it involves external factors; indeed, the exceptional creativity (creativity expressed by knowledge workers) happens into a disciplinary or sociocultural context (Simonton, 2010; Csikszentmihalyi M. , 1996). The change that creativity brings is the result of the interplay between three components, a) the domain, b) the field, and finally c) the individual. First, according to Simonton (2010), the domain consists of the ideas, theories, concepts, principles, methods etc. of the scientific discipline; it is the “Set of symbolic rules and procedures”, like physics or other branches of sciences (Csikszentmihalyi M. , 1996). The interplay between the domain and the individual personal experiences leads to the creative outcome, output of three components: expertise, creative thinking skills and motivation (Amabile 1998). The former, expertise, is knowledge, the building block of the creative association processes. This encompasses not only mere fact-knowledge, derived from the domain and personal experiences, but also the abilities nurtured during the life span. Then, the creative thinking skills are related to the divergent thinking capacities of an individual. Those determine the way people approach problem solving processes with flexibility and imagination. Lastly,

motivation is probably the most important creativity driver that is going to be discussed further on. Second, the field consists “Of the set of individual creators who are active in the same discipline” writes Simonton (2010), “that review the ideas and assess their contribution value and usefulness (e.g. peer review)”. In other words, the field is composed by all the people that work around the domain, and “It is their job to decide whatever a new idea or product should be included in the domain” (Csikszentmihalyi M. , 1996). Lastly, the individual “Embodies the psychological aspect of creativity, that is, the locus of the cognitive processes that generate creative ideas” (Simonton, 2010). In brief, creativity requires not only the singular brain but also the environmental conditions (domain) that have shaped and supported the creative process and other people (field) that validate novel ideas.

It is within the individual person that the creative process takes place. Donal T. Campbell (1956) has developed a selectionist theory of creative thought based on the “Blind variation and selective retention” a two stage and inductive process. The creative “Gains must [be] the products of explorations going beyond the limits of foresight or prescience” writes Campbell (1956) to explain the use of the term “Blind”. According to the psychologist, the process that brings ideas together is almost random, it is independent from the environmental conditions and uncorrelated with the solution. For those reasons, originality streams out of many possible combinations through blind variation, and then the selective retention is used to determine which idea is useful (Simonton, 2010). Similarly, Einstein labelled the creative thinking process as a “Combinatory play”, anticipating somehow many psychologists. In other words, this process is perfectly explained by Amabile, Constance and Kramer (2002) who describe it with a figure: “It is as, if the mind is throwing a bunch of balls into the cognitive space, juggling them around until they collide in interesting ways.”

The psychologist Csikszentmihalyi (1996) reports the classical analytical framework for the creative process, a linear simplification that is able to shed light on the phenomenon from a different perspective. It consists of five steps:

1. *Preparation*

According to Csikszentmihalyi (1996) “The creative process starts with a sense that there is a puzzle somewhere, or a task to be accomplished”. Creative insights do not occur in a vacuum, those arise inside prepared minds that are, consciously or unconsciously immersed in problematics that can arise from personal experiences, requirements of the domain, and/or social pressures.

2. Incubation

In this underground phase “Ideas churn around below the threshold of consciousness. It is during this time that unusual connections are likely to be made” (Csikszentmihalyi M. , 1996). Cognitive theory states that during idle time, ideas follows simple law of association without the censorship of rationality. “Free from rational direction, ideas can combine and pursue each other every which way”. This time to nurture ideas, should be considered by organizations; indeed, it can be considered a dimension of the creative climate (Talbot, Cooper, & Barrow, 1992). For example, “Recent advances in neurosciences provide intriguing evidence of ... [how] problem solving insight can be dramatically enhanced by a period of sleep” (Amabile, Barsade, Mueller, & Staw, 2005).

3. Insight

It is the moment when the solution to a problem crystallized in the creative’s mind. Eureka!

4. Evaluation

The novel idea is evaluated in terms of usefulness by the strict logic of reason. Most of the ideas usually are not pursued after this phase.

5. Elaboration

During this phase, the creative person has to work on the development of the idea. To reassume this phase, it is possible to recall the words of Thomas A. Edison: “Genius is one percent inspiration, ninety-nine percent perspiration” (Rosanoff, 1932)

It is important that individuals have sufficient time to develop creative ideas. The more the novelty the more time required by the mind (Csikszentmihalyi M. , 1996). Therefore, the time pressure on employees should be wisely decided; there is, according to Baer &

Oldham (2006), an inverted U-shaped time pressure – creativity relationship. That is, individuals are stimulated and activated by the right pressure that leads “To greater exploration of ideas and experimentation with novel approaches” (Baer & Oldham, 2006). On the contrary, Amabile & all (2002) write that moderate to high time pressure “Has a direct negative effect on creative cognitive processing.” In conclusion, it is important to have sufficient time to fully run the cognitive process: “The more time that is made available for this type of thinking, the more the variations that can be generated and evaluated” (Amabile, Mueller, Simpson, Kramer, & Fleming, 2002).

Creativity depends on several factors: motivation, affect & mood, and stress.

Motivation

Motivation may arise both from within the individual or from external factors. On the one hand, external motivation encompasses the cluster of outside inputs the person receives to pursue a job, it can briefly be defined as ‘carrot & stick’ (compensation, rewards, recognition, fear of failure). It lacks to activate the creative potential of employees (Amabile & Kramer, 2012), acting as an external pressure. In other words, it “Does not serve as major incentive for highly creative individuals,” writes Ceci & Kumar (2016), “the scientist does her job in order to get something desirable or avoid something painful”. Furthermore, it may be detrimental for creativity, “Money does not necessarily stop people from being creativity, but in many situations, it does not help”, writes Amabile (1998), “especially when it leads people to feel that they are being bribed or controlled.” Also, according to Ceci and Kumar (2016) “Extrinsically motivated individuals may carry more negative affect and experience stress while engaged in creative tasks”. In brief, their qualitative study reports the correlation between creativity and extrinsic motivation to be insignificant. Alternatively, intrinsic motivation was found to be strongly correlated with motivation. Indeed, “More creative individuals tend to be more intrinsically inspired or self-motivated.” A person is intrinsically motivated when he is doing the work or activity he enjoys doing, this activity becomes rewarding on its own, autotelic (Csikszentmihalyi M. , 1996). According to the vast majority of researchers, internal motivation is the main driver that leads toward creative insights (Amabile T., 1998; Amabile & Mueller, 2007; Amabile & Kramer, 2012; George,

2007; Florida & Goodnight, 2005). “People are most likely to be creative when they’re intrinsically motivated by the interest, enjoyment, satisfaction, and challenge of the work itself” (Amabile & Kramer, 2012).

There are several factors that pave the conditions to enjoying an activity and keeping a person engaged and productive (Csikszentmihalyi M. , 1996). Some of them could be balanced by managers, according to Amabile (2012), in order to increase the creative efforts of employees. the following drivers should be managed:

- *Goals*

According to Csikszentmihalyi (1996), clear goals are necessary to involve the person and release his creativity potential. Similarly, Amabile and Kramer (2007) state that “If [employees] perceive a clear path forward, with little ambiguity, their motivation will be high”. Also, strategic goals should be neither too loose nor accurate; those require a “Clear strategic direction toward a worthy purpose” and “Autonomy to apply [employees’] specific skills and talents” (Amabile 2012). Similarly, it is important that the work serves a meaningful purpose.

- *Feedback & Evaluation*

Csikszentmihalyi (1996) claims that it is of preeminent importance to receive information about our own performance. According to the psychologist, this is needed to separate good ideas from bad ones and to avoid wastes of time. Moreover, providing balanced evaluation is necessary to enhance creativity. Indeed, the extremes of strong evaluation pressure or absence of evaluation are both detrimental. The former generates fear of critical reactions, and the latter the perception of not being considered. “The crucial balance involves a great deal of frequent, work-focused evaluation and feedback that is truly informative and constructive. Ideally, these evaluations involve peers (as well as supervisors) openly discussing the work.” (Amabile 2012)

- *Reward*

There are different kind of rewards. Monetary compensation is relevant to contrast financial worries that may distract workers (Csikszentmihalyi M. , 1996).

However, material rewards, that are into the domain of extrinsic motivation, can harness creativity. For the sake of creativity, employees should feel to be valued by the organization. Therefore, recognition from or availability of supervisors are more effective than monetary rewards (Amabile, 2012).

- *Pressure*

It is important that “Our abilities are well matched to the opportunities for action” writes Csikszentmihalyi (1996), if employees “Feel that the challenges are too high in relation to [their] skills, [they] feel frustrated and anxious. [If employees] feel that [their] potential is greater than the opportunities to express it, and then [they] feel bored.” Therefore, inside organizations, a mid-level of pressure enhances internal motivation. Managers should avoid to burden employees with extreme time or competitive pressure. On the contrary, a challenging (challenging tasks where the skills of the workers are up to the task) and relevant assignment trigger creative flows (Amabile 2012). Furthermore, challenge, and the intellectual one in particular, activates intense interest and enjoyment that result in strong motivation (Amabile T. , How to Kill Creativity, 1998). Csikszentmihalyi represents the optimal creative condition of “Flow”, as the intersection between high challenge and adequate skills to meet it:

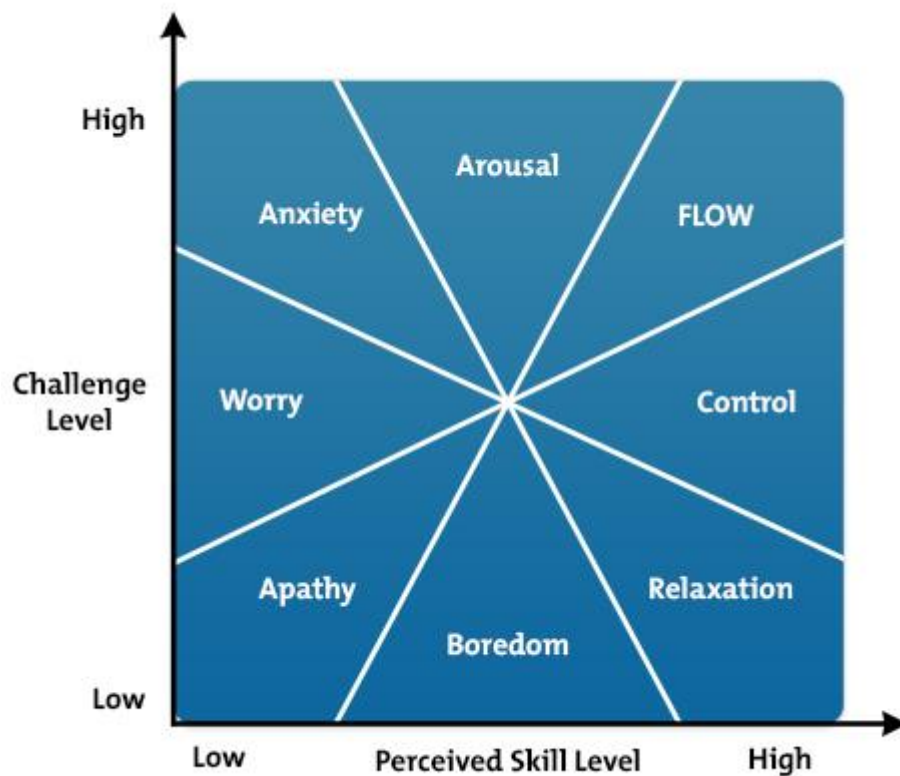


Figure 3 The Flow Model (Csikszentmihalyi, 1990)

This potential trigger not only is conducive to creativity but it also positively influences the individual on different levels. For example, “Higher intrinsic motivation is associated with greater positive affect, [and] subjective well-being” (Ceci & Kumar, 2016), leading to a spiral, enhancing, effect.

Affect & Mood

Flesh and bones employees have emotions that translate into different affective states and moods. Therefore, due to the human presence, “Organizations are affectively laden environments” (Amabile, Barsade, Mueller, & Staw, 2005).

According to the extensive literature review and the researchers conducted by Amabile and all (2005), affect influences numerous work outcomes such as task quality, productivity, efficiency and creativity. In particular, “Creative activity appears to be an

affectively charged event,” writes Amabile and all (2005), “one in which complex cognitive processes are shaped by, concur with, and shape emotional experience.”

Whether positive or negative affect is the determinant of creativity is still debated. It is common wisdom that creative artists or geniuses are people shackled by sad life occurrences and abound with emotional dramas (Amabile, Barsade, Mueller, & Staw, 2005; Graddy, 2015). Therefore, negative affect, anger, sadness, or fear, and the consequent emotional disorder were thought to be correlated with creativity (Ceci & Kumar, 2016). However, “This is a suggestion for which there is more anecdotal argument than actual data” writes Isen (1999). For example, a recent paper, “Death, Bereavement, and Creativity”, drafts several conclusions about creativity and affect or mood from an event analysis between paintings value and artists’ bibliographies. Graddy (2015) observes that “Prices of paintings decrease by over one-third on average in the two years following the death of a friend or relative”. There are at least three reasons for this decline of the creative performance. First, distractions are the nemesis of creativity; Csikszentmihalyi (1996) states that “The more ambitious the task, the longer it takes to lose oneself in it, and the easier is to get distracted. ... More serious health, family, or financial problems could occupy the mind of a person so insistently that he or she is no longer able to devote enough attention to work”. Second, according to the Graddy (2015), depression and sadness seem to undermine creativity. In other words, “Psychic entropy, which is a state of consciousness characterised by inner disorder, negative emotions, ... is the opposite of flow”, where flow is the condition par excellence for creativity (Csikszentmihalyi M. , 1996). Third, according to the literature review conducted by Graddy (2015), “The mood is related to creativity” and therefore a negative mood may hamper it.

More significant, positive affect influences people’s cognitive abilities according to the review conducted by Isen (1999) that has examined 25 studies on the matter from seven different topic areas. In particular, positive affect is positively linked with an increase in cognitive flexibility (the ability to take different perspectives), cognitive elaboration, creative problem solving, and coping skills. “A possible mediator of the influences of positive affect,” writes Isen (1999), may be “the release of the neurotransmitter

dopamine” that activate attention and many mental processes. Furthermore, the process of “Blind Variation and Selective Retention” previously illustrated, is fuelled by the augmented cognitive elements that the brain provides when influenced by a positive mood (Amabile, Barsade, Mueller, & Staw, 2005). Indeed, according to Simonton (2010), the probability of novelty arises with an increase of knowledge elements that are considered by the individual mind. For those reasons, according to Amabile (2005), the relationship between positive affect and creativity should be curvilinear, a U-shaped relationship. Moreover, Amabile and Kramer’s (2007) findings suggest also that positive affect and good mood contribute to increase employees’ productivity, commitment to the work, and collegiality (team cohesiveness). Indeed, according to Wright & Staw (1999) when employees are happy, those “Are more helpful, creative, better negotiator, and more persistent on uncertain tasks”. Finally, both Amabile and Kramer (2007) state that not only “Positive emotion [are] tied to higher creativity, and negative emotion ... to lower creativity”, but also there is a “Carry over effect. The more positive a person’s mood on a given day, the more creative thinking he or she did the next day”.

Following, Amabile’s model (2005) to explain the interrelations of factors that can enhance or destroy creative energies inside organizations. This synthesises the relationship between positive affect and creativity in a clear fashion.

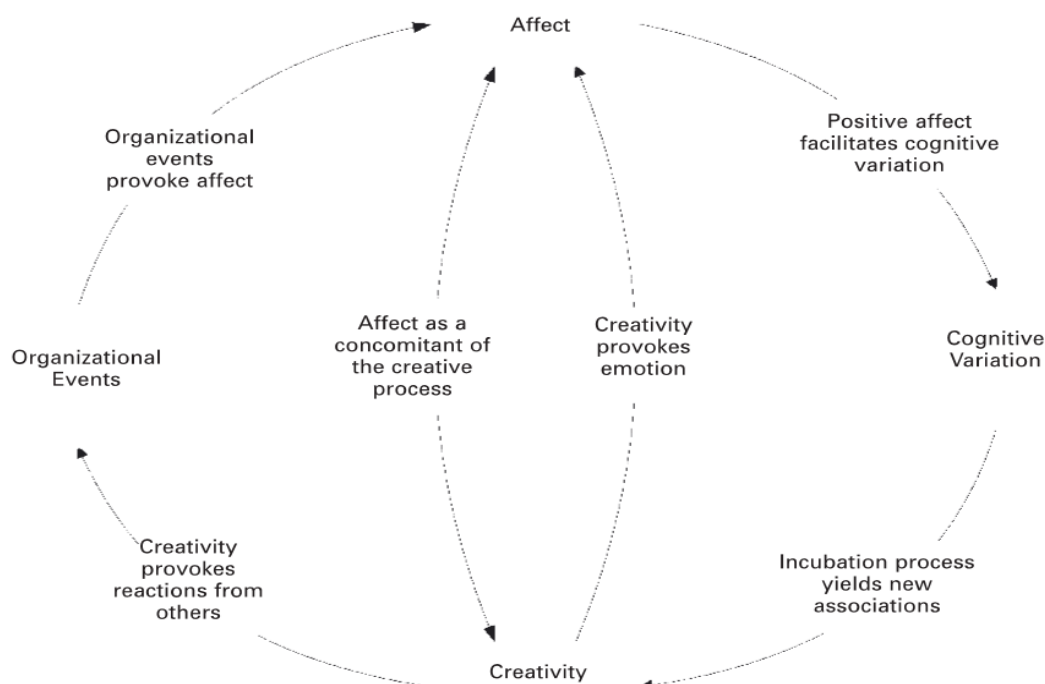


Figure 4 The Organizational Affect - Creativity Cycle (Amabile and all, 2005)

Stress

Stress was widely discussed in the paragraph on its relationship with working hours. Here it is possible to restate that stress can act as a fuel for the brain to work. Unfortunately, its effects are also detrimental and dangerous for the person if they are sustained in the long run. Indeed, "Those who suffer from [intense and prolonged stress] become physically exhausted and emotionally depressed. They develop negative attitudes about themselves and others, and about their projects" (Hosking & Morley, 1991). However, optimal experiences "Are not necessarily pleasant at the time they occur." (Csikszentmihalyi M. , 1990). It is important to recover in order to avoid the negative consequences of those events that burden employees' brains and bodies.

High and prolonged levels of stress damages creativity. On the matter, is possible to recall Table 1 Individual Symptoms of Stress , that points out how different symptoms of stress conducts to lower individual performance at work and a decrease in his creative mental faculties. Furthermore, Talbor and all (1992) have conducted an extensive survey to understand creativity, stress, and their relationship inside organizations (this study is

valid for the individual and organizational dimension of creativity but both are going to be displayed in this section). According to the results of the cited study, there is a significant correlation between stress and creativity; “The higher the stress scores the lower the climate score” writes the researcher. However, the sources of stress were not related to intrinsic job characteristics but to work relationships, climate, structure, and work/home conflicts. In addition, according to Hosking and Morley (1991), stress can detriment creativity for a number of different reasons. First, it “Narrow the ways in which we diagnose issues and develop solutions” (Hosking & Morley, 1991). Second, employees start to have a withdrawal attitude. Lastly, employees “vacillate between alternatives ... in extreme cases [they] may even fail to act at all.”

Conclusion – The Creative Person and the Creative Conditions

Every person has the potential to contribute with important creative insights. For example, it is common knowledge that the “Toyota Production System” enable all employees to contribute not only with physical work but also with their brains. However, certain personality traits, conditions of antecedents, cognitive styles and creative behaviour may increase the likelihood of a creative contribution. First and foremost, the personality traits that characterise a creative person could be expressed in one word: complexity (Csikszentmihalyi M. , 1996). According to the psychologist, creative people “Contain contradictory extremes – instead of being an ‘individual’, each of them is a ‘multitude’. [T]hey tend to bring together the entire range of human possibilities”. More specifically, they have the ability to move from an extreme to another, depending on the occasion. Following, a table that summarises, with direct quotations, the work of Csikszentmihalyi (1996) about the topic.

Creative individuals:

1)	have a great deal of physical energy, but they are also often quite and rest.
2)	tend to be smart, yet also naïve at the same time.
3)	display a related combination of playfulness and discipline, or responsibility and irresponsibility.

4)	alternate between imagination and fantasy on the one hand, and a rooted sense of reality on the other, ... the novelty they see is rooted in reality.
5)	seem to harbour opposite tendencies on the continuum between extroversion and introversion.
6)	are remarkably humble and proud at the same time.
7)	to a certain extent escape the rigid gender role stereotyping, ... [there] is a tendency toward androgyny.
8)	[are] both traditional and conservative and at the same time rebellious and iconoclastic.
9)	are very passionate about their work, but they can be extremely objective about it as well.
10)	are exposed ... to suffering and pain yet also a to a great deal of enjoyment.

Table 3 Creativity Characteristics in Individuals (Csikszentmihalyi, 1996)

Moreover, Amabile (1998) lists other traits that have been reported, such as persistence, curiosity and intellectual honesty. Second, there are antecedent conditions like the individual experiences or biographical variables. For example, a creative advantage is given by an environment that provides intellectual stimuli, role models, connections and/or expectations for educational advancements (Csikszentmihalyi M. , 1996). Third, the cognitive style and ability are also relevant for individual creativity. According to the review conducted by Woodman & all (1993), among those skills it is possible to mention divergent thinking, ideational fluency and originality. In addition, relevant knowledge and motivation are key variables to accounting for creative insights, those are the raw material and the fuel of creativity. Besides, field dependence is strongly linked to creativity; the ability to not waste time on details during the work, but to proceed on ahead (Amabile T., 1998).

Even if the employee displays some of the above mentioned creativity personal characteristics, he can be blocked by a sterile and negative working environment. Without motivation, or if impaired in his mental faculties by life problems, the most creative person would not perform creatively. Therefore, this theoretical framework suggests the purposes of exploring the effects of a working day reduction for creativity

unleash. Indeed, there are different conditions that the right environment may satisfy to unlock a person's creative potential. As a result, the hypothesis of a relationship between creativity and a shorter working day seems worth exploring. Indeed, the positive effects on the individual's psychological well-being of a shorter working day may pose the conditions for exceptional creativity to happen. Health, lack of injuries and mistakes, lower stress, motivation, and positive affect can foster the creative production of employees and their collegiality for creative teamwork.

Methodology

I spent one year in Sweden, a country on the welfare's front line innovation, where I came into contact with the 6 hour working day topic. I decided to explore the creativity – working hours connection because of the missing link of this practice with the theme of innovation. Indeed, innovation, at the human resource level, has creativity as the main psychological variable that can be fostered; therefore, I decided to consider it as the independent variable in line with the more suitable methodological approach suggested by George (2007).

This thesis follows an epistemological interpretative, and ontological constructivist approach; those are the base to adhere to the presented psychological perspective on organizations and to the qualitative nature of the research. As a result, the work flows under an 'intersubjective assumption': reality is imagined and it is the product of the human mind; this states that humans are autonomous, give meanings to their surroundings, and are creative, that knowledge is personal and experiential; we can have an individual understanding and therefore, subjective experiences are meaningful (Cunliffe, 2011). At the same time, the constructivist approach assumes that we experience reality differently, and the consequent sum of our interpretations determines reality. Therefore, individuals make their own, different interpretations, but it is possible to state general laws (Bryman & Bell, 2001). In other words, "Social properties are outcomes of the interactions between individuals, rather than phenomena out there" (Bryman & Bell, 2001).

It is a descriptive and narrative thesis that advances under an inductive approach; it makes logical claims in the analysis, that are developed from concepts extracted from the literature review or the empirical findings. This is done in order to sustain a theory of casual relationship between the independent and dependent variable. Thus, the inductive process starts with the literature review itself which is conducted on the material of 'scholar.google.it' and GOT University's Library. In addition, I gave relevance to the most cited articles and I followed the work of the most prolific academics on creativity (like Amabile or Csikszentmihalyi). The resulting literature follows a narrative approach meant to cover the two topics (creativity & working hours) with an extensive review. The purpose is to highlight and discover the connections between the phenomena. Indeed, I added all the relevant information derived from this research work without following a fixed causal relationship; this gave me the possibility to explore the subjects and all the possible inter-linkages. As a result, the literature is an evolutionary process made reference by reference to generate understanding. A framework to grasp reality and support the inductive process of theory generation. Indeed, after the collection of academic knowledge, to further support this inductive process, I collected several experts' opinions in the empirical findings. The following analysis attempts to formulate a model that summarises through hypothetical propositions, all the possible interlinkages between the two variables. Therefore, this thesis presents a new pattern that connects two existing clusters of knowledge.

To support the validity of this process I relied upon rational propositions and empirical tests. On the one hand, rationality is at the base of the analysis. This is an organized conceptual landscape of propositions where concepts are linked by straightforward casual relationships based on the results provided by the academic world. The approach used is straight and rational, it just highlights the outcomes for the human resources inside organizations of a work day reduction and verifies that many of those are inputs that can foster creativity at the individual, group and organizational level. In other words, I connected the dots between the common factors among the two dimensions under scrutiny, justifying this process with a simple logic. Somehow, I found that there is consistency between those new propositions and common wisdom. On the other

hand, the empirical evidences were made to test the hypothetical relationships. The primary data tests and links the secondary one. The following scheme represents the work flow:

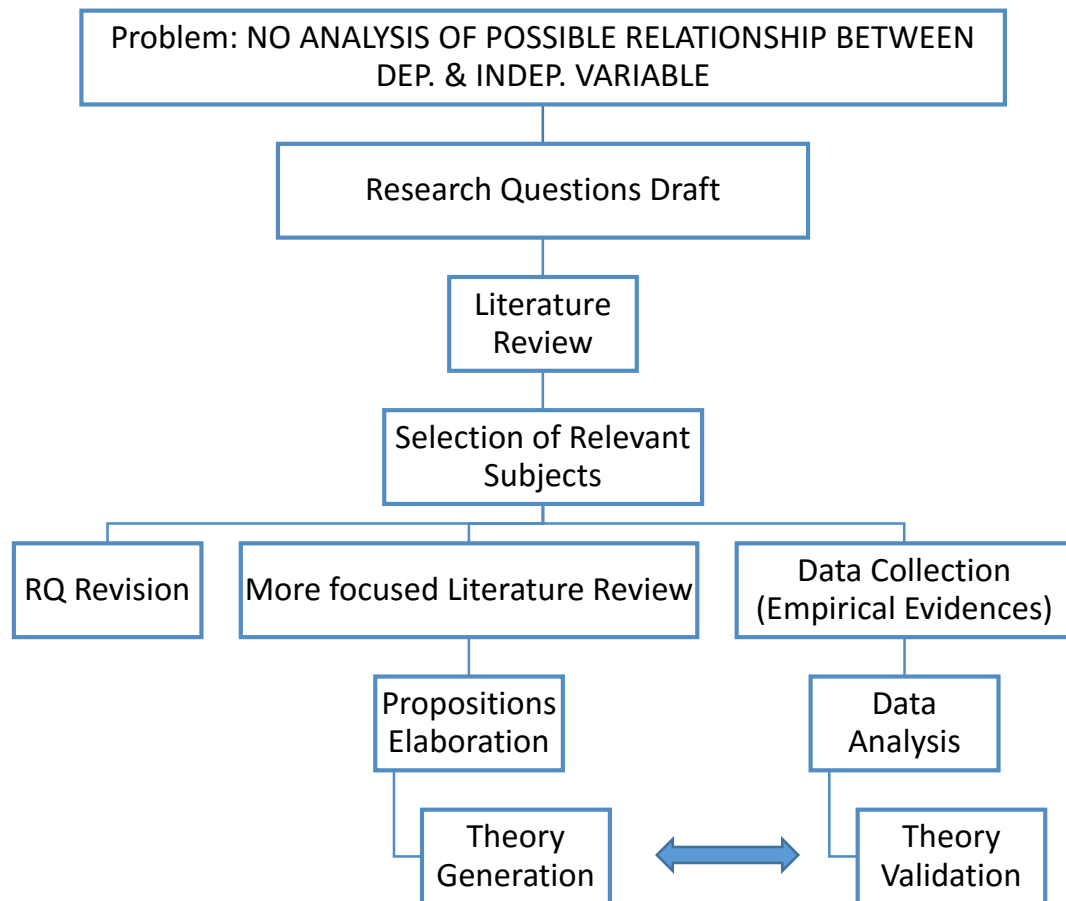


Figure 5 Research Method & Theory Development Process (Own elaboration)

In order to help the proof of the links in the analysis, I have summarised all the topic connections inside tables, 'Highlight Tables'. Those meant to show the consistency of results among different academics and the proposition that emerged from the interviews. The first kind shows under the proposition all the sources in support of that; the second kind reassumes the reasoning on the thematics of the interviewed experts. As a result, *Figure 11* clears all the interlinkages that have been found; it shows the connections between the independent and dependent variable.

Data Collection

Respondent Selection and Access Negotiation

Because of the impossibility to gain direct access to a working environment where 6 hour working shifts are deployed, I used expert interviews to collect primary data. In other words, the impossibility to rely on a relevant quantity of employees that benefit from this practice, lead me to choose quality of insights. Therefore, experts were chosen from different working and academic fields connected with the topic. I pre-selected five different domains to understand all the psychological and managerial aspects around creativity and working hours' design:

a. Psychology of working hours

The effects of a 6 hour working day are relevant to understand if some of those may foster creativity. Luckily, I got in contact with a psychologist expert on the topic, who followed an experiment sponsored by the "Psychological Department of Gothenburg University". The doctoral researcher, with his wife, studied the implementation of this practice at Sahlgrenska Hospital. I gained access asking them for an interview at the conference where they were presenting their results.

b. Psychology of creativity and innovation

In order to understand the linkages between the effects of a shorter working day on creativity, I interviewed an expert of the field. The university of Gothenburg has a front line research department of psychology, and among the professors, one is dealing with innovation as his main research subject. He teaches "Group Psychology" and his research interests are: leadership, creativity, innovation, team processes, I/O Psychology. I contacted him through to my university network.

c. Human resource management working with a reduced working day

To understand the HR perspective on this practice, I mailed the administrative office of the X health centre that is implementing it. The chief Human Resource Manager gave me audience after a mail exchange.

This respondent prefers to be not directly mentioned; therefore, both his name and his working place are not mentioned.

d. Political perspective

The 6 hour working day is one of the main topic in the political agenda of the Left & Green Party. I choose to understand the relevant issues that the political parties are bringing on the table. Therefore, I contacted the deputy that follows the 6-hour topic in Gothenburg Municipality and I had the chance for an interview.

e. Chief of a private company that works with 6 hour working day

I tried to get in contact with one of the main business in Gothenburg that implemented the practice 20 years ago to understand how it affects a company's bottom line. Unfortunately, I was not able to gain access.

Semi Structured Interviews

I crafted a different interview guideline for each kind of profession. The questions are based on the literature outcomes, in order to prove the hypothesis in the analysis. I chose semi-structured interviews to have flexibility and allow for the discovery of new topics within the boundaries of a structure. This allows to be in 'the middle': on the one hand, it permits to "Gain [the respondents] genuine understanding of the world view" (Bryman & Bell, 2001); on the other hand, the use of an analytical structure permits a better ex post analysis because it drives the conversation within the boundaries of the topics.

This resulted in three different kinds of semi structured interviews: psychological, human resources, and political. The questions were made to validate the connections between the two variables and were tailored to the expert field.

Profession	Respondent	Date	Duration	Type	Language
HR management	Respondent X	19-04-2016	00:58:00	Meeting	English
Psychologist	Gunnar Andersson	09-05-2016	01:10:00	Meeting	English

Politician	Maths Pillhem	10-05-2016	00:30:00	Meeting	English
Psychologist	Leif Denti	10-05-2016	01:10:00	Meeting	English

Table 4 List of Research Participants (Own elaboration)

Data analysis approach

The interviews were recorded and transcribed the same day. After the overall collection, I further elaborated the material through a content analysis. This was based on the suggestions of the book “Business Research Methods” (Bryman & Bell, 2001). In particular, the content analysis is done thanks to a coding process to find and conceptualise all the relevant issues that appeared in the text. For example, the following extract from the Denti’s interview was quoted with an Office 2016’s comment “Positive Affect – Creativity”:

Positive affect has a positive relationship with creativity. It seems that joy activates a person openness, the person is more viable to think about different perspectives ...

As a result, the interviews were broken down into component parts: concepts that allowed, in a second moment, a thematic research and further elaborations to craft the primary data of this thesis.

Research Quality and Limitations

This thesis is a starting point for a new thematic branch on the working hour topic. Indeed, a final theory does not exist (Bryman & Bell, 2001) and this exploratory thesis only tries to find knowledge in between truth and belief. The justifications for the outcomes are given by literature interlinkages (Rationalism) and qualitative interviews (Empiricism). The former has clear and logical consequences, while the latter (although are run with relevant experts) does not have the proof magnitude given by high participants or observation numbers. The resulting accuracy is not confirmable due to the lack of the quantitative perspective; the body of knowledge is wide and different leading to the impossibility of a full aspects coverage. For example, the neuroscientific

explanations of the phenomena under scrutiny, are not presented for complexity reasons.

This thesis suffers of all the qualitative research limits. First, it would be impossible to “Freeze [the] social setting and the circumstances” (Bryman & Bell, 2001) of the interviews and replicate those; therefore, without replicability of the primary data, the external reliability is low. In addition, the use of a small sample of experts and the European-American studies on which the thesis is built, lead to a low external validity. Indeed, there is a low degree to which findings can be generalized across different geographical settings and cultures. Moreover, time validity suffers. That is, one of the main supporting proposition is related to the needs of the Millennial’s generation that should reinforce the conclusions. Although, according to Twenge & Campbel (2010), the generational trend should strengthen the work-family life balance process, this proposition has to be revisited in the future. On the contrary, simplicity and generalizability were important objectives for this thesis. Simplicity is the result of the casual linkages straightforwardness, while generalizability stream from the academic work that is focused on human behaviour. Ecological validity follows this strong generalizability; the results can be applicable to people’s everyday lives. In addition, the numerous academics’ results consistency (summarised in the Highlights Tables) allows to claim high credibility; the findings are believable because they rely on a diffuse and coherent body of external knowledge. However, the creativity literature itself has validity problems. Indeed, a common definition of creativity appeared only recently and a usual shortcoming of this kind of research is given by the small number of observations (Pencavel, 2014).

In the overall research there is a problem of confirmability even though during the source picking process, most cited sources were preferred among the alternatives. Nonetheless, the sources are biased; the choice of papers derives from an exploration of the existing knowledge that, even if conducted on the most cited works, were somehow personal. In addition, the coding process used in the analysis, tables, and on the interviews’ materials may be biased: “The researcher’s interpretation of data shape his or her emergent codes” (Bryman & Bell, 2001). Those problems are somehow

mitigated by the validation mechanism based on quoting field experts and by the span of the sources used.

Empirical Findings

This chapter reports the results of the interviews. I will summarise the general content of each interview and then I will highlight all the relevant topics outlined by the coding process. Follows, a general illustration of the interviews' content through a word cloud.



Figure 6 Interviews' Words Cloud (Own elaboration)

Respondent X, Chief HR Manager, Hospital

The chief HR Manager directly manages a hospital department that assures a 24 hrs day service. Due to the past harsh condition on the personnel, it was implemented a 6 hour working day program and more nurses were hired. The issues that lead to this innovative shift emerged in the interview:

“The project did not come from the political side, the highest manager of the hospital decided it. Then the political interest arrived. We did not have any money from the political side. We had problems in

producing [the right amount of operations without] enough people. In addition, it is orthopaedic: the things you use in an operation is quite heavy; It can be 100 KGs; it is physically more heavy than other operations. Efficiency and working environment improvement.” (A, 2016)

According to the interviewee, it was difficult to find nurses (and in particular those special trained nurses), for this department due to the hard working conditions; turnover was high and morale down.

Now it is reported that the nurses have to work 6 hour consequently without time breaks. The stated goal is to cover the lower physical presence with productivity increase. In other words, this practice requires a trade between quantity and quality. In addition, both employees and the department are said by the manager to be more effective. In particular, the department gained effectiveness because of the increased number of employees that cover more turns. However, this comes with a cost; the additional number of turns ($24/6=4$) calls for more employees with an important financial impact. Therefore, I asked him about the possibility to trade wages and working hours' reduction. He replied that this was not possible because of an important political issue in Sweden: “Everybody should have the right to have full time job” (A, 2016) without removing the possibility of full time wages versus part time. Moreover, he points out another problematic issue; nurses have no time to exchange knowledge. “One group of working people have to communicate to the next group and now, because of this way of working, they lack time to exchange” (A, 2016). Another problem is related to the public and political interest on the matter that drain energies and time to show how things are going.

In spite of the problematics, many positive outcomes are reported about the managerial side and the effects on the human resources. In particular, the turnover problem was solved; indeed, the work is not heavy anymore for the nurses. Moreover, happiness is reported as higher; employees “Have time to recover, have a better life both [at work and at home]. They have more time to spend beside work and this is good because they

can do other things, they are less tired”. The interviewee went on to say, a few minutes later, that satisfaction increased as well: “For me it is not very surprising that they are satisfied. They have the same wages, they work less.” (A, 2016). A very interesting observation was related to stress. According to the interviewee, they experience a stress reduction outside the workplace. However, at work without breaks they are more stressed. Finally, I asked him if in his managerial position a reduction in the working hours would be feasible. He replied that at the state of the art it would be difficult: “I have to be in different meetings, manage groups and because of that it would be very hard to work part time, although many things can be more efficient.

The following figure reassumes the connections derived from the interview:

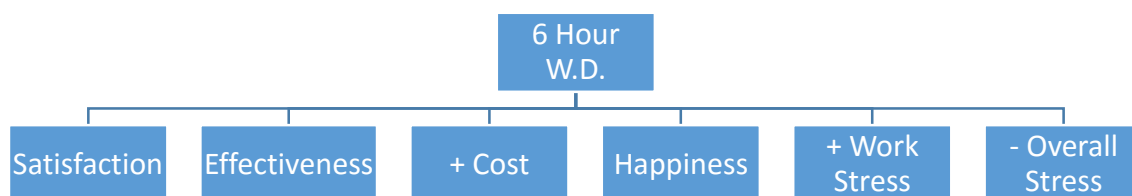


Figure 7 Connections Highlight, HR (Own elaboration)

Gunnar Andersson – Psychologist (Stress and Working Hours)

Both the interviewed and his wife wanted to work on something related to stress. After a seminar on ‘Innovation & Working Time’ they decided to investigate the consequences of working time reduction on employees. More specifically, they wanted to test theories on how the influence and power on the personal situation should be conducive to lower stress levels. Therefore, they have conducted a qualitative and exploratory study on the nurses at Sahlgrenska Hospital. Here “The conditions for the nurses were so bad that nobody wanted to work there. People were on sick leave and they had problems in recruit more people. They basically hired nurses for a small period before they were sick as well. A company was supporting the hiring of those nurses making this department particularly expensive.” (Andersson, 2016). Consequently, the nurses promoted the decision to alleviate the situation with this radical solution. Following a bottom up direction the implementation of the 6 working hours’ shift was granted.

When questioned about the role of stress in our lives and the problems linked to it, Andersson says that “Stress is not really a problem, if it is just a little bit here and there”, but he adds, “in modern life, when you work in the office and you feel stress ... [this is a] sort of threat because you cannot really deal with it, you do not know what it is going to happen, so it is a threat to you and [this] rises adrenaline, stress hormones, different kinds of stressors.” Moreover “When it is chronic stress ... the body is subjected to those kind of hormones for too long, it kind start to break down. So if you are living in constant stress, subjected to this kind of hormones every day, your body start to decay. You get sick. The body is not meant to live under constant threat and constant stress.”

Less hours make stress management more effective due to the additional control an employee can exert on his/her life. This, according to Andersson, “Directly correlate with decreasing in stress. The more you are able to decide what factors in your life are important and how they should be managed, the more the ... predictability. There are less unknowns in the day when you have the power to decide what is going to happen to you during the day”. In addition, the schedule flexibility that 4 shifts grant, is able to increase the subjective life’s control. Indeed, “There were so many shifts and it was often possible to put in your demands ... and there was practically never an issue. You almost always got the shifts that you want to have, so you can plan your work day and if you like to go to the dentist on Tuesday early, that is not a problem. ... Suddenly they were able to exercise control over their time to a much greater degree” (Andersson, 2016).

Consequently, the researcher reported that his study’s subjects felt more productive. “They were managing to do more during the days; obviously because there were more people working, but also because [they were] more focused. It is easier to see what I have to do, how long I have to do, and I can do it. They felt to can do it better, to be able to provide better healthcare for their patient because they were less stressed both at work and at home. The overall levels of stress were much lower so they were able to easier focus on their work and do it better.” (Andersson, 2016). This higher productivity was not at the cost of faster operations; it is a matter of an efficient use of time, joined with a more effectiveness due to the increased focus. Additionally, productivity can be

increased when necessary by the effects of stress, without a long term side effects on it. Indeed, "If it is a single instance, the hormones release in your body, and you would do stuff better, raise your abilities for a bit. But, if you are constantly bailing in stress hormones, your body will be depleted of its resources, the productivity will go down." (Andersson, 2016).

In addition, the service quality increases; "The quality of the care that they were able to deliver," Andersson said, "was better. So not just they produced more but they produced better because they had the resources and the capacity within them. They were not stress or worn out to do their job." In addition, according to Andersson the mortality rate is very high because of the enormous infection risk of the particular surgery done by those employees. Therefore, a better work, have a direct effect on saved lives.

Moreover, Andersson reported that "In some of the interviews they talked about being more relaxed and less stress made them better in handle problems that would arise." He continued on the topic:

During work we use a big portion of our brain, the prefrontal cortex. That is pretty much the centre of logical reasoning, of advance problem solving and stuff like that. There is a very strong neuro connection with the amygdala, that is made of two groups of nuclei a bit further back in the brain that is the source of all our feelings ... [because of this] strong neuro connection, when the activity arises in the amygdala, activity decreases in the pre frontal cortex. So when you are afraid, stress or in love you get dumber. I guess from what I have seen and sight, the evolutionary basis for this is ... Well if you face a cave bear, you are not going to think in that situation, you need to act fast, now and automatically. So run away, do not try to outsmart the bear. In brief, you think better when you are not stress or under strong emotions. (Andersson, 2016)

When questioned about the effects of the practice on happiness he replied: “It is a kind of assumption. If they work fewer hours with the same pay, they probably are going to be happier. But this was not the issue. The issue was: in what way they were happier?” (Andersson, 2016). For example, stress can hamper life quality, a relevant dimension of happiness. Indeed “A lot of everyday stress of your life, particularly when you work a lot, have kids, and there is not so much time for yourself with so many responsibilities”, according to the psychologist, “all of that immediately become a lot easier.” A person is likely to avoid stress at home, without bringing it at work. The nurses are reported to benefit from an important increase in life quality because “They are able to take their time, can walk in the park easily and watch the flowers unstressed with their kids”. The psychologist continued: “It is such an immediate and obvious increase in their life quality that every one of them felt in their personalized way”. On the same matter, Andersson referred about ‘Maslow’s pyramid of the needs’ (Maslow, 1954) to further explain the issue:

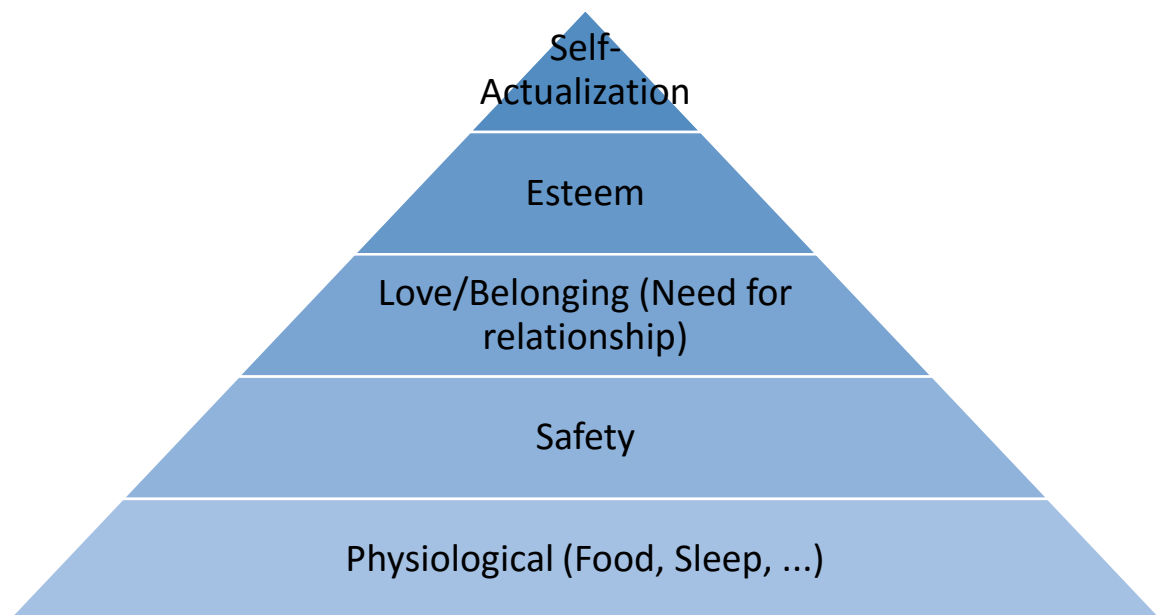


Figure 8 Pyramid of Human Needs (Maslow, 1954)

To better clarify the topic, he stated:

“When all your basic needs in your life are fulfilled, you are able to elevate yourself and look beyond the everyday things. What I want to

do with my life? What is the meaning of life to me? What I want to do with the time given to me on this planet? The feelings now that I do not spend 9-10 hours just doing the work that I do every day and I have to sleep, eat and care for the kids and things like that, this two more hours of free time, every one of them felt: "Now I am able to take control of my life, I get just enough more for me, for my self-fulfilment". A lot of people do the work they want to do, sure, but life is not just work. Life is fulfilling the relations, life is reading books, learning new things, doing, being creative. Caring about other kind of meaning to you not measurable in money that you need to survive. [Employees] have more time to do all those things for themselves. This is a big issue to raise their quality of life." (Andersson, 2016)

In other words, the person benefits of the positive psychological benefits of an everyday-vacation. Andersson claimed that "Researchers have also seen that is better to have small and spaced out vacation days instead of one big." According to the psychologist, this is actually better for the individual's wellbeing and stress "Because the effects of a long break are diminishing just as quickly as several short breaks. If you space out a little more it will better for you in the long run." In addition, the quality of life can be seen also in function of the possibility to practice active leisure time. Indeed, after the 6 hour' implementation, "People who do not have kids, can spend more time on their hobbies, ride a horse more often and ... volunteer. [The employee] would have done it anyway but now it is not an issue. It was very important for her to help with that. So she could do that without affecting the rest of her life anymore" (Andersson, 2016).

An important consequence of a shorter working day was observed on motivation (the most important component of creativity). Andersson states at least three reasons that fostered the working motivation in his case study, employer understanding & listening, privilege, and reputation. First, "Somebody listened to them and say 'Ok we will do this project to try to fix your situation; we understand this is a problem that cannot go on'". According to the psychologist, this is an important dimension of motivation. Indeed "[Employees] want to do something in return." Second, "It is exciting for them to be part

of this kind of innovate project”; therefore, in the opinion of Andersson, this sense of privilege drive to high motivation. Third, Andersson’s study subjects reported that the external view on the department dramatically changed. The nurses’ acquaintances and friends had a pessimistic opinion of the department. Andersson vividly mentioned how the discourses changed: “‘Oh, you are not going to work there, are not you? That place is horrible’. That external view of their department changed in ‘Wow, are you working there? Where they found out that innovative project in work hours and stuff like that? Oh cool, I want to work there as well!’” The employees feel good and motivated because they work “In a high prestige environment or in a place seen as high prestige” (Andersson, 2016).

Another important aspect that Andersson shared is related to the effects on the climate and collegiality of this working practice:

Since everybody was less stress at home and at work, they also have more energy to be better co-workers, friendlier. It was not that hard to give a smile in a way or to accept that okay, somebody is having a bad day, is a bit grumpy today o well I have so much more energy that I am able to take that. It does not affect me as much as when I am all stress out or warn out from working, such long hours, such stressful, unhappy work. (Andersson, 2016)

The mentioned factors strengthened the overall collegiality, resulting in a better working climate. Andersson said that the employees reported to hear more laughs and “That pretty much all of them felt that ‘All the group work better together, we are having more fun, the environment at work is friendlier’”. Moreover, according to the psychologist, one of the nurses said that “Going to an after work party with workmates, the feelings at that party were a lot nicer”. In addition, Andersson claims: “If people are happier and able to work together with less conflict than they are more productive. You make a constructive conflict instead of a destructive.” In the opinion of the interviewee, those results are in line with the overall increase in life control. “The decrease in work time”,

Andersson said, “gives more energy to interact with other people, to spend on the things that you want to do outside work and you are less stress out.”

Finally, the psychologist wanted to give the last hint on the matter:

One thinks you can take away from the research we have done is that: if you can structure the workday in a way that is conducive to your employees wellbeing, then they will be able to cope continuously without a problem and they will also have the resources necessary to face suddenly upcoming problems. (Andersson, 2016)

Following, Figure 10 that reassumes the topics of the interview:

Connections Highlight, Stress Psychology and Working Hours

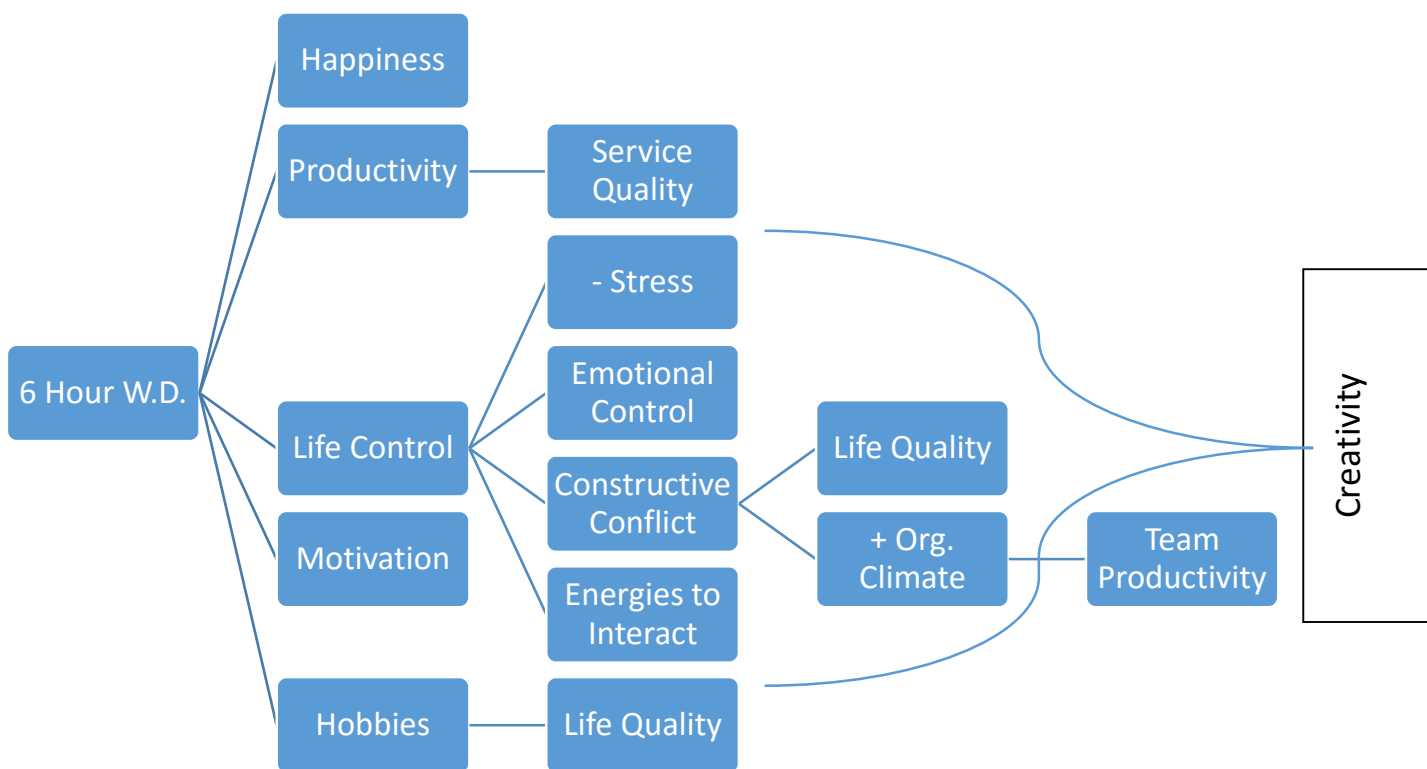


Figure 9 Connections Highlight, Stress Psychology and Working Hours (Own elaboration)

Maths Pillhem – Politician

Through this interview, I researched the political arguments supporting the 6 hour working day practice. The interviewee covered political duties in Gothenburg’s council with the Left Party (Swedish: Vänsterpartiet) which promotes this working alternative

since the '90. Actually, there is an agreement between the Social Democrats, the Green, and the Left Party to extend this program to 12000 cities. They are going to work together in order to extend this policy to the public sector, especially in the health care. However, there is an important, unsolved topic among this political ally in regard to the wages. For example, the Left party wants full wage compensation for the 6 hour' workers, to not affect the resulting pensions and other welfare tools that are linked with the wage. In addition, according to Pillhem, the working unions are interested as well. All the experiments on the topic can pave the way for the 2018's political debate that will arise because of the elections.

The improvement in the service that results from lower working hours is the topic that Pillhem stressed more. He cited a project run in a Gothenburg's elderly care centre where the treatment received by the patients scored better under all the quality measures. This, according to the politician is mainly due to the additional focus of the centre's staff due to their increased well-being. Also, the benefits of a parent more present at home were stressed as well. Indeed, the overall family's life quality tends to improve because of the additional children care available. To reassume:

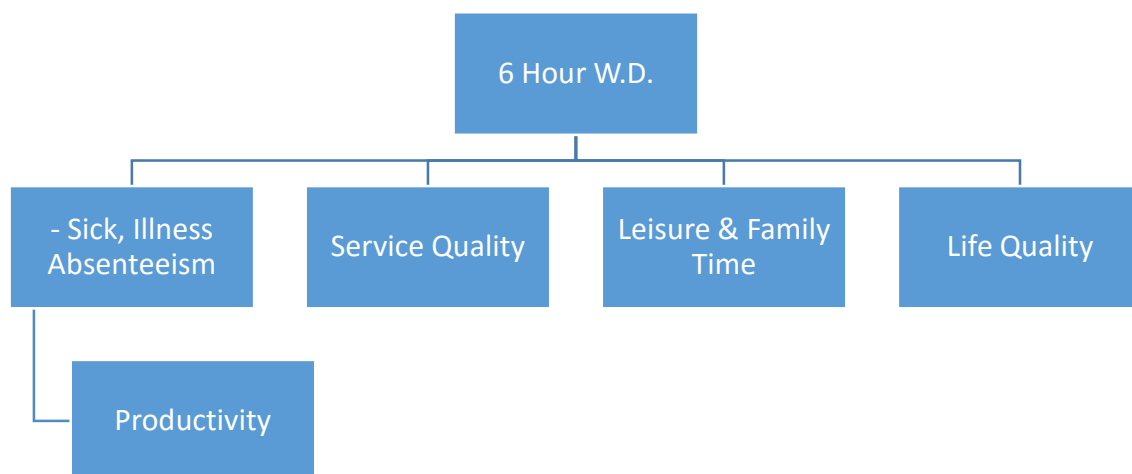


Figure 10 Connections Highlight, Political Issues (Own elaboration)

Leif Denti – Industrial Organizational Psychology (Leadership, Innovation Management)

The academic is focusing on “Innovation at the work place, the role of leaders and the psychology behind the way to motivate people” (Denti, 2016). In particular, professor Denti is applying the Scarcity Theory at the innovation field; the “Psychology of Scarcity”. This new area of psychology, assumes that we have a limited mental bandwidth, brain power exerted by the frontal cortex (the mind executive). Therefore, preoccupations may limit the potential of our brains imposing a cognitive deficit and reinforcing self-defeating actions. For example, “When we are under the deadline we eat junk food, we do not work out. We do things that are not good for us during the long term.” Moreover, people with financial troubles “Have to make money in the short run and they do not prioritize their education or they do not go to the doctor, they do not put in time to make real food. They have this tunnel so everything that is good for them in the long run get down prioritized. The only thing is to make the next week salary or pay check.” According to this new psychology branch this situation of short time pressure is called ‘scarcity trap’, and “That is why people have hard time climbing out of their time pressure.” (Denti, 2016)

Scarcity Theory effectively explains the effects of time and social pressures inside organizations. For example, when we have a deadline “You get stress and actually two things happen. First, you will have a short term focus on the task, so you actually become better at meeting it”, stated the professor, “but everything that is not important right now gets deprioritize. In other words, Denti claims that the mind chooses to do the tasks that are important right now (scarcity mind-set) because of the time pressure, the ‘tunnel vision’. Moreover, according to Denti (2016), tunnelling our vision on short term objectives, is detrimental for innovation. Indeed, innovative solutions “Are likely new ideas, projects that might be useful in the future but it is not apparently useful now.” In addition, Denti reported a study on the cognitive effects caused by high time pressure; he stated that our executive functions and working memory get severely impaired. In fact, “The impairment is equivalent to losing a night sleep or losing 30 IQ points”, stated Denti (2016) “so, we literally become stupid under high time pressure and we do not work well, we do not prioritize information, we do not think straight.” However,

pressure and innovations are in a curvilinear relationship. "Innovation is at its highest when there is a moderate amount of time pressure, when there is too much, there is this detrimental effect I was talking about. Too little time pressure, [employees] do not care as much" Denti (2016). In brief, a moderate amount of pressure may be beneficial, but employees under stress are not able to be innovative and creative, they just think about meeting the upcoming task.

Denti applied the Scarcity Theory to speculate about some issues on creativity that I brought on the table. First, I asked him about the consequences of our personal life on the individual's working creativity. On the one hand, Denti assumed that a work-life conflict or personal life conflict, like a divorce, may occupy a lot of mental bandwidth. Indeed, thinking about problems occupies our mental capacity defocusing workers' attention. In addition, he stated that according to state of the art research on stress and creativity, things at home would mess up things at work. On the other hand, being rested because of a smooth personal life "Frees up the mind to do tasks that are not important here and now" allowing creativity thinking:

"If you are rested, then you would have the mental ability to care about long term projects. I really think that innovation activities are in the long term bucket. ... If you want to be ambidextrous, you need to create space for people to care about long term projects or innovation projects, otherwise people just go into focus on the next day, next week. That is how the brain prioritize ... I think it is quite clear that this is the mechanism behind why slack is a social important thing in the work place."

Professor Denti displayed a deep knowledge of the literature on creativity and a passion for well written papers. Therefore, I asked him about the inputs of creativity. First, motivation, "Is something that is spontaneous and comes from within", said Denti (2016), "[therefore] it is impossible to really motivate someone". Subsequently, external motivation is not conducive to the desired motivational effects:

“When we talk about internal and external motivation, we actually talk about the sources of that impulse. ... [The impulse for motivation] comes from within [the person], but the trigger can be either external (like money, rewards, status, whatever), or internal (like joy or I get to use my knowledge, I get to feel competence or benevolent or whatever). So it can be either internal trigger, internal motivation or external trigger, internal motivation.”

Second, he mentioned the effects of positive affect & mood on creativity. “Positive affect has a positive relationship with creativity. It seems that joy activates a person’s openness, the person is more viable to think about different perspectives ... More connections are being made if you are happy, in a good mood.” Therefore, we account for more possibilities and this is conducive to creativity. In addition, “Mood is probably conducive to climate and vice versa probably is also true” (Denti, 2016); however, Denti asserted that mood is likely to follow the ‘boundary condition’. He said that “If something is too great than it might have another effect all of the sudden, so it is probably good to be in a good mood but if you are too much in a good mood than probably things like critical thinking and debate climate, would be hampered.” Indeed, team members should debate things and feel free to criticize each other to benefit of a creative climate. The psychologist continued “If everyone is happy, no one turns on their critical thinking and questions on what is going on”, with a lack of debate and idea bouncing. Third, during the interview, Denti stated the importance of incubation for creativity. According to the professor, the theories about the topic “Are pretty good, it is like research from the seventies, eighties.” On the base of those theories, it is important to have some kind of period in which ideas forms. “They do not pop-up like instantly”, asserted Denti (2016), “so they need some kind of incubation period. I guess you can make the case in which leisure is conducive to creativity by that mechanism.” Next, the researcher reported about the importance of expertise and knowledge for creativity. “According to Amabile, a central component of creativity is expertise. That is basically knowledge, to know things. There is quite a big relationship between expertise

and creativity. I have seen it myself but that study is unpublished.” The academic continued:

“You cannot have ideas in a vacuum. People who are curious and intelligent, tend to gather information from their childhood. They are better at gathering information because they incrementally walk further. ... An incremental boost every year so they actually have their big library of knowledge. Those people come up with better ideas basically. When you come to think about it, creativity is no more than combining two pieces of knowledge into an idea.”

Following the topic, hobbies “Can bring relevant knowledge or expertise or even skills.” For instance, he reported on an innovation project made by the Swedish tax agency. An application was developed in house to provide a different variety of services, consequently the taxpayer just has to use the app to meet his obligations. “When they did that they actually did not paid for consultant or similar ... they actually used their own employees. People at the tax agency who are hobby programmers. They sat and programmed the mobile app in their spare time. This app was a big success. In total 100 countries come to Sweden to look at this app because it was so particular ... to offer that level of service from hobby people.” According to Denti, this is just one case where a person’s hobby can be brought in the workplace. After that, I asked about conflict within a team and its effects on creativity. Denti on the matter noted that there is a “Curvilinear relationship between conflict and team innovation where there is a sweet spot in the middle.” At the right level, according to the professor, conflict is good for innovation because people debate things, criticise each other without escalation or personal conflict. In fact, a high level of conflict hamper creativity because employees “Shut down their openness, they barrier themselves in their trenches trying to shoot each other” (Denti, 2016). On the other hand, “When there are no conflicts, the ‘joy situation’,” reported Denti (2016), “people are not questioning each other. It is a happy go lucky team, ... that leads to lower innovation.” Furthermore, the professor went more deep:

There are two types of diversity. First, diversity of competences and skills and that is called work related diversity. Then we have the background or demographic diversity, age, genre, ethnicity, all these things. And when the latter diversity is high, it happens that people do not understand each other, they speak past to each other, common culture misunderstandings arise. ... A paper by Somek (2006) reports that if you have a high background diversity, you need a more direct leadership in that group. It is actually up to the leader who has to direct the group, it will be harder because the group will hardly collaborate. (Denti, 2016)

Another interesting topic reported by Denti (2016) is about the cost benefit decision employees have to make about their innovation efforts. Indeed, “Creativity and innovation are something above and beyond the regular working activities”, noted Denti (2016), “you have to put an extra amount of energy to be creative”. According to the academic, employees run a cost-benefit analysis. For example, if to start a project, pitch an idea or just do the ordinary is decided after an analysis of the effort needed and the possible initiative’s results:

How that equation is balanced? That is my issue as an employee. If my organization does not give me time to work, then I know that it is coming from my free time. ... He or she should be very persistent so what is the cost to be persistent? How much sweat, tears I should spend here to take initiative, to convince my boss, my boss’s boss, my co-workers. How easy it is to do this? That is a cost and the benefits it is like “Yeah, I might succeed in the future, maybe. It is fun, I might have fun...”. We do this fairly complex calculation with costs and benefits. If an organization encourages its employees to be creative than it might actually offset the cost benefit equation somehow. It might actually decrease the cost and ... encourage creativity granting some kind of resources.

In brief, organizations can foster innovation leveraging the costs or benefits of this equation. For example, “If you come with your idea you are granted 40 hours of time to work on it” (Denti, 2016). In the opinion of the academic, the “Key to be ambidextrous is to come up with a way to offset the cost benefit equation for the employees.”

Another interesting topic arose after a question on generational trends. According to Denti (2016) organizations should adopt a flat model to foster creativity. Indeed, “In Silicon Valley ... employees are empowered and [are autonomous] to come up with new ideas and test things.” The academics mentioned the risk that old organizations are likely to face if they will try to change. That is, “If an old organization is going to change than power has to be distributed more equally among employees”, Denti noted, “the middle management will basically have not to do anything anymore.” In fact, according to the psychologist managers would be superfluous when there are autonomous co-workers. It is important “To grant them the autonomy to decide for themselves what decision would create value for the organization. Make them responsible for measuring following up” (Denti, 2016). He described:

No managers at all, very flat and anarchical organizations. There is leadership but that comes from a vision leader, not like a manager that monitors progress and stuff. So the team are responsible for monitoring themselves. (Denti, 2016)

In order to recall all the relevant topics for the future analysis, the following figure reassumes what was said in the interview.



Figure 11 Connections Highlight, Innovation Psychology (Own elaboration)

Analysis

This analysis results in an inductive theory about the interlinkages between the variables under scrutiny. Therefore, the literature review and the results of empirical findings are presented in a unique knowledge body. The resulting scheme attempts to foster the psychological comprehension of the creativity performance inputs.

We have seen how, as life events unfold, a person experiences emotions and perceptions with concrete results on his life. In particular, this applies inside the social environment, a system where heterogeneous humans interact and live. Consequently, there is an incredibly complex and unpredictable interrelationship of psychological factors that bounce within and between individuals. More specifically, inside the working environment, employees experience “A constant stream [and a dynamic interplay] of emotions, perceptions, and motivation”, writes Amabile & Kramer (2007), “as they react to and make sense of the events of the workday”. Indeed, there is a strong correlation between emotion and the perception of events, the individual’s cognition. According to the psychologists, after a workday event the mind of the employees “Start ‘sensemaking’: they try to figure out why an event happened and what its implications are. These perceptions feed the emotions evoked by the event, and the emotions, in turn, feed the perceptions.” (Amabile, J., & Kramer, Inner Work Life, 2007).

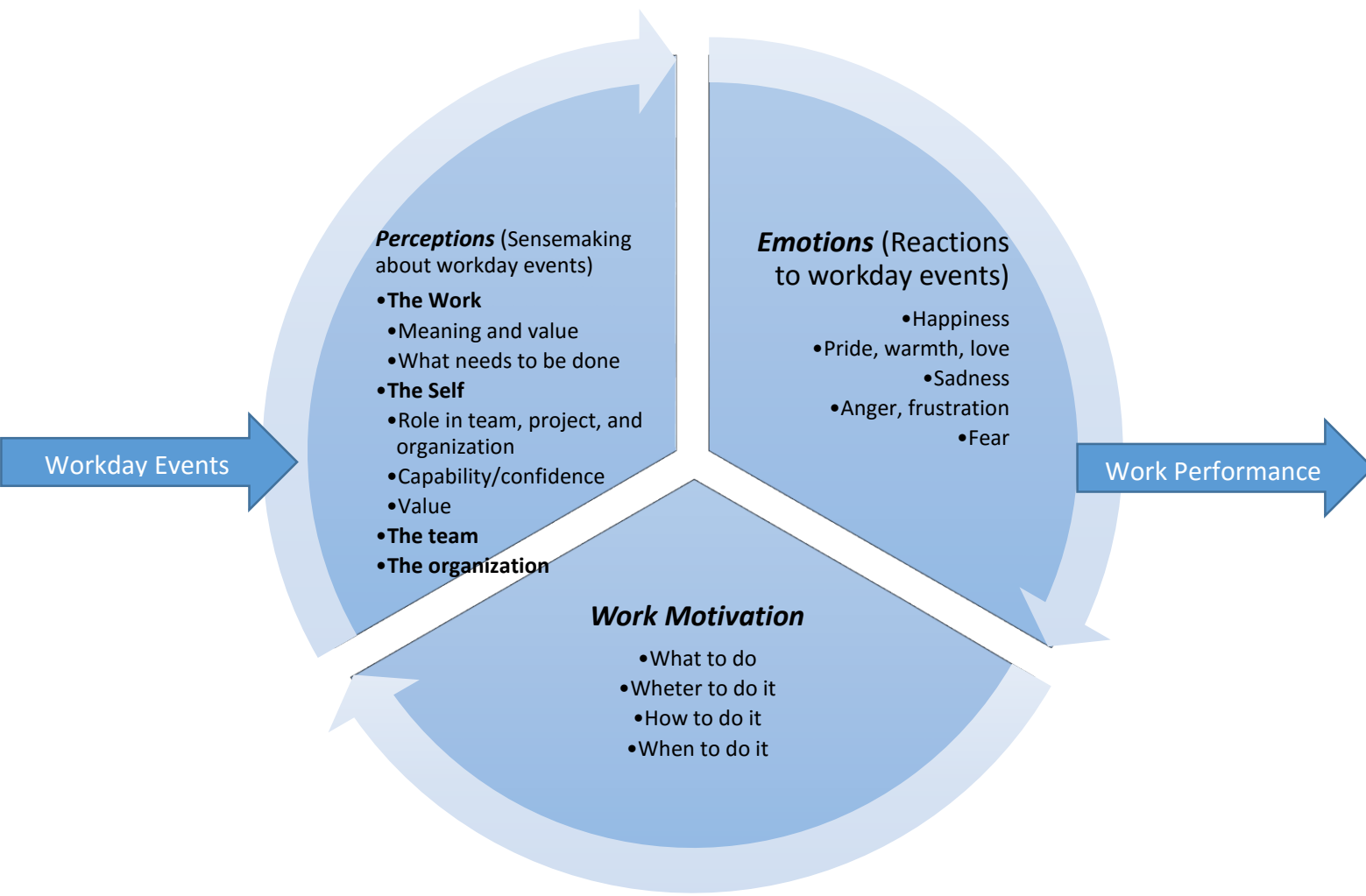


Figure 12 Inner Work Life System (Amabile & Kramer, 2007)

It is almost impossible to purposely act on the cognitive sphere of employees; a systemic interplay may give barely predictable outcomes (Amabile, & Kramer, 2007). However, this process will regardlessly effect motivation, strongly determining the individual and organizational creativity and innovation. In other words, all the performance components are susceptible to an array of different psychological factors that stream out of a great variety of job and not job related sources. In other words, what influence the individual outside the job has important consequences on the work environment

and on the bottom line's results: "Life beyond work can impact productivity" (Saltmarsh & Randell-Moon, 2014).

Shifts of six hours are likely to be an omnibus solution to positively foster different organizational performance dimension, and among them creativity. In particular, at the individual level, the interlinkages between the practice of a work day reduction and creativity are the following: stress, health, positive affect & mood, happiness, productivity, and leisure time. Those lead to important well-being improvements that free the mental capacities and increase the employees' motivation.

The following figure represents the model that summarises the work done. It assumes that the relationship, between the independent and dependent variables, exists. The reduction of the working hours is an important welfare gain for the employee; it has effects on his health, on the capacity to live and nurture social relationships, on the time he can spend for important work unrelated activities. Following, he benefits from a reduction in the overall stress, his mood and affect become serene and positive, the sensations of well-being and happiness increase, and his health itself improves. Those result in the unleashing of the employee's cognitive abilities and in increased motivation, that in turn foster creativity and productivity. A 'side effect' of this welfare gain is related to the improved capacity to cope with working conflicts in a constructive way, this helps to creatively cooperate in teams at a higher level. Those associations are based on the causal relationships derived from the literature and empirical findings results. In particular, future paragraphs discuss in detail those explanatory interrelationships.

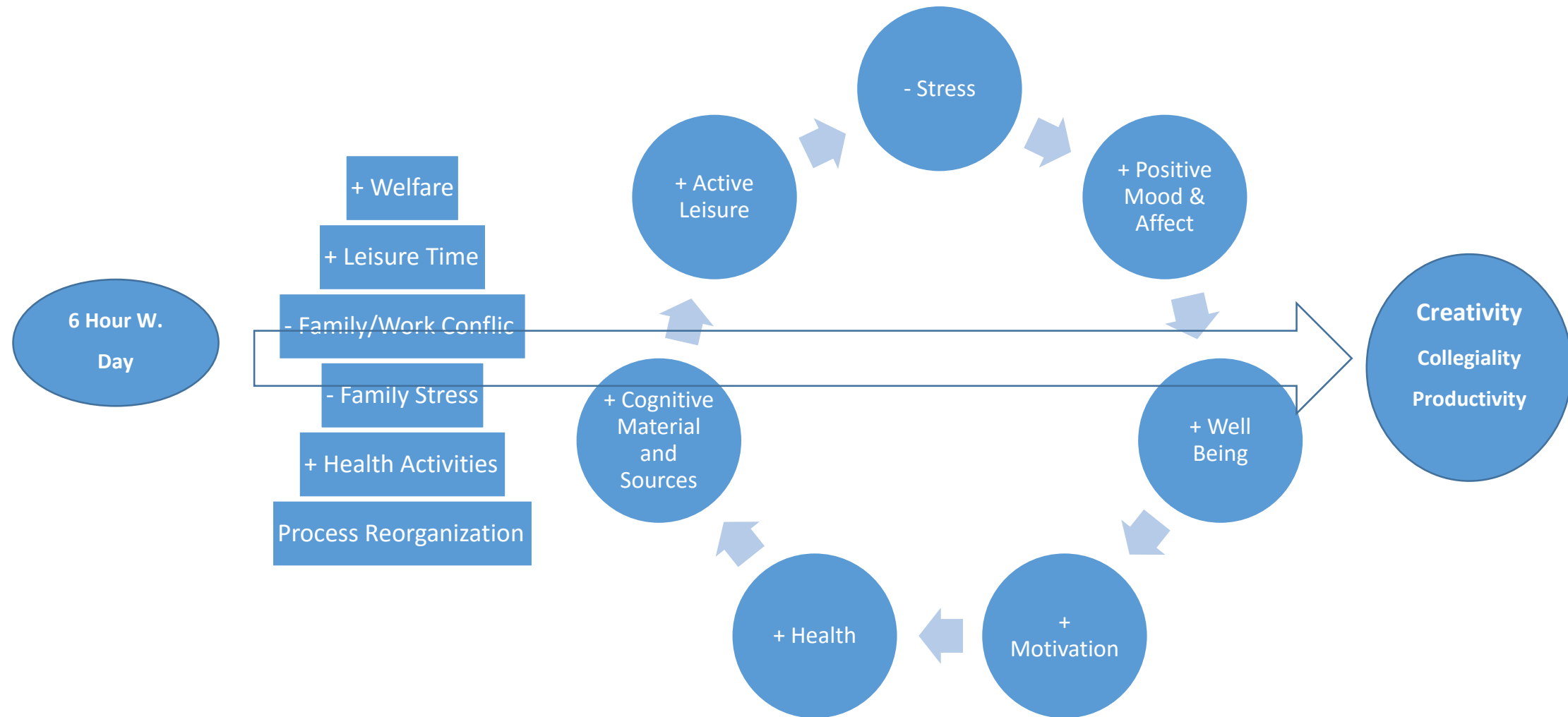


Figure 13 Hypothesis of Casual Relationship Working Hours – Creativity (Own elaboration)

Stress

6 Hour -> Stress Reduction	Stress Reduction -> Productivity/Creativity
Olsson, 1998	Pencavel, 2014
Akerstedt & All, 2001	Hosking & Morley, 1991
	Talbor and all, 1992
	Beehr & Newman, 1978
	Stress Reduction -> Health, -Absenteeism, Cognitive resources

Table 5 Highlights of Literature Connection – Stress (Own elaboration)

More time to care about personal issues helps employees to keep their overall stress level under a security threshold. Indeed, different experiments report how a decrease in workload to six hours, and the resulting increase in personal life time, have an important impact on stress (Olsson, 1998). At the same time, stress is an important topic in both the psychologists' interviews. Andersson's one, for example, seems particularly in line with the already cited study conducted by Akerstedt & All (2001), who states: "It seems reasonable to assume that the reduction of the number of hours with workload per day, the ability to spend time on oneself, and the extra time to handle the necessities of life, may have resulted in less overall stress and more rest."

Stress helps us to cope with difficulties; work stress, if not persistent, helps and it is not detrimental. The 6 hour working day, according to the HR manager, does not impact work stress, but it reduces the overall stress or, using Andersson's words, "The increased control on personal life makes us able to cope with stress in the long term". As a result, employees are not affected by chronic stress symptoms (remember *Table 1*), and the organization benefits from healthy human resources that are not impaired in their mental faculty (Denti, 2016). Moreover, we have seen how an individual affected by chronic stress hampers the overall climate (Hosking & Morley, 1991), or is more likely to cause errors, accidents and be sick (Pencavel, 2014).

In brief, stress helps employees in the working environment boosting their performance and increasing their focus. However, after an optimal point, more stress is conducive to a series of degenerations at the individual, group and organizational level. The

improved life control outside work is likely to alleviate the personal overall burden and make it possible for the employees to face stress at work. The lack of the stress tunnel vision, according to Denti (2016), will foster their long term thinking, and innovation as a result.

Health

6 Hour -> Health	Health -> Productivity/Creativity
Ahn, 2013	Quick, 2004
Health -> Happiness	Csikszentmihalyi M. , 1996
Argyle, 1997	
Lu & Argyle, 1994	
Quick, 2004	

Table 6 Highlight of Literature Connection – Health (Own elaboration)

We have seen that long working hours have effects on the health of the employees and how this strongly undermines productivity and other well being factors. Indeed, according to Ahn (2013), or Quick (2004), there are important health consequences that are connected to a lack of positive energies, alternatively exploitable to foster the worker's performance. Additionally, unhealthy lifestyle habits are strongly linked to long working hours. According to the literature review performed by Ahn (2013), detrimental behaviours that conduct to chronic diseases and a lack of physical exercise are linked with the common eight hour working day. Those, according to the empirical findings, affect the employees' creativity that need a mind clear from negative issues (Denti, 2016), or physical exercise to cope with the negative effects of stress (Andersson, 2016). In addition, there is a strong causal relationship, in both directions, between happiness and health (Argyle, 1997; Lu & Argyle, 1994) with positive consequences on the cognitive abilities of employees and on their collegiality.

Positive Affect and Mood

6 Hour -> Positive Affect & Mood	P. Affect & Mood -> Creativity/Product.
Golden, 2012	Amabile, 2004
Haworth & Lewis, 2005	Golden, 2012

Grant-Vallone & Donaldson, 2001	Ceci & Kumar, 2016
Csikszentmihalyi M. , 1996	Graddy, 2015
	Isen, 1999
	Csikszentmihalyi M. , 1996
	Wright & Staw, 1999
	Amabile and Kramer, 2007

Table 7 Highlight of Literature Connection - Positive Affect & Mood (Own elaboration)

One of the most important components to foster creativity inside organizations is morale, the measure of the commitment to the company. High morale results in people's attention and mental energies to complete different working tasks. The connection with creativity is straightforward, more focus and commitment are important to unleash the creative potential of employees. Therefore, in order to increase the morale of employees, it is important to drive the workers toward a state of positive affect. On the matter, it is important to remember the words of Ceci & Kumar (2016), "Higher intrinsic motivation is associated with greater positive affect, [and] subjective well-being." Indeed, according to Isen (1999), positive affect influences people's cognitive abilities and in particular their cognitive flexibility, cognitive elaboration, creative problem solving, and coping skills. Similarly, Denti (2016) recognises how joy activates a person's openness, their ability to consider different perspectives, and the capacity to develop positive working relationships that in turn help to foster the creative results of brainstorming. For instance, Wright & Staw (1999) report how happy employees "Are more helpful, creative, better negotiator, and more persistent on uncertain tasks". Also, Amabile and Kramer (2007):

"Positive emotion [are] tied to higher creativity, and negative emotion ... to lower creativity", but also there is a "Carry over effect. The more positive a person's mood on a given day, the more creative thinking he or she did the next day"

Those psychological conditions easily result from a decrease in working time. For example, those were the results that the hospital department, where I interviewed the

manager, wanted to pursue to decrease the costly high turnover. Indeed, both the literature review and the results of the empirical findings suggest how happiness, positive affect and morale are observed in rested human resources. Those have more control on their personal sphere and are likely to solve their conflicts and negative issues. In fact, “Serious health, family, or financial problems”, writes Graddy (2015), “could occupy the mind of a person so insistently that he or she is no longer able to devote enough attention to work”. More time for oneself and one’s social, or family circle free mental energies from problems. On the contrary, “Current patterns of work create a lack of energy for the care of children, elders, and communities, as well as for pursuits that refresh the spirit and create the will and motivation for both employment and other activities” (Rapoport, Lewis, & Gambles, 2004). In addition, 6 working hours avoid sufferance from role imbalances that leads to stress, anxiety, depression and other detrimental effects for the affect, mood and therefore creativity (Grant-Vallone & Donaldson, 2001). In other words, Haworth & Lewis (2005) points out how those well-being dimensions are strongly linked with additional leisure activities. In conclusion, the positive consequences of this working practice on creativity are many; moreover, those are strengthened by the already reported generational trends observed by Twenge & Campbell (2010).

Happiness

6 Hour -> Well-Being & Happiness	Well-Being & Happiness -> Creativity/ Productivity
Penn Arts & Sciences, 2016	Quick, 2004
Twenge & Campbel, 2010	Csikszentmihalyi, 1996
Burke, 2004	Penn Arts & Sciences, 2016
	Myers (2014
	Wright, Bonett, & Cropanzano, 2007
	Isen & Baron, 1991
	George & Brief, 1992
	Wright & Staw, 1999

Table 8 Highlight of Literature Connection – Happiness (Own elaboration)

Happiness definition has no clear boundaries; Mihaly Csikszentmihalyi (1990) proposes “Optimal Experience” as the best reachable proxy for happiness. Even if he does not reject the idea that we can consciously search for happiness, he claims:

“Happiness is not something that happens. It is not the result of good fortune or random chance. It is not something that money can buy or power command. It does not depend on outside events, but, rather on how we interpret them.”

The only option to foster happiness, according to the Chicago psychologist, is to increase the quality of life. However, this quality has to deal with the inner experience perceived by people. In contrast, the level of wealth, upon a basic level, does not cause happiness (Myers, 2014; Binswanger, 2006; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006); people who learn to control inner experiences will be able to determine the quality of their life, which is “As close as any of us can come to being happy” (Csikszentmihalyi M. , 1990).

In line with the previously paragraph content, it is straightforward how an increase of personal time, and not of the salary, would have a direct effect on the world perception of workers. Indeed, additional leisure and in particular active leisure, are conducive to grant a general ‘Positive psychology’. Consequently, it is possible to assists in an overall increase on the subjective dimensions of well-being, health, happiness, optimism and flow (Penn Arts & Sciences, 2016) with a shift hour reduction. Similarly, the empirical findings results report the increase of employees’ happiness.

Organizational creativity and the resulting innovative capacity are going to benefit from happier employees. Indeed, Happy employees “Perceive the world as safer and feel more confident”, Myers (2014) writes, “They make decisions, cooperate more easily, and are more tolerant. They ... savour their positive past experiences without dwelling on the negative, and are more socially connected.” Moreover, Myers (2014) reports a consistent reinforcing connection between happiness and health. In conclusion, there is an additional effect that is relevant to mention: according to the creative people’s interviews conducted by Csikszentmihalyi (1996), “The best moments [in our life] usually

occur when a person's body or mind is stretched to limits in a voluntary effort to accomplish something difficult and worthwhile." Therefore, creativity and happiness are strongly linked and the relationship '6 hour working day – happiness' presents the same correlation magnitude.

Productivity

6 Hour -> Productivity	Productivity -> Creativity
Olsson, 1998	Csikszentmihalyi, 1996
White, 1987	
Golden, 2012	
Pencavel, 2014	

Table 9 Highlight of Literature Connection – Productivity (Own elaboration)

The employees' efforts are strongly connected with many dimensions observed until now. Subsequently, according to the literature review, a work day reduction has a strong effect on productivity: it is a "Win-win working practice" (Golden, 2012). This resulted also in the empirical findings, lower time but higher productivity to have the same operational level. That is, it results from the additional focus and efficient use of time. Furthermore, in the conducted interviews it was stated that the practice was allowed by the management only under this condition. In addition, a production more customer oriented is reported (Olsson, 1998), this has surely interesting consequences for many organizations that provide services or differentiated products.

Leisure Time

Leisure Time -> Creativity
Davis, Holsl, & Davis, 2014
Csikszentmihalyi, Rathunde, and Whalen, 1993
Root-Bernstein, Bernstein, & Garnier, 1995
Twenge, Campbell, Hoffman, & Lance, 2010
Csikszentmihalyi M. , 1996

Table 10 Highlight of Literature Connection - Leisure Time (Own elaboration)

Active leisure time is one of the most important explanatory propositions of this study on the connection between creativity and the 6 hour working day.

Leisure time acts on the three components of Amabile's creativity model (1998). Indeed, according to Amabile, in order to manifest business creativity an individual should be motivated, think imaginatively, and have expertise:

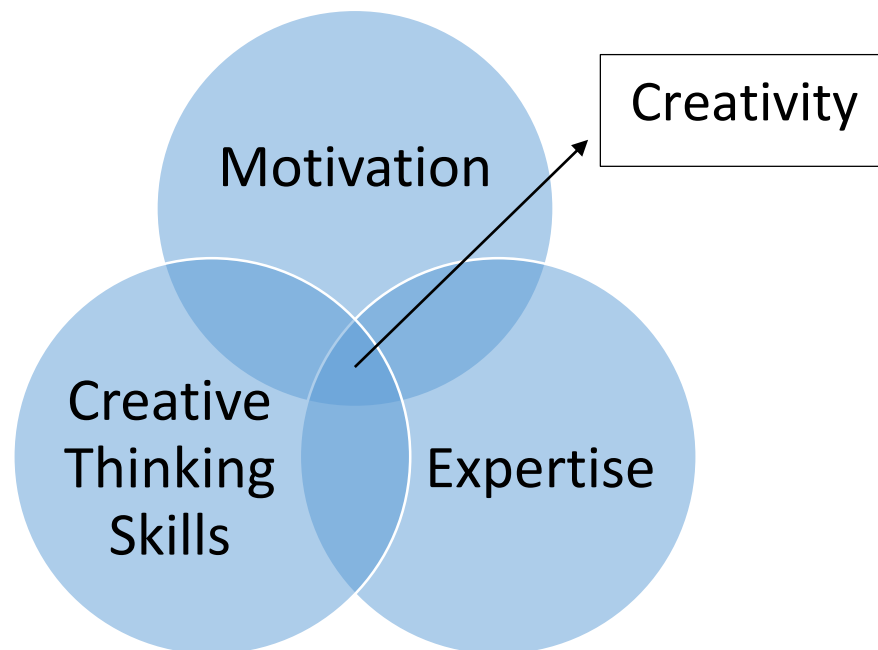


Figure 14 Creativity Components, Amabile (1998)

Those components can be analysed under the leisure time perspective. First, expertise encompasses everything that a person knows. It is important for a knowledge employee to have expertise about a scientific domain but also, personal knowledge from leisure time activities lead to important insights (Davis, Holsl, & Davis, 2014; Root-Bernstein, Bernstein, & Garnier, 1995; Davis, Davis, & Hoisl, 2009). Of the same opinion is Denti (2016), who reported how this kind of secondary source of expertise may be conducive to greater creativity. Then, creative thinking skills are the traits that creative people display, those are related to active leisure time activities as well (Root-Bernstein, Bernstein, & Garnier, 1995). Last, Davis and colleagues (2014) have analysed the relationship between leisure time activities (hobbies in particular) and creative output value (measured by patent production); they found a strong relationship between the two phenomena. Three major explanations of this causal relationship are then exposed.

First, “Employee inventors may be able to use skills developed while pursuing a hobby”. Second, workers “May have access to external knowledge sources that may not be available during work time and that may be combined with workplace knowledge”. Third, cognitive skills develop indirectly (in particular, ability to analogize and divergent thinking) because of the related cognitive effort and social interactions. Additionally, the skills acquired during those pleasure-filled activities, then enrich the workplace: “Leisure time activities ... illuminate and shape the attitudes and attributes the employee brings to work” (Davis, Holsl, & Davis, 2014).

Extracurricular activities play an important role for the creative development of a person and to maintain the well-being psychological state needed. Indeed, an insightful research on the matter, is the one conducted by Root-Bernstein, Bernstein, & Garnier (1995) that exposes the results of more than 20 years of interviews and questionnaires done on scientists. They have explored the correlations between, hobbies, skills, style of working, energy and creativity. Their results suggest that “Highly successful scientists engage in a wide range of nonscientific cultural activities and that they tend to be productive outside of their sciences as well as in it.” Moreover, “Scientific ideas can arise in a wide variety of settings”, reports Root-Bernstein, Bernstein, & Garnier (1995), “One quarter reported solving their problems while relaxing, suggesting that hobbies provided useful problem solving time. Over half of the scientists reported having their best ideas while falling asleep, dreaming, or on waking in the morning.” Furthermore, “Highly cite scientists tended to continue athletic activities”, “Some recognize the importance of their continued exercise for their productivity”, contrary to their less successful colleagues. Moreover, according to the research, “Many other successful scientists attribute their understanding and creativity in science to experiences outside the science classroom or laboratory.” In addition, other studies support the relationship between active leisure and creativity; for example, a longitudinal study conducted by Csikszentmihalyi, Rathunde, and Whalen (1993) has demonstrated that talented teenagers are motivated and stimulated by outside activities.

In the empirical findings other perspectives on the matter emerged. For example, active leisure is conducive to incubation time, the underground, idle phase where ideas

connect without the strains of rationality (Denti, 2016). In addition, according to Andersson (2016), active leisure is important for life quality or to face stress and therefore for all the psychological conditions that are likely to improve the creative predisposition of employees.

Motivation in the work space is likely to arise among Millennials (Generation ME) because of the additional leisure time provided by this work schedule. According to an extensive survey conducted by Twenge, Campbell, Hoffman, & Lance (2010), the largest generational change is about the value assigned to leisure. In particular, the new generation is less likely to want to work overtime and they assign more value to vacations and to a slowly working pace.

Conclusion

The innovative economy is here to stay. Organizations that recognise how to manage for creativity will acquire the capacity to be resilient and an important competitive advantage. Indeed, to be innovative an organization needs a high rate of idea generation and “Creativity is the factor required to apply specialized knowledge in non-traditional ways to develop new products” (Ozge, 2010). Therefore, employees with the capability to solve problems with novel and valuable solutions are a precondition for the success of innovative companies. More specifically, creative ideas born within the individual; naturally those ideas need to be polished, nurtured and developed by organizational teams, but the initial input usually comes from a single mind. For this reason, the behaviour and characteristics of individual employees have an important impact on organizational creativity and innovation capacity. Therefore, the most important asset for an innovative company is its creative capital, the aggregate employees’ creative capacity (Florida & Goodnight, 2005). As a result, the individual employee’s well-being, motivation and creativity (“The seed of all innovation” (Amabile T. M., 1996)) can be the success key for a company that struggles in innovative spaces.

In Sweden, alike to all Scandinavian countries, work-life balance and people’s health are all relevant topics. Indeed, the six hour working day has been on the political agenda

since the '80 (Olsson, 1998) and many researches were and are running experiments on the practice. In addition, real working implementations are common both in the public and private sector. The former comprises many municipalities and health care units that are using this practice to increase the quality of their services; the latter uses the practice to foster the customer service (Toyota Centre, Gothenburg) or the productivity of innovative start-ups (based in Stockholm). While there is a big body of literature concerning the effects of this work-life balance improvement on productivity and well-being, nothing directly tackles the possible consequences on innovation. This thesis researches the possibility of a causal relationship between a reduction in the working hours and creativity. The objective is to understand if potential effects of this working practice could foster innovation, in order to support evidence based managerial decisions on the matter. Similarly, this thesis provides value to Organizational Management Theories through this new linkage creation.

This work concludes that our mind and affect states determine our performance; the knowledge of the macro inputs of this performance would greatly benefit the management of employees. Indeed, the effort, energy, motivation and contribution that an individual displays, is linked with his/her physical and mental condition. Unfortunately, and naturally, people are shaken up and influenced by the events of life, especially by the occurrences within their inner and most intimate social circle (Helliwell & Putnam, 2004). As a matter of fact, what happens in the workplace influences the behaviour and affect within the domestic place; the opposite is true as well. Therefore, in order to define the right state of mind in employees, a well-designed reduction in the work day, appears as an omnibus solution to foster the performance, creativity, commitment and collegiality of employees. Its indirect effects on the well-being, affect and morale, motivation, stress, health, and direct increase in leisure time, are likely to produce great and positive consequences on the working environment in general, and on the creative capacity of employees in particular. Moreover, the mentioned effects reinforce each other, because of the positive interlinkages between those. "People perform better when their inner workday experience includes more positive emotions, stronger intrinsic motivation, and more favourable perceptions of their work, their

team, their leaders, and their organization” (Amabile, J., & Kramer, *Inner Work Life*, 2007).

A workday-length change tackles both business-external conditions and internal organizational issues. On the one hand, a change in the weekly workload or in the way shifts are arranged can boost several individual performance dimensions and the capacity to better cooperate; in other words, rearranging the working week can affect the upstream conditions of creativity and performance. On the other hand, the working hour reduction needs more fluid processes and rules to avoid time and output losses; the rearrangement of the processes itself can lead to important improvements. In brief, a working hour design can have a major impact on the creative performance of employees and in particular, knowledge ones.

These results warrant further psychological and managerial research. In order to have reliable results that validate the ideas developed in this study, a qualitative approach is needed. For instance, a business case study that applies creativity assessment questionnaires *ex ante* and *ex post* the practice implementation would give sound statistical proofs. It would be possible to use the already validated KEYS assessment tool for organizational creativity (Amabile T. M., 1996) tailored for the research at hand. Alternatively, a qualitative study on creativity made across different samples and settings that apply this working practice could give high validity as well. In addition, future research is needed to explore whether other social or individual characteristics may moderate this relationship.

Even if the result is not solid, getting to know this perspective on the management of human resources leads to acquiring the perspective on the importance of “Win-win working practices”. It is likely that the creation of value for the employees results in a more than proportional return of value. The working hour design is meant to create value under different personal dimensions that organizations cannot otherwise impact. Indeed, the only way to tackle those creative performance inputs is to give the workers the possibility to easily manage their personal existences. A shorter working day creates social value because of the additional time people can use to cultivate their personal

life, interests and social circles. That is, more time for friends and family, more time to conduct a healthy lifestyle, community participation, etc.; those are just some examples of the possible positive uses of the additional time, a mature person can engage in. Because of the unconstrained self & family care, they are likely to take the opportunity to increase their overall well-being. In brief, organizations that foster the well-being of their employees can greatly benefit from the positive externalities that stream from their happier, more motivated, and healthier work force.

References

- A, R. (2016, 04 19). HR Manager. (G. F. Colonna, Interviewer)
- Adams, D. B., Bacelli, G., Mancina, G., & Zanchetti, A. (1968). A Cardiovascular Changes During Naturally Elicited Fighting Behavior in the Cat. *American Journal of Physiology*, Vol. 216, No. 5, 1226 - 1235.
- Ahn, T. (2013). Reduction of Working Time: Does it Lead to a Healty Lifestyle? *Health Economics*.
- Akerstedt T., O. B. (2001). A Six-Hour Working Day - Effects on Health and Well-Being. *Journal of Human Ergology*, 197-202.
- Amabile T. M., C. R. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 1154-1184.
- Amabile, T. (1983). The Social Psychology of CFreativity: A componential Conceptualization. *Journal of Personality and Social Psychology*, Vol. 45, No. 2, 357-376.
- Amabile, T. (1998). How to Kill Creativity. *Harvard Business Review*, 77-87.
- Amabile, T. M., & Mueller, J. S. (2007). CHapter 2: Studying Creativity, its Processes, and its Antecedents. In M. D. Mumford, *Handbook of Organizational Creativity* (p. 33). Taylor and Francis.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and Creativity at Work. *Administrative Science Quarterly*. Vol. 50, 367-403.
- Amabile, T. M., Mueller, J. S., Simpson, W. B., Kramer, S. J., & Fleming, L. (2002). Time Pressure and Creativity in Organizations: A Longitudinal Field Study. *Harvard Business School Working Paper*.
- Amabile, T., & Khaire, M. (2008, October). Creativity and the Role of the Leader. *Harvard Business Review*, 100-109.

- Amabile, T., & Kramer, S. (2011). Valuing Your Most Valuable Assets. *Harvard Business Review*.
- Amabile, T., & Kramer, S. (2012). What Does Not Motivate Creativity Can Kill It. *Harvard Business Review*.
- Amabile, T., & Kramer, S. (2012). What Makes Work Worth Doing? *Harvard Business Review*.
- Amabile, T., Constance, N. H., & Kramer, S. J. (2002). Creativity Under the Gun. *Harvard Business Review*, 52-61.
- Amabile, T., J., & Kramer, S. (2007). Inner Work Life. *Harvard Business Review*.
- Anderson, N. (1961). *Work and Leisure*. Routledge and Kegan Paul Limited.
- Andersson, G. (2016, 05 09). Psychology - Working Hours. (G. F. Colonna, Interviewer)
- Applebaum, P. D. (1992). *The Concept of Work: Ancient, Medieval, and Modern*. State University of New York Press.
- Argyle, M. (1997). Is Happiness a Cause of Health? *Psychology and Health*, Vol.12, 769-781.
- Baer, M., & Oldham, G. R. (2006). The Curvilinear Relation Between Experienced Creative Time Pressure and Creativity: Moderating Effects of Openness to Experience and Support for Creativity. *Journal of Applied Psychology*, Vol. 91, No. 4, 963-970.
- Bakker, A. B., & Oerlemans, W. G. (2010). Subjective Well Being in Organizations. In K. Cameron, & G. Spreitzer, *Handbook of Positive Organizational Scholarship*. Oxford University Press.
- Batey, M., & Furnham, A. (2006). Creativity, Intelligence, and Personality: A Critical Review of the Scattered Literature. *Genetic, Social, and General Psychology Monographs*. Vol. 134, No. 4, 355-429.

- Beehr, T. A., & Newman, J. E. (1978). Job Stress, Employee Health, and Organizational Effectiveness: A Facet Analysis, Model, and Literature Review. *Personnel Psychology Vol.31*, 665-699.
- Berg, P., Appelbaum, E., Bailey, T., & Kalleberg, A. L. (2004). Contesting Time: International Comparisons of Employee Control of Working Time. *ILRReview, Vol. 57, No. 3*.
- Binswanger, M. (2006). Why Does income Growth Fail to Make us Happier? Searching for the Treadmills Behind the Paradox of Happiness. *The Journal of Socio-Economics, No. 35*, 366-381.
- Brajsa-Zganec, A., Merkas, M., & Sverko, I. (2011). Quality of Life and Leisure Activities: How do Leisure Activities Contribute to Subjective Well-Being? *Social Indicators Research, Vol.102, No.1*, 81-91.
- Brogmus, G. E. (2007). Day of the Week Lost Time Occupational Injury Trends in the US by Gender and Industry and their Implications for Work Scheduling. *Ergonomics, Vol. 50, No. 3*, 446-474.
- Bryman, A., & Bell, E. (2001). *Research Methods*. Oxford: Oxford University Press.
- Burke, M. E. (2004). *Generational Differences Survey Report*. Society for Human Resource Management.
- Caldwell, L. L. (2005). Leisure and Health: Why is LEisure Therapeutic. *British Journal of Guidance and Counselling, Vol. 33, No. 1*, 7-26.
- Cambridge, D. O. (2016, 04 20). Work. <http://dictionary.cambridge.org/>.
- Campbell, D. T. (1960). Blind Variation and Selective Retention in Creative Thought as in Other Knowledge Processes. *Psychological Review, Vol. 67, No. 6*, 380-400.
- Cannon, W. B. (1929). Organization for Physiological Homeostasis. *Physiological Review, Vol.9*, 339 - 430.

- Ceci, W. M., & Kumar, V. K. (2016). A Correlation Study of Creativity, Happiness, Motivation, and Stress from Creative Pursuits. *Journal of Happiness Studies*, Vol.17, No.2, 606-626.
- Chan, J. (2013). Researching Creativity and Creativity Research. In K. Thomas, & J. Chan, *Handbook of Research on Creativity* (pp. 21-32). Edward Elgar Publishing Inc.
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. HarperCollins.
- Csikszentmihalyi, M. (1996). *Creativity; Flow and the Psychology of Discovery and Invention*. New York: HarperCollins.
- Cunliffe, A. L. (2011). Crafting Qualitative Research: Morgan and Smircich 30 Years On. *Organizational Research Methods*, Vol.14, No.4, 647 - 673.
- Davis, L. N., Holsl, K., & Davis, J. D. (2014). Spanning the Creative Space between Home and Work: Leisure Time, Hobies and Organizational Creativity. *DRUID Society Conference*. Copenhagen: Druid Society.
- Davis, N. L., Davis, D. J., & Holsl, K. (2009). What Inspires Leisure Time Invention? *DRUID Summer Conference*. DRUID Society.
- Davis, N. L., Davis, J., & Holsl, K. (2009). Leisure Time Invention - Waste of Effort, or Wellspring of Breakthrough Ideas? *EPIP Conference*. Bologna.
- De Grazia, S. (1962). *Of Time, Work, and Leisure*. The Twentieth Century Fund.
- Denti, L. (2016, 05 10). Psychology Academic. (G. F. Colonna, Interviewer)
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective Well Being: Three Decades of Progress. *Psychological Bulletin* Vol. 125, No. 2, 276-302.
- Dodgson, M., Gann, D., & Coopmans, C. (2008). Playful Technologies: Creativity, Innovation and Organization. *DRUID 25th Celebration Conference*. Copenhgen.
- Dolan, S. L., & Gosselin, E. (2000). Job satisfaction and life satisfaction: Analysis of a reciprocal model with social demographic moderators. *Economics Working Papers*, N. 484.

- Eschlemann, J. K., Madsen, J., Alarcon, G., & Barelka, A. (2014). Benefiting from Creative Activity: The Positive Relationship between Creative Activity, Recovery Experiences, and Performance-Related Outcomes. *Journal of Occupational and Organizational Psychology*.
- Florida, R., & Goodnight, J. (2005). Managing for Creativity. *Harvard Business Review*.
- Fritsch, M., & A., R. (2010). Entrepreneurship and Cultural Creativity. *DRUID Summit Conference*. London.
- George, J. M. (2007). Creativity in Organizations. *The Academy of Management Annals*, Vol. 1, No. 1, 439-477.
- George, J. M., & Brief, A. P. (1992). Feeling Good - Doing Good: A Conceptual Analysis of the Mood at Work-Organizational Spontaneity Relationship. *Psychological Bulletin* Vol. 112, 310-329.
- Golden, L. (2012). The Effects of Working Time on Productivity and Firm Performance: a Research Synthesis Paper. *International Labour Office; Conditions of Work and Employment Branch*, No.33.
- Golden, L., & Wiens-Tuers, B. (2006). To your Happiness? Extra Hours of Labor supply and Worker Well Being. *The Journal of Socio-Economics* No.35, 382-397.
- Graddy, K. (2015). Death, Bereavement and Creativity. *Working Paper Series*, 89-168.
- Grant-Vallone, E. J., & Donaldson, S. I. (2001). Consequences of Work-Family Conflict on Employee Well-Being over Time. *Work and Stress*, Vol.15, No. 3, 214-226.
- Harari, Y. N. (2011). *Sapiens: A Brief History of Humankind*. Hebrew: Harper.
- Haworth, J., & Lewis, S. (2005). Work, Leisure and Well-Being. *British Journal of Guidance and Counselling*, 67-79.
- Helliwell, J. F., & Putnam, R. D. (2004). The Social Context of Well-Being. *Philosophical Transactions* Vol.359, 1435-1446.

- Hosking, D. M., & Morley, I. E. (1991). *A Social Psychology of Organizing: People, Processes and Contexts*. Harvester Wheatsheaf.
- Isen, A. M. (1999). On the Relationship Between Affect and Creative Problem Solving. In S. W. Russ, *Affect, Creative Experience, and psychological Adjustment* (pp. 3 - 18). USA: Taylor and Francis.
- Isen, A. M., & Baron, R. A. (1991). Positive Affect as a Facctor in Organizational Behaviour". In B. M. Staw, & L. L. Cummings, *Research in Organizational Behaviour Vol.13* (pp. 1-54). JAI Press.
- Jamal, M. (1984). Job Stress and Job Performance Controversy: An Empirical Assessment. *Organizational Behaviour and Human Performance*, No. 33, 1 -21.
- Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would You be Happier if You Were Richer? A Focusing Illusion. *Science*, Vol. 312, 1908-1910.
- Lu, L., & Argyle, M. (1994). Leisure Satisfaction and Happiness as a Function of Leisure Activity. *Kaohsiung J Med Sci*, No.10, 89-96.
- Maslow, A. (1954). *Motivation and Personality*. New York: Harper & Brothers.
- Mayer, R. E. (1999). Fifty Years of Creativity Research. *Handbook of Creativity*, 449 - 460.
- Moen, P., Kelly, E. L., & Hill, R. (2011). Does Enhancing Work- Time Control and Flexibility Reduce Turnover= A Naturally Occurring Experiment. *Social Problems*, Vol. 58, No. 1, 69-98.
- Morgan, G., & Smircich, L. (1980). The Case for Qualitative Research. *Academy of Management Review*, No. 5, 481 - 500.
- Motivation. (2016, 04 28). Retrieved from Oxforddictionaries.com: <http://www.oxforddictionaries.com/definition/english/motivation>
- Myers, D. G. (2014). Chapter 12: Emotions, Stress, and Health. In D. G. Myers, *Psychology* (pp. 479-485). Hope College.

- Naiman, L. (2016, 09 15). *What is Creativity*. Retrieved from Creativity at Work: <http://www.creativityatwork.com/2014/02/17/what-is-creativity/>
- Nohoria, N., B., G., & Lee, L. (2008). Employee Motivation. *Harvard Business Review*.
- Olsson, B. (1998). Shorter Working Hours in the New Unemployment Context - Some Experiences. *Employment policies and gender relations : the Swedish report for 1997 on the multi-annual plan, hourly costs and shorter working hours*.
- Ozge, C. (2010). Fosterinf Innovation: the Role of Creativity and Knowledge Networking. *DRUID-DIME Academy Winter PhD Conference*. Aalborg.
- Peltola, P. (2007). Working Time Reduction in Finland. *European Review of Labour and Research*. Vol.13, 75-93.
- Pencavel, J. (2014). The Productivity of Working Hours. *Discussion Paper Series No.8129*.
- Penn Arts & Sciences. (2016, September 03). Retrieved from Positive Psychology Center: <https://ppc.sas.upenn.edu/>
- Pieterse, G. (2016, 06 21). *What Stress Got to Do With It*. Retrieved from Halo.co.uk: <http://haleo.co.uk/wordpress/whats-stress-got-to-do-with-it/>
- Primeau, L. (1996). Work and Leisure: Transcendig the Dichotomy. *The Aerican Journal of Occupational Therapy*, Vol.50, No. 7, 569-577.
- Pullinger, M. (2014). Working Time Reduction Policy in a Sustainable Economy: Criteria and Options for its Design. *Ecological Economics*. Vol. 103, 11-19.
- Quick, J. C. (2004). Healty, Happy, Productive Work. *Organizational Dynammics*, Vol. 33, No. 4, 329-337.
- Rapoport, R., Lewis, S. B., & Gambles, R. (2004). Globalization and the Integration of Work with Personal Life. In S. Poelmans, *Work and Family: an International Research Perspective*. NJ: Erlbaum.
- Roberts, K. (1999). *Leisure in Contemporary Society*. Cabi.

- Root-Bernstein, R. S., Bernstein, M., & Garnier, H. (1995). Correlations Between Avocations, Scientific Style, Work Habits, and Professional Impact of Scientists. *Creative Research Journal*, Vol. 8, No. 2, 115 - 137.
- Rosanoff, M. A. (1932). Edison in His Laboratory. *Harper's Magazine*, Vol. 165, 402 -405.
- Runco, M. A., & Jaeger, G. J. (2012). The Standard Definition of Creativity. *Creativity Research Journal*, Vol. 24, No. 1, 92-96.
- Saltmarsh, S., & Randell-Moon, H. (2014). Work, Life and Im/balance: Policies, Practices and Performativities of Academic Well-being. *Somatechnics*, Vol.4, Issue 2, 236-252.
- Sauermann, H. (2008). Individual Incentives as Drivers of Innovative Processes and Performance. *SSRN Electronic Journal*.
- Sauermann, H., & Cohen, W. M. (2010). What Makes Them Tick? Employee Motives and Firm Innovation. *Management Science*, Vol. 65, No. 12, 2134-2153.
- Sawyer, R. K. (2012). *Explaining Creativity; The Science of Human Innovation*. Oxford University Press.
- Schneiderman, N., Ironson, G., & Siegel, S. D. (2005). Stress and Health: Psychological, Behavioral, and Biological Determinants. *Annual Review of Clinical Psychology*, Vol.1, 607 - 628.
- Schuler, R. S. (1980). Definition and Conceptualization of Stress in Organizations. *Organizational Behaviour and Human Performance*, No. 25, 184 - 215.
- Selye, H. (1956). *The Stress of Life*. New York: McGraw - Hill.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). Effects of Personal and Contextual Characteristics on Creativity: Where Should We Go from Here? *Journal of Management*, Vol. 30, 933-958.

- Simonton, D. K. (2010). Creative Thought as Blind-Variation and Selective-Retention: Combinatorial Models of Exceptional Creativity. *Physics of Life Review*, Vol.7, 156-179.
- Stebbins, R. A. (2001). The Costs and Benefits of Hedonism: Some Consequences of Taking Casual Leisure Seriously. *Leisure Studies*, No.20, 305-309.
- Sutton, R. I. (2001). The Weird Rules of Creativity. *Harvard Business Review*, 94-103.
- Talbot, R., Cooper, C., & Barrow, S. (1992). Creativity and Stress. *Creativity and Innovation Management*, Vol.1, No.4, 183-193.
- Twenge, J. M., & Campbel, S. (2010). Generation Me and the Changing World of Work. In P. A. Linley, S. Harrington, & N. Garcea, *Oxford Handbook of Positive Psychology and Work* (pp. 25-35). Oxford Universtiy Press.
- Twenge, M. J., Campbell, S. M., Hoffman, B. J., & Lance, C. E. (2010). Generational Differences in Work Values: Leisure and Extrinsic Values Increasing, Social and Intrinsic Values Decreasing. *Journal of Management*, Online.
- Wesarat, P., Sharif, M. Y., & Majid, A. H. (2015). A Conceptual Framework of Happiness at the Workplace. *Asia Social Science Vol.11 No. 2*.
- White, M. (1987). *Working Hours: Assessing the Potential for Reduction*. Geneva: International Labour Office.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of Organizational Creativity. *The Academy of Management Review*. Vol.18, No. 2, 293-321.
- Woodward, N. H. (2014). Come On, Get Happy. *HRMagazine*.
- Wright, T. A., & Cropanzano, R. (2004). The Role of Psychological Well-Being in Job Performance. *Organizational Dynamics*, Vol. 33, No.4, 338-351.
- Wright, T. A., & R., C. (2000). Psychological Well-Being and Job Satisfaction as Predictors of Job Performance. *Journal of Occupational Health Psychology*, Vol. 5, No. 1, 84-94.

- Wright, T. A., & Staw, B. M. (1999). Affect and Favourable Work Outcomes: Two Longitudinal Tests of the Happy - Productive Worker Thesis. *Journal of Organizational Behaviour*, 1-23.
- Wright, T. A., Bonett, D. G., & Cropanzano, R. (2007). The moderating Role of Employee Positive Well Being on the Relation Between Job Satisfaction and Job Performance. *Journal of Occupational Health PSychology*, Vol.12, No. 2, 93-104.
- Wright, T. A., & Staw, B. M. (1999). Further Thoughts on the Happy-Productive Worker. *Journal of Organizational Behaviour*, 31-34.
- Yerkes, R. M., & Dodson, J. D. (1908). The Relation of Strenght of Stimulus to Rapidity of Habit Formation. *Journal of Comparative Neurology and Psychology*, No. 18, 459 - 482.
- Yusuf, S. (2009). From Creativity to Innovation, Vol.31. *Technology in Society*, 1-8.



SUMMARY

Introduction

Background – Innovation & Labour Market Challenges (Opportunities?)

Today change pace is astonishing in comparison with the past, and this trend seems to grow on globalization, affecting all human life's domains. Subsequently, individuals and social formations are shaped by the unknown events of the future; both have to be flexible, resilient and creative to survive and grow. In particular, this applies when it comes to the novelty realm and its challenges.

Creativity to foster innovation is an important opportunity to survive and compete in today's markets. In particular, under the business perspective, being creative is an incredible source of competitive advantage; an evolutionary effort to be more resilient against the environment. The market struggle to be the most innovative is leading

companies to implement hard and soft solutions to fuel their processes. Among the soft perspective, it is possible to mention the setting of the work culture, climate and processes to tackle the root of innovation: employees' creativity.

But what about the antecedent causes of creativity outside the working environment? The Six Hour Working Day is an extreme example of a working space that is likely to be relaxed, intense and productive. Could employees living a work/life balance define the proper environment for cooperation? Moreover, the need for a reflection on this topic is strengthened by the labour market's change. Indeed, work is starting to be considered a partial dimension of life, new employees are more committed to meeting parenting and family obligations (Twenge & Campbel, 2010). As a consequence, organizations that recognize the generational trends and offer a well-being enhancing environment, in line with the workforce's needs, what would be gained?

It depends, as everything. Generational trends or human resources' difficulties and quests have the potential to become opportunities. For sure, organizations will adapt to those trends in order to achieve a sustainable growth. But today, those new human side challenges can turn into competitive advantage for every company.

Problem Description

It is common wisdom that humans' performance is linked with the inner subjective affect and state of mind; since flesh & bones employees are the real structure of organizations, the possibility to perform out of issues and with a mind clear of problems should be nurtured by the company. Managing for innovation means to understand what the factors of the organizational innovative performance are and the role that creativity has. This performance results from an array of factors.

"Creativity is the act of turning new and imaginative ideas into reality. Creativity is characterised by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions." (Naiman, 2016)

The focus is on creativity; there are two broad reasons why this should be managed. It drives progress and it “Is unpredictable, and thus has the potential to reduce levels of predictability and reliability” (George 2007).

Research Objective

There is a common theme that spans across many different strands of research and this thesis: “How can creativity be understood, supported and harnessed to enable higher quality innovations in products, processes and services” (Dodgson, Gann, & Coopmans, 2008). However, this work tries to understand if a relation between creativity and ‘Otium’, the Latin term that encompasses leisure as one of the possible meaning, exists.

Research Questions

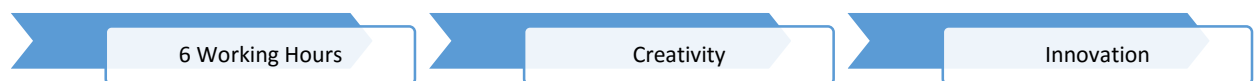


Figure 15 Working Hypothesis (Own elaboration)

Does a causal relationship between a working day reduction to six hours and employees’ creativity exists?

Which are the possible interlinkages between the two phenomena?

Theoretical Framework

Working Hours & Leisure Time

The debate about the optimal human working schedule started in the middle of the eighteen century during the first industrial revolution (Pencavel, 2014). Since then, work continued to evolve becoming an extremely complex and multidimensional phenomenon (De Grazia, 1962). For the sake of this thesis I will consider only the literature production made about the working time and its effects.

A new current is taking into account the private life of the worker as a performance enhancing dimension. In particular, the concept of “Work-Life Balance” deals with lifestyle choice, and it tries to capture the duality born with the discovery of leisure with Aristotle. Since then, those two life aspects are bounded in a relationship of mutual exclusion. As a result, the interplay between those two can greatly affect individual’s characteristics and therefore, it may have an important role for the organizational

innovation. In brief, this dichotomy has the potential to be part of a business strategy. Therefore, I focus on the 6 hour' practice because it is widely studied in Sweden and I had the opportunity to get in contact with organizations implementing it. However, this working model is only one possible design that could become part of a business strategy.

Defining the Fundamentals

Work is "An activity, such as a job, that a person uses physical or mental effort to do, usually for money" (Cambridge, 2016) and it includes unpaid work like childcare or voluntary work. According to the work anthropologist Applebaum (1992), in our western societies, work is highly valued and respected. Work has changed during the centuries and nowadays, it has largely gained a contract exchange value. There are other reasons that lead people to work but those will be discussed in detail afterward; as this thesis will argue, work is important for humans' well-being and mental stability.

I problematized the definition of leisure and I summed all the relevant characteristics founded in the literature: "Leisure activities are the ones people engage in for their dimensions of positive experience and enjoyment; those are not done to acquire directly any material gain". In addition, leisure can be broadly categorized in serious or active leisure and passive leisure; both are required for an optimal leisure lifestyle (Stebbins, 2001). On the one hand, serious or active leisure time requires effort and therefore can provide different rewards. On the other hand, 'unserious' leisure is rewarded with immediately intrinsic rewards (Stebbins, 2001).

Why a Shorter Working Day?

A shorter working day may have different positive outcomes. Some derives from the direct organizational effects of this choice. For instance, if the output is maintained, it is straightforward that a lower use of human resources leads to relevant cost savings. Additionally, it is reported by White (1987) that, as a consequence of the processes reorganization, which follows a shift toward a different working day, the business efficiency and efficacy is strengthened. Furthermore, a shorter working day creates social value because of the additional time people can use to cultivate their personal

life, interests and social circles. That is, more time for friends and family, more time to conduct a healthy lifestyle, community participation, etc.

The organization can create value out of the positive externalities that stream from an employee benefiting of an increase life satisfaction given by the additional social and personal value. According to Dolan & Gosselin (2000), that have tested the existing studies on the relationship between job and life satisfaction, it is likely (under a contingency model) to have a spillover effect between the two. In other words, the behaviour, affect, practices and so on, developed in one sphere of life, may “spill over” to the other. Consequently, it is possible to start a self-reinforcing spiral of value creation: the company grant more free time (or programs like employee assistant, recreational activities etc.); this create value for a more engaged employee that operate in a better way his tasks.

As a consequence of more engaged employees, the social nature of organizations triggers an additional positive spiral effect, that enhances the value creation. “Since in most organizations performance is the result of collaborative effort,” writes Bakker & Oerlemans (2010), “the engagement of one person may transfer to others and indirectly improve team performance”. Furthermore, happy employees, not burdened by stress or negative life issues are better team members (Quick, 2004). As a result, more efficient and effective teams can give an incredible competitive advantage boost to the organization.

Working Hours Reduction, Effects

Long working hours adversely affect workers in different ways. Because of the detrimental effects of long working pressure, the lack of adequate leisure time, and family-work conflicts. On the contrary, according to the interviews of personnel conducted by Olsson (1998) the strategy of a shorter working day is perceived as a welfare gain. Not only is what we do in our free time able to cope against the negative issues that arise at work (for example, stress release), but a good use of it is able to nurture the first and most intimate social circle of the person. In other words, people that experienced a working day reduction reported how it became easier to live and the

positive impact of additional time for their relatives (Olsson, 1998). Having more time for themselves, employees display several trends related to productivity, health, accidents, stress, turnover, motivation & morale, happiness, and positive affect.

Productivity

Productivity stands as one of the main objectives for companies that are profit-oriented. Much can be accomplished to strengthen the labour productivity of a company through a reduction of hours. For instance, White (1987) states that shorter hours, under the right conditions, “May lead to or form an integral part of productivity improvements, which can be used to offset all or much the apparent cost of the reductions in working time”. Along the same line of thought, Golden (2012) writes about “Win-win working practices” for the employer and the employee; those new practices spur productivity and are nowadays essential to overcoming global competition. In brief, taking into account the needs of the employees seems to have more than an altruistic purpose behind it.

Employees display a diminishing marginal productivity in relation with the working hours; as a result, the relationship between hours and output is nonlinear (Pencavel, 2014; Golden, 2012). Furthermore, the performance reduction can be particularly strong for workers that have responsibilities or important duties outside the workplace (like a family). On the other hand, productive efficacy and efficiency, linked to a shorter working day, arise mainly because of two potential reasons (Golden, 2012; White, 1987; Pencavel, 2014). First, the physiological benefits (positive psychology and less mental and physical fatigue) and behavioural changes of the workers lead to an increase in the individual marginal productivity. At the same time, costs or loss of performance given by sicknesses, accidents, injuries and turnover decrease as misbehaviours like absenteeism and tardiness (those aspects are going to be further discussed). Second, changing under new constraints, the processes that inform the working flow, usually trigger serendipity results (White, 1987; Olsson, 1998).

Health & Injuries

As previously stated productivity is undermined by the health effects of long working hours:

“Human suffering, health disorder, and illness are the antithesis of health, vitality and well-being. ... [S]uffering and health problems can drain positive energy otherwise used to achieve happiness and productivity” (Quick, 2004)

Also the employees' psychological stability suffers and unhealthy lifestyle habits are casually linked with long working hours. To summarize, “Individual and organizational health are interdependent” (Quick, 2004), shifting to a 6 hour working day returns healthier human resources that in turn create more value.

Stress

Stress is the nonspecific response to any demand (*Selye, 1956*)

This core definition for the state of the science around stress, states how a stressful situation is something that brings the individual outside the homeostasis condition, the condition of normal functioning, our “Internal milieu” (Claude Bernard, 1854).

Cannon (1929) states that stress responses are meant to solve upcoming uncertain situations and return to the condition of homeostasis; therefore, the strain against stress is a coping response not bad per se. Schneiderman & all (2005) write that “Various situations tend to elicit different patterns of stress responses”. For example, when “Fight-or-flight” strategy is possible, there is “Increased autonomic and hormonal activities that maximize the possibilities for muscular exertion” (Cannon, 1929). Similarly, when an active reaction is not feasible, a vigilance response that activates the sympathetic nervous system is deployed (Adams, Bacelli, Mancina, & Zanchetti, 1968). Indeed, depending on the individual and organizational qualities (Schuler, 1980), and on the magnitude of the stressful situation, stress can be a positive mechanism to face daily challenges.

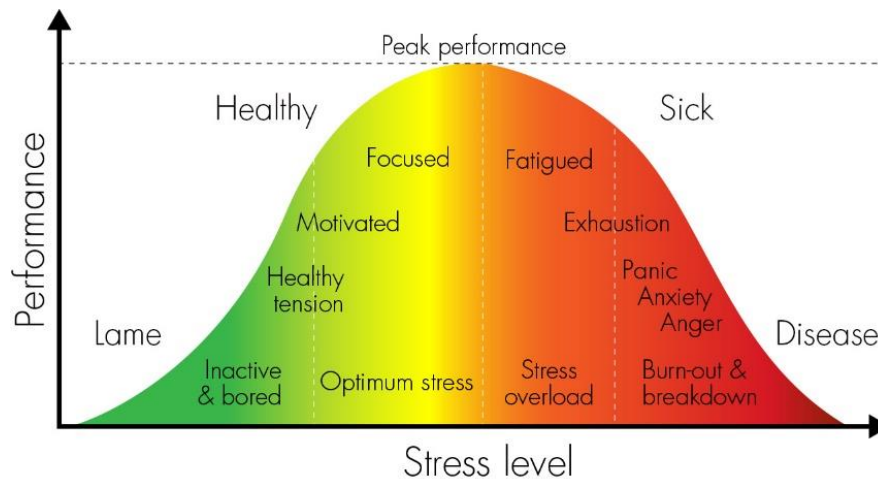


Figure 16 Yerkes - Dodson Law (Pieterse, 2016)

In addition, the long term performance of stressed employees could be affected by different symptoms caused by stress. Beehr & Newman (1978) have grouped all the detrimental symptoms in three main categories: physiological, psychological (cognitive/affective), and behavioural.

Stress is highly related to the challenges that happen at work (Talbot, Cooper, & Barrow, 1992). The sources of stress inside organizations, according to Talbot and all (1992), can be summarized as follows:

Factors Intrinsic to the Job

The Managerial Role

Relationships with Others

Career and Achievement

Organizational Structure and Climate

Home/Work Interface

Table 11 Sources of Stress (Talbot and all, 1992)

According to Schuler (1980) stress is an additive concept, the employee's total stress is the sum of all stress sources of his/her life. The 6 hour working day is likely to benefit employees under this dimension (Ahn, 2013; Olsson, 1998). Indeed the above stress symptoms derive from work pressures, home pressures, and inter-role conflicts, that can affect personal and organizational outcomes if workers do not have control of their

life and have time imbalances between home and work (Grant-Vallone & Donaldson, 2001).

Turnover & Recruitment Costs

It is common knowledge that the costs associated with turnover are an important economic burden. A shorter working day proves to reduce turnover because of the positive consequences that employees experience.

Motivation

Motivation is defined as the “Desire or willingness to do something; enthusiasms” (Motivation, 2016). It is reported as one of the main conditions of human performance, both under the productive and creative perspectives.

Mistakes & Accidents

Employees that have a long working day, are more likely to make mistakes (Brogmus, 2007; Golden & Wiens-Tuers, 2006; White, 1987; Pencavel, 2014).

Happiness & Positive Affect

Organizations should highly consider workers’ happiness as one of the main variable of operative performance. Indeed, happy employees “Perceive the world as safer and feel more confident”, Myers (2014) writes, “they make decisions, cooperate more easily, and are more tolerant. They ... savour their positive past experiences without dwelling on the negative, and are more socially connected. They live healthier and more energized and satisfied lives”. Moreover, several literature reviews (Isen & Baron, 1991; George & Brief, 1992) support the idea that positive affect has different performance enhancing outcomes inside organizations. That is, “Employees are more helpful, creative, better negotiators, and more persistent on uncertain tasks” (Wright & Staw, 1999).

A long working day can be detrimental for the well-being or happiness of an employee. On the contrary, a reduced workday leads to the achievement of a better life equilibrium because it permits to avoid, for example, work-family conflicts (Quick, 2004; Ahn, 2013). Moreover, “Leisure activities that are enjoyable and satisfying”, write Haworth & Lewis (2005), “are ... vital to sustain well-being”. Additional leisure time, a direct consequence

of a shorter working week, brings leisure satisfaction. This is strongly correlated with happiness and positive moods (Lu & Argyle, 1994) (Argyle, 1997).

There are other considerations on the matter. Briefly, happiness triggers a 'spiral effect' into a working environment. There are positive benefits for those who are exposed to happy co-workers (Wright & Cropanzano, 2004). Also, there is a strong causal relationship, in both directions, between happiness and health that reinforce the positivity of this new working practice (Argyle, 1997; Lu & Argyle, 1994).

Creativity

Creativity in organizations is becoming an increasingly important concern both for organizational decisions and academic research. The body of knowledge around this human ability is reaching a critical mass. As a result, the disciplinary trajectories have departed one from another, thus the coverage of the different aspects on the matter is piling up.

A better understanding of creativity is vital to improving organizations' efforts toward innovation. "Creativity has always been at the heart of business ... [it is] essential to the entrepreneurship" (Amabile & Khairi 2008). Still, it starts with nothing more than a single idea, a novel connection of thoughts, mental images. The creative idea is only a starting point; afterwards, something concrete needs new knowledge creation and many organizational resources.

Individual Creativity

The individualistic perspective describes how creativity works in the mental domain of a single person. It studies the brain processes and structures that allow this capability and how those are affected by inner sensations, affects or external conditions and inputs.

Academics agree on a standard definition of creativity (Runco & Jaeger, 2012), that elicits more attributes: "A creative thought is defined as the process or set of processes that generate ideas that are both (a) original, novel or surprising and (b) useful or adaptive" (Simonton, 2010). First, originality or novelty is required for definition; otherwise, it is like reinventing the wheel, a conventional idea. Second, effectiveness,

usefulness, fit or appropriateness is a characteristic that makes an original idea also valuable and therefore creative. Not all the ideas that come to mind are interesting and useful. Especially in business an idea should be appropriate, useful and actionable (Amabile T., 1998).

The interplay between the domain and the individual personal experiences leads to the creative outcome, output of three components: expertise, creative thinking skills and motivation (Amabile 1998). The former, expertise, is knowledge, the building block of the creative association processes. Then, the creative thinking skills are related to the divergent thinking capacities of an individual. Lastly, motivation is probably the most important creativity driver that is going to be discussed further on. In brief, creativity requires not only the singular brain but also the environmental conditions (domain) that have shaped and supported the creative process and other people (field) that validate novel ideas.

It is within the individual person that the creative process takes place. Donal T. Campbell (1956) has developed a selectionist theory of creative thought base on the “Blind variation and selective retention” a two stage and inductive process. This process is perfectly explained by Amabile, Constance and Kramer (2002) who describe it with a figure: “It is as, if the mind is throwing a bunch of balls into the cognitive space, juggling them around until they collide in interesting ways.”

The psychologist Csikszentmihalyi (1996) reports the classical analytical framework for the creative process, a linear simplification that is able to shed light on the phenomenon from a different perspective. It consists of five steps:

1. *Preparation*
2. *Incubation*
3. *Insight*
4. *Evaluation*
5. *Elaboration*

It is important that individuals have sufficient time to develop creative ideas. The more the novelty the more time required by the mind (Csikszentmihalyi M. , 1996). Therefore, the time pressure on employees should be wisely decided.

Creativity depends on several factors: motivation, affect & mood, and stress.

Motivation

Motivation may arise both from within the individual or from external factors. On the one hand, the correlation between creativity and extrinsic motivation is insignificant. Alternatively, intrinsic motivation was found to be strongly correlated with motivation. Indeed, a person is intrinsically motivated when he is doing the work or activity he enjoys doing, this activity becomes rewarding on its own, autotelic (Csikszentmihalyi M. , 1996). According to the vast majority of researchers, internal motivation is the main driver that leads toward creative insights (Amabile T., 1998; Amabile & Mueller, 2007; Amabile & Kramer, 2012; George, 2007; Florida & Goodnight, 2005).

There are several factors that pave the conditions to enjoying an activity and keeping a person engaged and productive (Csikszentmihalyi M. , 1996). Some of them could be balanced by managers, according to Amabile (2012), in order to increase the creative efforts of employees. the following drivers should be managed:

- *Goals*
- *Feedback & Evaluation*
- *Reward*
- *Pressure*

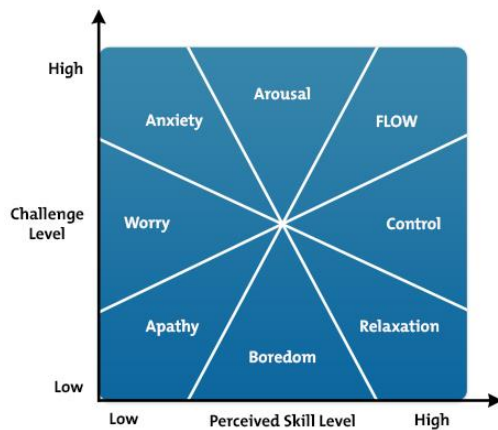


Figure 17 The Flow Model (Csikszentmihalyi, 1990)

Affect & Mood

Flesh and bones employees have emotions that translate into different affective states and moods. Therefore, due to the human presence, “Organizations are affectively laden environments” (Amabile, Barsade, Mueller, & Staw, 2005).

According to the literature review and the researchers conducted by Amabile and all (2005), affect influences numerous work outcomes such as task quality, productivity, efficiency and creativity. In particular, “Creative activity appears to be an affectively charged event,” writes Amabile and all (2005), “one in which complex cognitive processes are shaped by, concur with, and shape emotional experience.”

It is common wisdom that creative artists or geniuses are people shackled by sad life occurrences and abound with emotional dramas (Amabile, Barsade, Mueller, & Staw, 2005; Graddy, 2015). However, “This is a suggestion for which there is more anecdotal argument than actual data” writes Isen (1999). There are at least three reasons for this decline of the creative performance. First, distractions are the nemesis of creativity; Csikszentmihalyi (1996) states that “The more ambitious the task, the longer it takes to lose oneself in it, and the easier is to get distracted. ... More serious health, family, or financial problems could occupy the mind of a person so insistently that he or she is no longer able to devote enough attention to work”. Second, according to the Graddy (2015), depression and sadness seem to undermine creativity. In other words, “Psychic

entropy, which is a state of consciousness characterised by inner disorder, negative emotions, ... is the opposite of flow”, where flow is the condition par excellence for creativity (Csikszentmihalyi M. , 1996). Third, according to the literature review conducted by Graddy (2015), “The mood is related to creativity” and therefore a negative mood may hamper it.

More significant, positive affect influences people’s cognitive abilities according to the review conducted by Isen (1999) that has examined 25 studies on the matter from seven different topic areas. In particular, positive affect is positively linked with an increase in cognitive flexibility (the ability to take different perspectives), cognitive elaboration, creative problem solving, and coping skills.

Stress

Stress can act as a fuel for the brain to work. Unfortunately, its effects are also detrimental and dangerous for the person if they are sustained in the long run. High and prolonged levels of stress damages creativity. Indeed, Talbot and al (1992) have conducted an extensive survey to understand creativity, stress, and their relationship inside organizations (this study is valid for the individual and organizational dimension of creativity but both are going to be displayed in this section). According to the results of the cited study, there is a significant correlation between stress and creativity.

Conclusion – The Creative Person and the Creative Conditions

Every person has the potential to contribute with important creative insights. For example, it is common knowledge that the “Toyota Production System” enable all employees to contribute not only with physical work but also with their brains. However, certain personality traits, conditions of antecedents, cognitive styles and creative behaviour may increase the likelihood of a creative contribution. However, without motivation, or if impaired in his mental faculties by life problems, the most creative person would not perform creatively. Therefore, this theoretical framework suggests the purposes of exploring the effects of a working day reduction for creativity unleash.

Methodology

I spent one year in Sweden, a country on the welfare's front line innovation, where I came into contact with the 6 hour working day topic. I decided to explore the creativity – working hours connection because of the missing link of this practice with the theme of innovation.

This thesis follows an epistemological interpretative, and ontological constructivist approach; those are the base to adhere to the presented psychological perspective on organizations and to the qualitative nature of the research. As a result, the work flows under an 'intersubjective assumption': reality is imagined and it is the product of the human mind; this states that humans are autonomous, give meanings to their surroundings, and are creative, that knowledge is personal and experiential. At the same time, the constructivist approach assumes that we experience reality differently, and the consequent sum of our interpretations determines reality.

It is a descriptive and narrative thesis that advances under an inductive approach; it makes logical claims in the analysis, that are developed from concepts extracted from the literature review or the empirical findings. This is done in order to sustain a theory of casual relationship between the independent and dependent variable. The resulting literature follows a narrative approach meant to cover the two topics (creativity & working hours) with an extensive review. The purpose is to highlight and discover the connections between the phenomena. After the collection of academic knowledge, to further support this inductive process, I collected several experts' opinions in the empirical findings. The following analysis attempts to formulate a model that summarises through hypothetical propositions, all the possible interlinkages between the two variables. Therefore, this thesis presents a new pattern that connects two existing clusters of knowledge.

To support the validity of this process I relied upon rational propositions and empirical tests. On the one hand, rationality is at the base of the analysis. This is an organized conceptual landscape of propositions where concepts are linked by straightforward casual relationships based on the results provided by the academic world. I connected

the dots between the common factors among the two dimensions under scrutiny, justifying this process with a simple logic. On the other hand, the empirical evidences were made to test the hypothetical relationships. The primary data tests and links the secondary one. The following scheme represents the work flow:

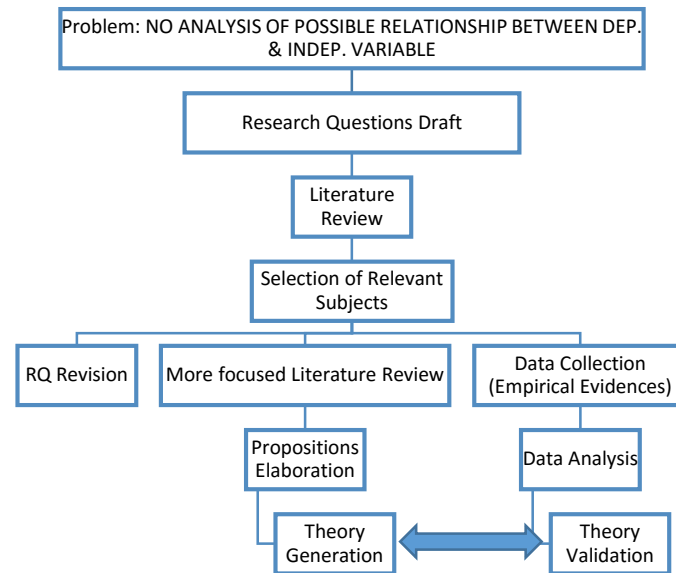


Figure 18 Research Method & Theory Development Process (Own elaboration)

Data Collection

Respondent Selection and Access Negotiation

I used expert interviews to collect primary data. The impossibility to rely on a relevant quantity of employees, lead me to choose quality of insights. I pre-selected five different domains to understand all the psychological and managerial aspects around creativity and working hours' design:

- a. *Psychology of working hours*
- b. *Psychology of creativity and innovation*
- c. *Human resource management working with a reduced working day*
- d. *Political perspective*
- e. *Chief of a private company that works with 6 hour working day*

Semi Structured Interviews

I crafted a different interview guideline for each kind of profession. I chose semi-structured interviews to have flexibility and allow for the discovery of new topics within

the boundaries of a structure. This allows to be in ‘the middle’: on the one hand, it permits to “Gain [the respondents] genuine understanding of the world view” (Bryman & Bell, 2001); on the other hand, the use of an analytical structure permits a better ex post analysis because it drives the conversation within the boundaries of the topics.

This resulted in three different kinds of semi structured interviews: psychological, human resources, and political. The questions were made to validate the connections between the two variables and were tailored to the expert field.

Profession	Respondent	Date	Duration	Type	Language
HR management	Respondent X	19-04-2016	00:58:00	Meeting	English
Psychologist	Gunnar Andersson	09-05-2016	01:10:00	Meeting	English
Politician	Maths Pillhem	10-05-2016	00:30:00	Meeting	English
Psychologist	Leif Denti	10-05-2016	01:10:00	Meeting	English

Table 12 List of Research Participants (Own elaboration)

Data analysis approach

The interviews were recorded and transcribed the same day. After the overall collection, I further elaborated the material through a content analysis. For example, the following extract from the Denti’s interview was quoted with an Office 2016’s comment “Positive Affect – Creativity”:

Positive affect has a positive relationship with creativity. It seems that joy activates a person openness, the person is more viable to think about different perspectives ...

As a result, the interviews were broken down into component parts: concepts that allowed, in a second moment, a thematic research and further elaborations to craft the primary data of this thesis.

Research Quality and Limitations

This thesis is a starting point for a new thematic branch on the working hour topic. Indeed, a final theory does not exist (Bryman & Bell, 2001) and this exploratory thesis only tries to find knowledge in between truth and belief. The justifications for the outcomes are given by literature interlinkages (Rationalism) and qualitative interviews (Empiricism). The former has clear and logical consequences, while the latter (although are run with relevant experts) does not have the proof magnitude given by high participants or observation numbers. The resulting accuracy is not confirmable due to the lack of the quantitative perspective; the body of knowledge is wide and different leading to the impossibility of a full aspects coverage.

This thesis suffers of all the qualitative research limits.

Empirical Findings

I summarise the general content of each interview with graphs about the most important findings.

Respondent X, Chief HR Manager, Hospital

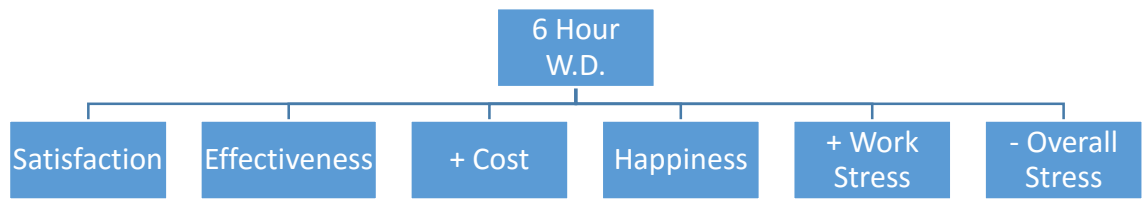


Figure 19 Connections Highlight, HR (Own elaboration)

Gunnar Andersson – Psychologist (Stress and Working Hours)

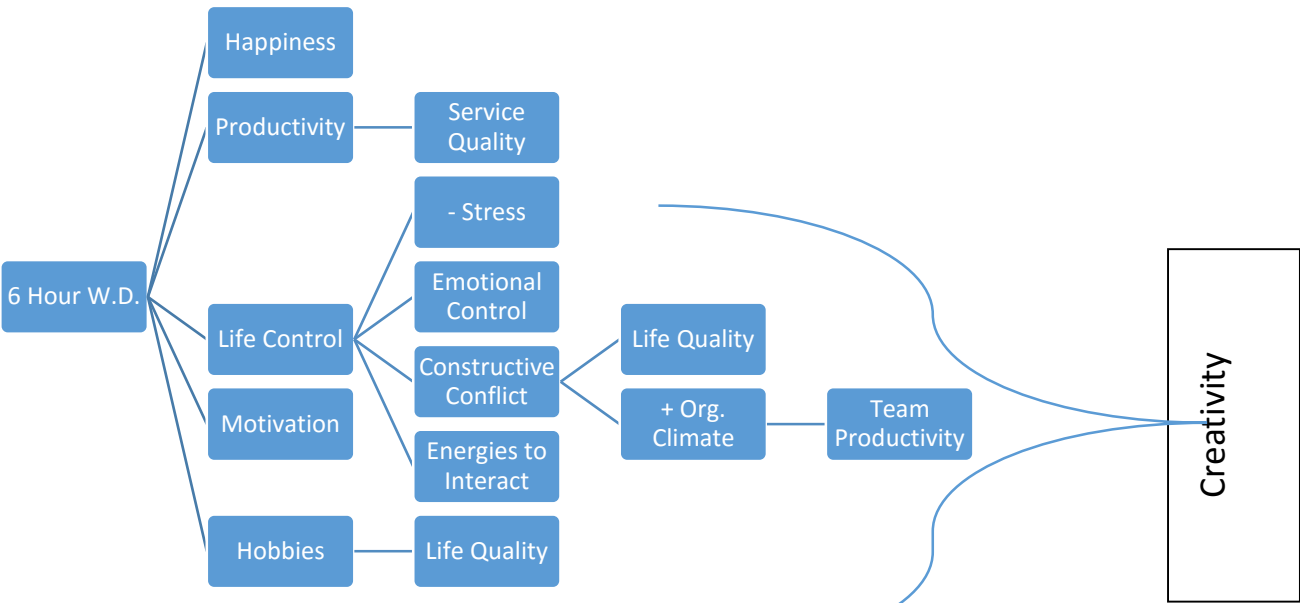


Figure 20 Connections Highlight, Stress Psychology and Working Hours (Own elaboration)

Maths Pillhem – Politician

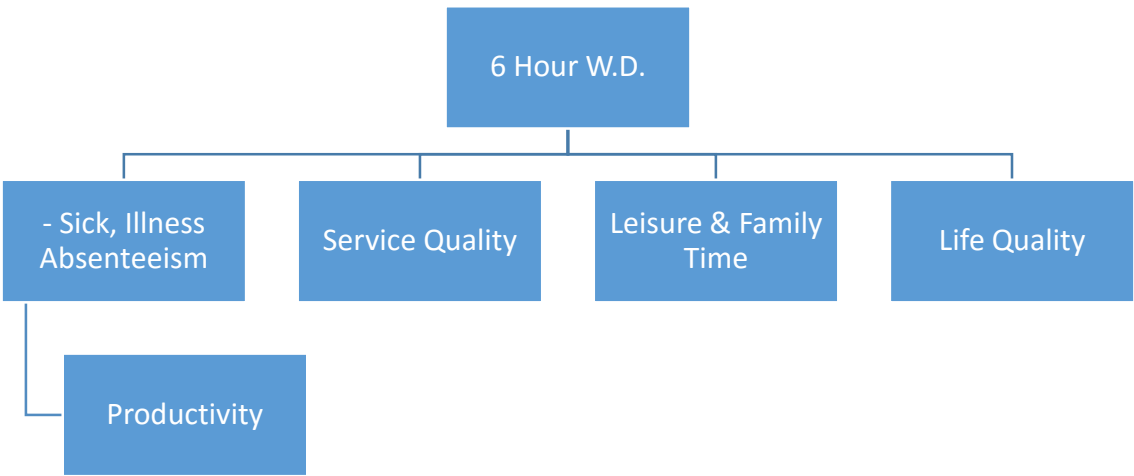


Figure 21 Connections Highlight, Political Issues (Own elaboration)



Figure 22 Connections Highlight, Innovation Psychology (Own elaboration)

Analysis

Shifts of six hours are likely to be an omnibus solution to positively foster different organizational performance dimension, and among them creativity. In particular, at the individual level, the interlinkages between the practice of a work day reduction and creativity are the following: stress, health, positive affect & mood, happiness, productivity, and leisure time. Those lead to important well-being improvements that free the mental capacities and increase the employees' motivation.

The model that summarises the work done assumes that the relationship, between the independent and dependent variables, exists. The reduction of the working hours is an important welfare gain for the employee; it has effects on his health, on the capacity to live and nurture social relationships, on the time he can spend for important work unrelated activities. Following, he benefits from a reduction in the overall stress, his mood and affect become serene and positive, the sensations of well-being and happiness increase, and his health itself improves. Those result in the unleashing of the employee's cognitive abilities and in increased motivation, that in turn foster creativity and productivity. A 'side effect' of this welfare gain is related to the improved capacity

to cope with working conflicts in a constructive way, this helps to creatively cooperate in teams at a higher level.

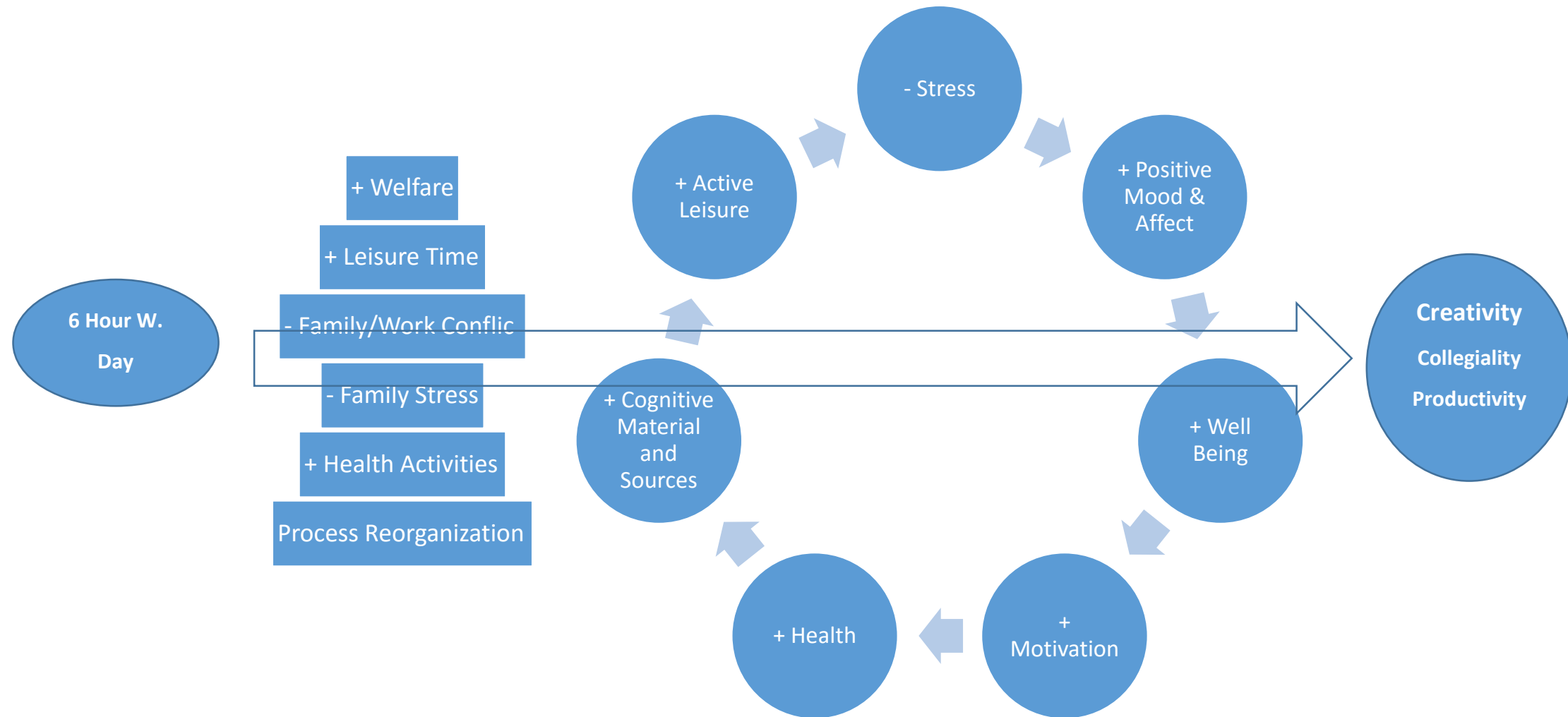


Figure 23 Hypothesis of Casual Relationship Working Hours – Creativity (Own elaboration)

Stress

More time to care about personal issues helps employees to keep their overall stress level under a security threshold. Stress helps us to cope with difficulties; work stress, if not persistent, helps and it is not detrimental. The 6 hour working day, according to the HR manager, does not impact work stress, but it reduces the overall stress or, using Andersson's words, "The increased control on personal life makes us able to cope with stress in the long term". As a result, employees are not affected by chronic stress symptoms, and the organization benefits from healthy human resources that are not impaired in their mental faculty (Denti, 2016).

Health

We have seen that long working hours have effects on the health of the employees and how this strongly undermines productivity and other well being factors. Indeed, according to Ahn (2013), or Quick (2004), there are important health consequences that are connected to a lack of positive energies, alternatively exploitable to foster the worker's performance. In addition, there is a strong causal relationship, in both directions, between happiness and health (Argyle, 1997; Lu & Argyle, 1994) with positive consequences on the cognitive abilities of employees and on their collegiality.

Positive Affect and Mood

One of the most important components to foster creativity inside organizations is morale. The connection with creativity is straightforward, more focus and commitment are important to unleash the creative potential of employees. Therefore, in order to increase the morale of employees, it is important to drive the workers toward a state of positive affect. On the matter, it is important to remember the words of Ceci & Kumar (2016), "Higher intrinsic motivation is associated with greater positive affect, [and] subjective well-being." Indeed, according to Isen (1999), positive affect influences people's cognitive abilities and in particular their cognitive flexibility, cognitive elaboration, creative problem solving, and coping skills. Similarly, Denti (2016) recognises how joy activates a person's openness, their ability to consider different perspectives, and the capacity to develop positive working relationships that in turn help to foster the creative results of brainstorming. Also, Amabile and Kramer (2007):

“Positive emotion [are] tied to higher creativity, and negative emotion ... to lower creativity”, but also there is a “Carry over effect. The more positive a person’s mood on a given day, the more creative thinking he or she did the next day”

Those psychological conditions easily result from a decrease in working time. Indeed, both the literature review and the results of the empirical findings suggest how happiness, positive affect and morale are observed in rested human resources. Those have more control on their personal sphere and are likely to solve their conflicts and negative issues.

Happiness

An increase of personal time, and not of the salary, would have a direct effect on the world perception of workers. Indeed, additional leisure and in particular active leisure, are conducive to grant a general ‘Positive psychology’. Consequently, it is possible to assist in an overall increase on the subjective dimensions of well-being, health, happiness, optimism and flow (Penn Arts & Sciences, 2016) with a shift hour reduction. Similarly, the empirical findings results report the increase of employees’ happiness.

Organizational creativity and the resulting innovative capacity are going to benefit from happier employees.

Productivity

The employees’ efforts are strongly connected with many dimensions observed until now. Subsequently, according to the literature review, a work day reduction has a strong effect on productivity: it is a “Win-win working practice” (Golden, 2012).

Leisure Time

Active leisure time is one of the most important explanatory propositions of this study on the connection between creativity and the 6 hour working day.

Leisure time acts on the three components of Amabile’s creativity model (1998):

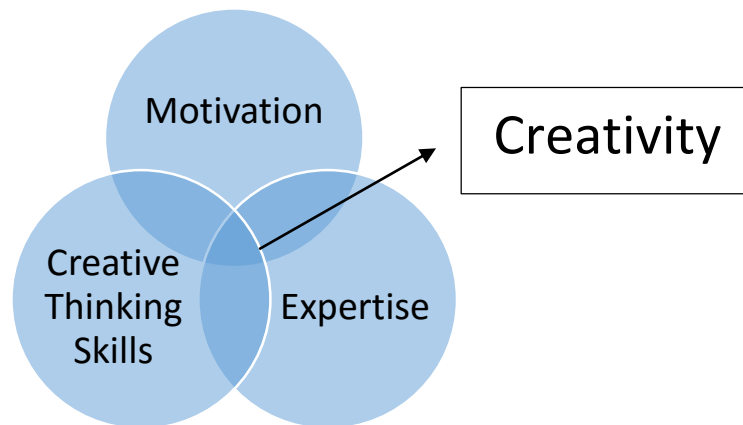


Figure 24 Creativity Components, Amabile (1998)

Those can be analysed under the leisure time perspective. First, expertise encompasses everything that a person knows. It is important for a knowledge employee to have expertise about a scientific domain but also, personal knowledge from leisure time activities lead to important insights (Davis, Holzl, & Davis, 2014; Root-Bernstein, Bernstein, & Garnier, 1995; Davis, Davis, & Hoisl, 2009). Of the same opinion is Denti (2016), who reported how this kind of secondary source of expertise may be conducive to greater creativity. Then, creative thinking skills are the traits that creative people display, those are related to active leisure time activities as well (Root-Bernstein, Bernstein, & Garnier, 1995). Last, Davis and colleagues (2014) have analysed the relationship between leisure time activities (hobbies in particular) and creative output value (measured by patent production); they found a strong relationship between the two phenomena.

In the empirical findings other perspectives on the matter emerged. For example, active leisure is conducive to incubation time, the underground, idle phase where ideas connect without the strains of rationality (Denti, 2016). In addition, according to Andersson (2016), active leisure is important for life quality or to face stress and therefore for all the psychological conditions that are likely to improve the creative predisposition of employees.

Conclusion

The innovative economy is here to stay. Organizations that recognises how to manage for creativity will acquire the capacity to be resilient and an important competitive

advantage. Indeed, to be innovative an organization needs a high rate of idea generation and “Creativity is the factor required to apply specialized knowledge in non-traditional ways to develop new products” (Ozge, 2010). Therefore, the most important asset for an innovative company is its creative capital, the aggregate employees’ creative capacity (Florida & Goodnight, 2005). As a result, the individual employee’s well-being, motivation and creativity (“The seed of all innovation” (Amabile T. M., 1996)) can be the success key for a company that struggles in innovative spaces.

In Sweden, alike to all Scandinavian countries, work-life balance and people’s health are all relevant topics. Indeed, the six hour working day has been on the political agenda since the ’80 (Olsson, 1998) and many researches were and are running experiments on the practice. In addition, real working implementations are common both in the public and private sector. While there is a big body of literature concerning the effects of this work-life balance improvement on productivity and well-being, nothing directly tackles the possible consequences on innovation. This thesis researches the possibility of a causal relationship between a reduction in the working hours and creativity. The objective is to understand if potential effects of this working practice could foster innovation, in order to support evidence based managerial decisions on the matter.

This work concludes that our mind and affect states determine our performance; the knowledge of the macro inputs of this performance would greatly benefit the management of employees. Indeed, the effort, energy, motivation and contribution that an individual displays, is linked with his/her physical and mental condition. Unfortunately, and naturally, people are shaken up and influenced by the events of life, especially by the occurrences within their inner and most intimate social circle (Helliwell & Putnam, 2004). As a matter of fact, what happens in the workplace influences the behaviour and affect within the domestic place; the opposite is true as well. Therefore, in order to define the right state of mind in employees, a well-designed reduction in the work day, appears as an omnibus solution to foster the performance, creativity, commitment and collegiality of employees. Its indirect effects on the well-being, affect and morale, motivation, stress, health, and direct increase in leisure time, are likely to produce great and positive consequences on the working environment in general, and

on the creative capacity of employees in particular. Moreover, the mentioned effects reinforce each other, because of the positive interlinkages between those.

These results warrant further psychological and managerial research. In order to have reliable results that validate the ideas developed in this study, a qualitative approach is needed. For instance, a business case study that applies creativity assessment questionnaires ex ante and ex post the practice implementation would give sound statistical proofs. It would be possible to use the already validated KEYS assessment tool for organizational creativity (Amabile T. M., 1996) tailored for the research at hand. Alternatively, a qualitative study on creativity made across different samples and settings that apply this working practice could give high validity as well. In addition, future research is needed to explore whether other social or individual characteristics may moderate this relationship.

Even if the result is not solid, getting to know this perspective on the management of human resources leads to acquiring the perspective on the importance of “Win-win working practices”. It is likely that the creation of value for the employees results in a more than proportional return of value. The working hour design is meant to create value under different personal dimensions that organizations cannot otherwise impact. Indeed, the only way to tackle those creative performance inputs is to give the workers the possibility to easily manage their personal existences. A shorter working day creates social value because of the additional time people can use to cultivate their personal life, interests and social circles. That is, more time for friends and family, more time to conduct a healthy lifestyle, community participation, etc.; those are just some examples of the possible positive uses of the additional time, a mature person can engage in. Because of the unconstrained self & family care, they are likely to take the opportunity to increase their overall well-being. In brief, organizations that foster the well-being of their employees can greatly benefit from the positive externalities that stream from their happier, more motivated, and healthier work force.