Supportive work environment for psychological wellbeing
– Interpretative phenomenological analysis of salutogenic affordances

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Master´s thesis • 30 credits

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Abstract

Environments in which we work can be simultaneously demanding and fulfilling. Recently there have been efforts to consider the salutogenic approach with focus on environmental factors that support human health and well-being at work. Salutogenic design of workplaces is considered as a useful and valuable framework for making a positive impact, but there is still need for more research on the topic. This thesis adopted salutogenic affordances perspective to the perceived sensory dimensions (PSDs) and explored how those affordances were manifested in work environment. Salutogenic affordances can be defined as psychologically meaningful dimensions of the material environment that enable salutary processes to take place. The eight PSDs that have been previously identified as the main components of salutogenic environmental experiences were translated into affordances that were used as the backdrop of walk-and-talk interviews with four employees in one workplace in Finland. The aim was to try to understand how the salutogenic potential of the work environment was experienced by the employees of one workplace and what kind of experiential and environmental factors influenced their experience. The interviews were conducted and analysed with *interpretative phenomenological analysis* (IPA) approach. The results of the analysis on the eight salutogenic affordances were portrayed in a narrative description. All the eight salutogenic affordances seemed to play a role in supporting the wellbeing of the participants at some level. They experienced the affordances in visually different locations and mostly outdoors. The places where the affordances were experienced, provided contrast to the regular office space. In some cases, the perceived affordances could not be actualized due to social norms or expectations. These findings shed some new light on the quality of salutary experience in a work context. Even if the studied affordances were psychosocial, all of them were also experienced in spatial and physical terms. This is in line with the Supportive environment theory, which argues that people need the support from their surrounding environment also for psychological processes. The results of this study support the previous research findings that it is important to include environmental qualities into salutogenic models of work. Overall, the salutogenic affordance concept as a tool for researching the embodied and experiential qualities of work environments appeared interesting and possibly complementary to other tools such as the perceived sensory dimensions (PSDs).

Keywords: affordances, salutogenic design, perceived sensory dimensions, work environment, interpretative phenomenological analysis

Preface

> The idea of the environment is a necessity to the idea of organism, and with the conception of environment comes the impossibility of considering psychical life as an individual isolated thing developing in a vacuum.
> - John Dewey

For the whole duration of my environmental psychology studies, I struggled to understand the environmental psychology view of environmental perception. I was extremely intrigued, but not convinced, by the traditional cognitive theories of our environmental perception as mere information processing and our brains as handling computational processes that could be calculated and drawn on a piece of paper. Always after moments of clarity, the same uncertainty would return. It simply didn't seem to add up in my mind – not in theory nor in practice.

Then the affordances came and changed everything. I had heard and written about the affordances for dozens of times, but never had I dug deeper to the origins of the concept. It seemed just like one of those trendy terms designers liked to use. Suddenly things started to make more sense. This systemic and dynamical way of looking at human experience and behaviour seemed so natural and almost childishly simple. I was relieved but wanted to read more about ecological psychology and embodied cognitive science theories behind affordances. I knew I had to study the affordances in my thesis, in one way or another. Luckily, I had already chosen to work with the perceived sensory dimensions framework, which was linked to ecological psychology and affordance theories. Isn't that a coincidence?

Salutogenic affordances was a term I had seen only in one research paper, but I wanted to see where adopting this view on the PSDs in a work context would lead me. It certainly led me to new places and more questions. The journey of this thesis during the year 2019 was compelling and fascinating, to the point that my husband would plead me to put an end to this to save our marriage. Fortunately, my supervisor helped me to keep my feet on the ground and even told me to stop reading more and start writing. Thank you, Anna, for your guidance!

In Porvoo, Finland on March 29th, 2020

Sara Malve-Ahlroth

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Abbreviations

IPA	Interpretative Phenomenological Analysis
PSD	Perceived Sensory Dimensions
SET	Supportive Environment Theory
SLU	Swedish University of Agricultural Sciences

1   Introduction

Workplace can be seen both as an oasis of well-being and social belonging and as a source of stress and disturbance to employee health and performance. Environments in which we work can be simultaneously demanding and fulfilling (Jenny *et al.*, 2017). These two ways of looking at the work environment can be referred to as pathogenic and salutogenic approaches – the first one focusing on the origins of disease and the latter on the origins of health (Antonovsky, 1996). Traditionally research on environmental factors on work-related stress has mainly had a pathogenic approach with focus on factors that cause disease (Cohen *et al.*, 1986). The aim has been to remove the negative stressors which can threaten employee health and well-being through biological (e.g. indoor air pollutants) and psychological (e.g. noise and crowding) pathways (Largo-Wight *et al.*, 2011). In these cases, the research has been applied to practice by trying to remove or mitigate the effects of those stressors in the workplace environment. Recently there have been efforts to also consider the salutogenic approach with focus on environmental factors that support human health and well-being at work (Roskams & Haynes, 2019). Focusing on the salutary factors instead of risk-factors would enable the employees to increase control over and promote their own health, even when facing the inevitable daily stressors of work. Thus, the shift from pathogenetic to salutogenic approach in workplace design might bring considerable benefits to our society as a whole. Salutogenic design of workplaces might be the next big thing, but still much research is needed to provide stronger evidence on how the environment can cater for salutary mental processes and what it means in terms of practical design principles.

Even if overall the knowledge of promoting employee health and well-being has increased across Europe together with common policies related to it, experts and policy makers say that a considerable gap exists between policies and concrete practices at workplaces (Zoni & Lucchini, 2012). Evidence-based design (EBD) practices have tried to answer this gap by providing health promoting practical design solutions that are based on research evidence. One example of such initiatives is the

Restorative Workplace project in Swedish University of Applied Sciences (SLU) that develops tools for evaluating and planning work environments from a salutogenic perspective (Movium, 2019). Their applied research builds on the concept of perceived sensory dimensions (PSD) which is based on large quantitative studies on people's perception of restorative qualities in outdoor environments in general. Research has found eight such dimensions to play an important role in affording salutogenic effects of environments (Grahn & Stigsdotter, 2010). The PSDs were first studied in parks and public green spaces but are now applied even in the design of workplaces in Sweden. Nevertheless, more studies are needed to understand how they manifest in the workplace context (Movium, 2019).

One possible way forward in salutogenic work environment research would be to adopt an affordance perspective to it. Affordances are the meaningful information that is available to an individual in her environment and provide possibilities for behaviour or experiences that have some meaning or function for her (Heft, 2010). From the affordance point of view, the work environment becomes a world of promises and threats where the individuals navigate depending on their emotional and physical needs. When in stress, the individual seeks such places at work where he or she can experience stress relief and increase his or her coping resources. On the other hand, when the individual needs inspiration for creative tasks, he or she seeks places that let him or her open the mind and relax. In a way, studying affordances is "studying the psychologically meaningful dimensions of the material environment" (Kaaronen & Strelkovskii, 2019). Similarly, studying *salutogenic affordances* would mean studying the psychologically meaningful dimensions of the material environment that *enable salutary processes to take place*. Studying salutogenic affordances could further help in bridging the gap between theory and practice in workplace design. Such research, in combination with the existing PSD framework, could be used in developing a useful affordance taxonomy for employee well-being. Such functional taxonomy could help workplace designers in planning environments that allow employees to use their surroundings as a support for their psychological wellbeing. This thesis takes the salutogenic affordances perspective and applies it to the PSDs framework in order to see if it could bring some added value to PSDs.

2 Aim

The aim of this thesis is that it will shed more light on (a) how salutogenic affordances are experienced in a workplace context in the life-worlds of the employees and (b) what kind of implications this might have for the planning of workplace environments. Indirectly the goal is also to bring the concept of salutogenic affordances into the salutogenic design research discussion. This new approach is tested in this study to see if it could add something new to the discussion with its' strong theoretical base in the field of ecological psychology and salutogenic theory. This study approaches the workplace environment from an ecological psychology perspective, meaning that it seeks to understand how the employees experience their work environment and what kind of meaningful information they derive from it in this context. The following research questions guided the study design and analytical process of this thesis.

- How do the participants experience the salutogenic affordances of the workplace?
- How is the environment described by the participants in relation to those affordances?

The first one is the primary research question. It guides this study on the path of phenomenological exploration on the eight salutogenic affordances. What is the taken-for-granted experience of the salutogenic affordances and what kind of meanings does it hold for the individuals? The latter question is treated as secondary sub-question in this study. The sub-question aims at directing attention to the verbal descriptions of the environment in order to understand what kind of perceived features of the environment might be related to the experienced affordances.

3 Designing better workplaces

3.1 Current state of work environments and wellbeing

From a pathogenic perspective work can be seen as a risk factor for individual's health and wellbeing. Work takes up a considerable amount of our life from the age of 18 until we retire. For example, in Sweden the average weekly working hours for full-time workers is around 40 hours (Eurostat LFS 2006). We need work for economic reasons but also for giving us a sense of meaningfulness and agency in the society. However, work can also pose serious risks for our health, well-being and life satisfaction. The pace of modern life is becoming faster and the requirements for individuals ever more challenging both at work and home. It is no wonder the number of people suffering from stress related illnesses is increasing; in Europe stress was found to be the second biggest health issue among workers and was the reason for 50-60 % of the lost work days (Lobo *et al.*, 2018; Work, 2013). Work-related stress disorders are a spreading epidemic causing illnesses that affect over 40 million individuals in Europe alone (Zoni & Lucchini, 2012). New ways are needed, to make workplace a source of positive impact in our lives, rather than the necessary evil.

Also, companies are starting to realize the importance of keeping their employees healthy to keep up with the demands of the work. Danna (1999) describes the negative effects of poor employee wellbeing to be lower productivity, poor judgement in decision-making and increased absences from work. Thus, it is no wonder companies are interested in finding appropriate and effective ways to promote the health and wellbeing of their employees. Naturally the social-organizational work environment plays an important role as well as the traits and capacities of the individuals. But it is also the physical work environment that plays a crucial role in freeing the full potential of workers. According to Brill (1992) 5-10 percent increase

in employee performance can be achieved through the physical design of the workplace alone. There is only so much one can do by removing the negative stressors. Research with a salutogenic focus on work environments tries to answer this need by looking for the positive ways in which environments could be enhanced to cater for stress relief and personal growth. Largo-Wright and colleagues (2011) argue that healthy workplace environment should include the availability of healthy behavioural options, enhanced safety, environmental sustainability and possibility for nature exposure. They conclude that research evidence exists for the link between health promotion and nature contact in other populations and settings but studies at workplaces are few and limited. Their own study tried to answer this need by exploring how employee health could be promoted by nature exposure at work.

The current state of workplace environments is not appealing since 42 % of office workers have no access to natural light, 55 % have no greenery and 7 % don't have a window view (Spaces, 2015). At the same time the Global Human Spaces Report (2015) shows that the top five elements most wanted in the work environment are: natural light (44 %), indoor plants (20 %), quiet working space (19 %), view of the sea (17 %) and bright colours (15 %). According to one study with three field experiments, adding greenery to the indoor workplace could increase workers' productivity by 15 % (Nieuwenhuis *et al.*, 2014). Global Human Spaces Report (2015) argues that employee well-being and creativity could be enhanced by 15 % by better design. In one study workers with a window view recovered faster after a stressful task than workers without window view (Brown *et al.*, 2013).

Danna (1999) notes that when designing workplaces, the focus should be on the individuals' experiences at work. Those experiences could be either physical, psychological, emotional or social in nature but regardless they affect the employees when they are at work with some "spill over" even to other domains of their lives as well (Danna, 1999). Individual differences between employees' experiences may vary greatly since each individual experiences the environment based on their background, previous experiences and current mental capacities. The way in which individuals relate to their environment can be described through the idea of person-environment fit. If the environment does not fit the needs, aspirations and capacities of the person it is probable that the person experiences stress in that environment (Chan, 2007). Since the same environmental stimuli may have different effect on individuals, the task of designing suitable work environments for everyone may sound impossible. However, research in environmental psychology can help better understand the underlying factors behind person-environment fit in different contexts and shed light on the shared experiential dimensions of the environment. Valuable insight from research can be then applied to workplace design practices.

3.2 Salutogenic approach to work

Moving from a predominantly pathogenic approach towards a more salutogenic one could help in transforming workplaces into places of wellbeing and good health. One reason for this is, that it is not efficient enough to only try to remove all stressors and risk factors since more stressors are inevitably going to emerge. Antonovsky (1979) states that stressors are a pertinent part of human existence, but the way in which a certain individual reacts to a stressor depends on the availability of mental *generalized resistance resources (GRR)* that can help change the reaction from negative to neutral or even positive. In the workplace context this means that a certain stressor like noise can have varying impacts on different individuals based on their mental ability to cope with stress. Antonovksy, the father of the salutogenesis concept, never argued that one should ignore the impact of negative stressors and purely concentrate on the salutary factors (Antonovsky, 1979, 70). But moving towards a more salutogenic approach can have a far more extensive effect on the health and wellbeing of employees by making them more resilient. Antonovksy (1979) claimed that the prevailing dualistic view of health and disease does not represent the true nature of reality very well. Instead he argued that the human health and wellbeing is better described as a continuum where one moves between *dis-ease* and *health-ease*. Even when facing stressful situations, those employees with better availability of GRR can remain on the healthy spectrum of the disease-health continuum. The core of salutogenic theory is the *sense of coherence (SOC)* concept, which exceeds the GRR and forms a wider and more pervasive approach to one's life with confidence that one has control over their inner and outer environments and trust in things working out how they should in the future (Antonovsky, 1979, 123). Thus facilitating a strong sense of coherence in individuals, be it at work or elsewhere, is proposed to have a significant effect on their movement towards health (Antonovsky, 1996, 15).

Salutogenic approach to designing workplaces aims at promoting the SOC of employees through the design of the physical and social environment of the work. The three main components of SOC; meaningfulness, comprehensibility and manageability, can be nurtured by varying design factors in the workplace environment (Roskams & Haynes, 2019). Roskams and Haynes (2019) have identified environmental factors that might foster the progress of these three components in the workplace context. They propose the following general factors to be considered in salutogenic design of workplaces:

- o comprehensibility: clear and comprehensive rules for the use of the workplace environment
- o manageability: biophilic design and design supporting social cohesion and physical activity

o meaningfulness: supporting individuals' identity expression and increasing their sense of purpose through design solutions.

Furthermore Jenny et al. (2017) have constructed *the Job Demands-Resources (JD-R) Health-SoC* model (in figure 1) to help demonstrate how the salutogenic approach can be applied in the case of work. They divide aspects of work into two categories: (1) the job resources that are the positively valued aspects that help reach goals and support personal development, and (2) the job demands that are the negatively valued aspects which require physical and mental effort. The model incorporates two interrelated pathways, salutogenic and pathogenic, that can lead either to positive or negative health outcomes. Even if the salutogenic model is seen as valuable and it has already been utilised in other contexts, such as health care facilities, it still remains rather under-used in the design of workplaces (Roskams & Haynes, 2019). Before the salutogenic approach can be extensively applied at workplaces, more research and public discussion about the salutogenic approach needs to take place. This thesis brings one more possible approach to this discussion by taking a closer look into the affordances that might support employees on their salutogenic path towards health and wellbeing.
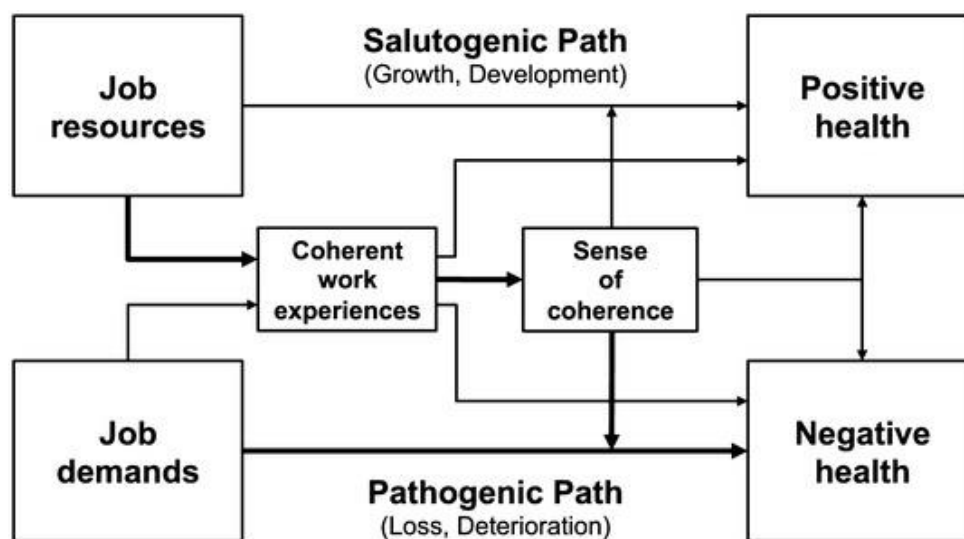
Figure 1. Job Demands-Resources Health-SoC Model by Jenny et al. (2017).

4 Theoretical foundations of the study

4.1 Supportive environment theory

People need support from their physical environment in order to survive and thrive in their day-to-day life. Those with lower physical or psychological wellbeing need more support from their environment. Some environments are perceived as more supportive than others. This is the core idea of the so-called *supportive environment theory* (SET) which explains the salutogenic potential of environments (Grahn, 2011). SET is the underlying theory behind PSDs. It describes the relationship between person and environment from a biopsychosocial perspective by looking at both the restorative and instorative processes that can take place in different environments (Stoltz & Schaffer, 2018). According to SET, human evolution has adapted to a life close to nature with social and cultural interaction only with a limited number of other people (Grahn, 2011, 46). By using the theory of salutogenesis as its basis, SET argues that humans are adapted to understandable, manageable and meaningful environments that have favoured survival and coping (Grahn, 2011). SET argues that supportive environments are crucial for people to maintain their health (Grahn *et al.*, 2010). According to Stoltz and Schaffer (2018) SET also emphasizes the embodied relations of humans with the environment.

The elements and characteristics of supportive environments vary for different individuals since their relationship with the physical and social environment depends on their subjective experience of wellbeing (Palsdottir, 2014). In relation to the situation people are in they try to self-regulate by finding environments they perceive as supportive and secure. This ever-changing relationship between people and environment is called scope of meaning (Grahn *et al.*, 2010). Surrounding environment communicates with each individual on many levels from emotional and sensory levels to more cognitive structure of communication (Palsdottir, 2014). This communication can give rise to health and wellbeing promoting effects which in turn influence feelings, behaviour and overall function. Bengtsson and Grahn (2014)

describe how the need for supportive environments often increases when wellbeing decreases. When wellbeing is low, environments that offer soft fascination are more fitting to the scope of meaning while with high level of wellbeing, environments with demands for direct attention might be preferred (Bengtsson & Grahn, 2014). The scope of meaning is shaped by all our experiences and values. From a more functional perspective the changing perception of the environment can also be described as the scope of action (Grahn, 2011). Depending on the individual's need for performing certain activities, the environment can present itself differently to that person. The same place is perceived differently if you are jogging or on a picnic, during a workday or on vacation. The scope of meaning/ action concept comes near the concept of affordance which is also a relational concept describing the meaning of the environment for a certain individual. This is no surprise since Grahn (2011, 49) names the theory of affordances as one of the theoretical frameworks behind SET. However, the theoretical coupling between SET and other ecologically inclined theories of environmental perception is not yet comprehensively demonstrated in scientific literature.

4.1.1 Perceived sensory dimensions

Environmental psychology researchers have played an important role in mapping the most salient environmental qualities that make up the building blocks of supportive environments. The concept of affordances suits well in describing such qualities that are neither features of the environment nor the perceiver (Stoltz & Schaffer, 2018). In SET these experiential qualities are called the perceived sensory dimensions (PSDs). Based on factorial analysis of several different survey studies regarding people's green space preferences, the theory suggests eight PSDs to be of particular importance in explaining salutogenic effects of environments (Stoltz & Schaffer, 2018). Table 1 specifies all the eight PSDs and their corresponding affordances. The PSD Serene has been characterized as calm, safe and undisturbed, especially found in places that offer possibilities for retreat and silence (Grahn, 2011; Grahn & Stigsdotter, 2010). The PSD Nature is related with the inherent force of wild nature (ibid.). The PSD Rich in species relates to the possibility of discovering the richness of different life forms from plants to animal species (Grahn, 2011; Grahn & Stigsdotter, 2010). Researchers have described the PSD Space as offering an experience of a spacious and coherent whole, a world in itself (Grahn & Stigsdotter, 2010). The PSD Prospect has been linked with places that offer open views into the surrounding environment as well as possibilities for play and sports (Grahn, 2011; Grahn & Stigsdotter, 2010). The PSD Refuge has been connected with enclosed and safe places where it is possible to be alone and watch the surrounding environment (Grahn, 2011; Grahn & Stigsdotter, 2010). Grahn (2011) has

described the PSD Culture as the dimension which brings out human touch, beliefs and values in the environment. The PSD Social has been described previously as offering possibilities for social activities together with others, time for amusement and enjoyment (Grahn & Stigsdotter, 2010).

According to research evidence some PSDs are more relevant for e.g. restoration in stressed individuals while others might foster creativity and cooperation (Grahn & Stigsdotter, 2010). However, all PSDs should be found in rather close vicinity of each other if optimal health and well-being outcomes are sought after in environmental and landscape planning (Movium, 2019). Only then can the same environment cater for the needs of different people with different needs and the changing scope of meaning and action. Based on the wide quantitative data it seems that the PSDs are rather stable when it comes to their overall presence in the environment (Stoltz & Schaffer, 2018). Whether they are actualized as perceived affordances in the environment depends on individual needs (ibid.). This means that there is a constant interplay between the subjective and objective realms of environmental experiences with the PSD concept cutting across both dimensions.

Table 1. *Eight perceived sensory dimensions associated with affordances supporting different needs.*

Perceived sensory dimensions	The environment affords behaviours/experiences associated with…
(1) Serene	Peace, silence and care. Sounds of nature. Freedom from distractions.
(2) Nature	Fascination with the natural world; the "self-made" as opposed to the man-made. Seemingly self-sown plants, a sense of untouched nature.
(3) Rich in species	A sense of abundance and variation, a large diversity of different species of plants and animals.
(4) Space	An experience of entering a world in itself, a coherent whole.
(5) Prospect	Views of the landscape, a sense of openness, prospects, vistas and stays.
(6) Refuge	Shelter and safety. Possibilities to relax and e.g. let children play freely.
(7) Culture	A sense of fascination with human culture and history, the course of time and human efforts.
(8) Social	Social activities and interactions.

After (Grahn & Stigsdotter, 2010)

PSDs have been studied in different kinds of environments from for example urban outdoor environments (Grahn & Stigsdotter, 2010) to forests (Stigsdotter *et al.*, 2017) and care facilities (Memari *et al.*, 2017). One obvious application of saluto-

genic environment design is the workplace. However, PSDs have not been yet extensively studied in workplace contexts and there is lack of information on how exactly they manifest in work environments, both indoors and outdoors. According to Stigsdotter et al. (2017) the PSDs provide a valid framework for designing and assessing salutogenic qualities of environments. Lottrup and colleagues (2012) conducted a survey study that investigated the use of outdoor work environments and what kind of a role the PSDs played in motivating people to use those spaces. Based on years of research knowledge, researchers at the Swedish University of Applied Sciences are now developing a tool for evaluating the restorative potential of workplace environments and using the PSDs as a base for their tool (Movium, 2019). With the help of PSDs workplaces can be designed to promote employee wellbeing by enhancing the productivity, creativity and collaborative skills of employees (Plambech & Konijnendijk van den Bosch, 2015). More qualitative studies are needed on the PSDs specifically in the work context in order to understand how they should be designed in the physical work environment to fit the scope of meaning of employees. So far, the PSDs have seemed to stay quite invariable in different contexts in the above-mentioned studies. On the other hand, most of the studies have been conducted only outdoors and it seems that there are no comparative studies that would have looked at the possible differences in different contexts. So, it is possible that these experiential environmental qualities might slightly change in varying contexts. This would also be in line with the idea of the changing scope of meaning and action – people might need different kind of support from their environment when at work, at school or during their free time.

4.2   Theory of affordances

Another important theoretical framework for this study is the theory of affordances, which has already been mentioned numerous times. Since the previously described supportive environment theory (SET) is rather new and not yet very widely established, the theory of affordances as more holistic and much researched theory was chosen as the fundamental basis for this study. Both theories can be seen as complementary since they share many similar perspectives on how environmental perception should be understood. Both underpin how the meaning of the physical environment can change based on the mental capabilities of the individual in question. They both also stress the active role of the individual in seeking such environmental stimuli that fulfil his or her current needs, be it either on the more functional level (e.g. sitting down to rest) or the level of meanings (e.g. connectedness with surrounding nature). The tight relationship between these two theories is no coincidence since affordances are used as one fundamental concept in SET (Grahn, 2011,

49). The theory of affordances has a long history of over 50 years of conceptual development. The concept of affordances was invented by James J. Gibson and it is the most central idea in his ecological theory of environmental perception (Gibson, 1979).

Affordances are the meaningful environmental information, the opportunities for certain behaviours or experiences that arise when a certain organism with certain capabilities experiences an environment (Leitan & Chaffey, 2014). They are situational and arise when the abilities and needs of an individual match the current socio-material conditions (Stoltz & Schaffer 2018). Affordances are neither features of the environment nor the organism perceiving it, but rather "the functional meaning of an environment for an organism" (Kaaronen & Strelkovskii, 2019). In ecological theory the organism and the environment form an inseparable system meaning that perception can't be treated separately from action. The traditional dichotomies of body and mind, perception and action, organism and world, are thus rejected in this view of perception. The concept of affordance can be described in basic logic as 'Affords-φ (environment, organism), where φ is a behaviour or experience.' (Chemero, 2003). Affordances are the primary building blocks of our perception according to ecological psychologists (Kaaronen & Strelkovskii, 2019). Ecological psychology argues that we don't perceive the world as meaningless but always in relation to our capabilities to derive meaning or a function in it (Heft, 2010). We don't simply perceive a path in the forest but a way to walk on in order to explore the environment conveniently. It is argued that nature is especially rich in different affordances, in comparison to build environment (Gibson, 1979).

Just like each species has evolved to perceive the world as meaningful in regard to its own needs, each individual human perceives the world as meaningful in regard to his or her previous experience, learned associations or capabilities (Kaaronen & Strelkovskii, 2019). As members of the same human species with similar physiological and neurological systems, we all share some common ways in which we perceive the environment. At the same time the individual differences between the social and physical environments in which we grow up and live form a rich and rigorous array of ways in which we each experience and relate to the world around us. This study taps into both - the shared and the individual perceptions of the environment. Thus, the theory or affordances seems extremely fruitful to this study in the way it rejects the whole objective-subjective divide and sees them as two sides of the same coin.

Often affordances are studied in relation to different physical actions an individual can perform in a certain environment. For example the affordances of physical activity (Bjork *et al.*, 2008; Cosco, 2006), play (Zamani & Moore, 2013) and independent mobility (Kyttä, 2003) have been studied from this perspective. But affordances can also be social or psychological as shown in the studies of socialization

(Clark & Utzell, 2002) and self-regulation (Korpela et al., 2002). Even the stress restoring affordances have been studied in therapeutic gardens (Stigsdotter et al., 2017) and forests (Stoltz et al., 2016). The scope of this study is to look at the experiential qualities of salutogenic affordances. Salutogenesis refers to the factors that enable an individual to cope and increase level of health and wellbeing (Antonovsky, 1979). Thus, salutogenic affordances can be seen as perceived possibilities for experiencing salutogenesis in a given environment for a certain individual with certain capabilities and sociocultural background. In this study the PSDs are re-defined as salutogenic affordances. Salutogenic affordance concept has not yet been defined in the academic literature. Apparently only Stoltz & Schaffer (2018) have used the term previously when describing PSDs in relation to the theory of affordances. This definition of PSDs as salutogenic affordances seems credible, even if not widely utilized, since PSDs are seen as a concept that encompasses the most crucial affordances that deal with restoration and increasing the coping resources of people in various environments (Stoltz & Schaffer, 2018).

4.2.1 Ecological psychology

The theory of affordances is part of a larger theoretical framework called Gibson's ecological psychology. Ecological psychology poses rather radical ideas on how environmental perception should be understood. Traditional cognitive psychology (Eysenck, 1982) regards these experiences as mere computational processing of the information from the outside world inside the human brain. The human is seen as separate from the world - reacting to the stimulus from the environment and using complex processing mechanisms to make sense and survive in the world. Ecological psychology is a school of psychology which according to Lobo, Heras-Escribano and Travieso (2018) offers an opposing view to perception and cognition beyond traditional views of cognitivism and behaviourism. They describe it as an embodied, situated and non-representational approach to the psychology of perception. Barrett (2015) presents ecological psychology as a theory which sees all psychological phenomenon as something that exist in relations between animals and their environments (hence "ecological"), not just merely "inside" the minds of the animals. When psychology is seen as ecological phenomena, the study of ecological psychology actually becomes a branch of biology (Chemero, 2003).

The word *ecological* in ecological psychology points out to the perspective of looking at both the organism and its' environment. According to Miller (2018, 653) the word ecology was first defined by Ernst Haeckel in 1866 as "the whole science of the relations of the organism to the environment including, in the broad sense, all the 'conditions of existence'. Lobo and colleagues (2018, 6) bring up an interesting comparison between the concepts *world* and *environment* – the former describes

surroundings in physical terms and the latter in ecological terms which are in relation to organism's capacities. They note that ecological and physical terms are both valid measurements depending on what you are looking at. They claim, that psychological explanations require meaningful metrics from the point of view of the organism such as environmental realities and events perceived by the organism. There seems to be an on-going debate in environmental psychology research about how to approach the human experience of environments and whether it can be described and measured better in objective or subjective terms (Tveit *et al.*, 2018; Lothian, 1999). Ecological psychology and the concept of affordances provide a more holistic and systemic approach to perception by overriding this whole objective-subjective divide. Affordances thus seem to construct a useful framework for both research and design practice. The usefulness of this framework is the reason it was chosen as the area of study for this thesis as well.

5   Method

5.1   Studying salutogenic affordances

There are no well-established methods for studying the experience of salutogenic affordances, so this study follows to a certain extent in the footsteps of Stigsdotter and colleagues (2017). They conducted a qualitative study to inspect how individuals experienced a forest environment in relation to the restorative affordances that it offered to them. They used *Interpretative Phenomenological Analysis (IPA)* in their research and the same method is tested in this study in a workplace environment. Stigsdotter et al. (2017) verged upon the restorative forest experience from the PSDs' perspective, by looking at each PSD as a separate phenomenon as it was experienced in the forest environment. Landscape planners had designed eight forest rooms to afford each of the eight PSDs. The participants of their study visited each forest room and described their experience in each of them without knowing about the PSD concepts. In this study the PSDs were translated into eight salutogenic affordances that were formed based on the descriptions of Grahn (2010) and Stolzt and Schaffer (2018). No systemic approach was used in constructing the salutogenic affordance descriptions. Unlike the study of Stigsdotter et al. (2017), this study takes the eight salutogenic affordances and explores how the participants interpret the meaning and manifestation of them in their everyday work environment. So, this study starts from the participants' interpretations of the affordances, while the previous study starts from the experience of the eight forest rooms.

Since the affordances are here seen as a product of the complex dynamical system of mind, body and world, the research strategy needs to account for rich, rigorous and resonant description of the lived experiences of people in real environments. Affordances have been studied in many disciplines and from different points of view, but as the scope of this study is specifically interested in the situated and ecologically meaningful experiences of people, it seems only natural to choose the path

of qualitative research. Qualitative approach taps into the less tangible meanings and focuses on describing and understanding phenomenon, and thus it fits well with the objectives of this study (Finlay, 2011). In order to explore the embodied experiences of people in their lived worlds this thesis will furthermore adapt a phenomenological approach. It goes well with the theoretical framework of ecological psychology since it, too, builds on the phenomenological tradition with focus on the experiential meanings and explanatory propositions found in the experience of the individuals which are part of the wider mind-body-world system (Leitan & Chaffey, 2014). According to Finlay (2011) phenomenological approach doesn't aim at categorizing or explaining behaviour but rather aims to be exploratory and inductive. This approach will also help in analysing the embodied experiences since phenomenology gives the opportunity to explore the sensuous perceiving of the environment. It also supports the theoretical framework by having the assumption that body and world are intertwined. The aim of phenomenology is not to explore some ready-made categories of experience but rather have an open mind to explore how the participants experience their lifeworld (Finlay, 2011). Since this study utilizes the eight theory-based salutogenic affordances as a starting point for the interviews, it means that this study is not purely phenomenological but rather utilizes it as a method for analysing and exploring the salutogenic affordances.

5.2   Interpretative phenomenological analysis (IPA)

To answer the research questions, an *Interpretative Phenomenological Analysis (IPA)* study was conducted. As a method it is a qualitative exploration of people's life experiences (Smith *et al.*, 2009). Finlay (2011) describes it as a hermeneutic version of phenomenology which is popular in the field of health psychology. As in other forms of phenomenology it is interested in understanding the lived experience, but it also uses interpretation and acknowledges the impossibility of gaining direct access to participants' experience as is normal in hermeneutic approaches (ibid.). This method helps to explore how the participants of this study interpret the meaning and experience of salutogenic affordances. IPA has strong focus on the individuals and their sense-making (Finlay, 2011). The focus is not solely on the cognitive level of perceptions but also on the embodied experiences and meanings. Based on these accounts the researcher will suggest a general description of the phenomenon (ibid.). The way in which IPA studies offer rich narratives of embodied experiences suits well with the ecological psychology perspective of this study. The method can shed light on the *meaningful, ecological information* that the interviewed individuals uncover in their environment. Through IPA this study can outline a general description of the phenomena of the eight salutogenic affordances.

Usually IPA studies look into major life experiences which are seen as more 'comprehensive' units of experience linked by meaning and made of parts of life, but as Smith and colleagues (2009) acknowledge it can also be applied to the 'smaller' units of experience – the mundane everyday life experiences. This study belongs to the latter type of IPA research, which looks at the ordinary experience of individuals, in this case, in their working environment. The key features of IPA studies are:

- focus on personal meaning and sense-making
- in a particular context
- for people who share a particular experience (Smith *et al.*, 2009).

All these features are present in this study which explores how employees experience and make sense of their environment in a workplace context. Generally IPA research aims at exploring experiences and understandings of a chosen phenomenon by looking at participants' perceptions and views on it, then through inductive processes investigating interpretations of the meaning the experienced phenomenon has for those participants (Smith *et al.*, 2009). This is also done in this study by interviewing employees in one workplace about their interpretations and experiences of the salutogenic affordances in their working place. The common research process of IPA includes the following phases, which are also included in this study:

- semi-structured interviews
- transcription of interviews
- systematic, qualitative analysis
- narrative account (Smith *et al.*, 2009).

5.3   Description of setting

One workplace was chosen as the case for the individual interviews. It is a research institute located in Helsinki, in southern Finland, that employs specialists from different fields, but all related to environmental research. They moved into the current building in the autumn of 2018, so at the point of the interviews they had been working in that particular building for more than six months. Their previous location had been more urban in contrast to this area with open green areas and nature. They have one three-storey building for their own use as marked in figure 2 while they use the cafeterias in the near-by office buildings as well.

The outdoor environment is mostly park-like with open views, mixed tree stance and walking paths between different office buildings as shown in figures 3 and 4.

There are no cars allowed in the park area between the buildings, but there are some big parking areas around the buildings. There are some bushes and plantings here and there, but most of the green areas are covered with lawns. The greenery looks well kept, so there are only few spots with wild plants growing.

The office building used by the interviewees is shown in figure 5. The building is from the 60s and it represents typical architecture of that era. The building is newly renovated for this institute and much effort has been put into the interior design of the offices. The intention has been to create flexible and modern spaces for knowledge workers who might sometimes need more quiet spaces for concentration while at times more social spaces are needed. The employees don't have own places but every day they must find a spot where to work. There are different types of social areas such as coffee rooms and meeting rooms that are available for all employees. Even if the interior design has been renovated, much of the characteristics of the original architectural style have been kept visible (figure 6).
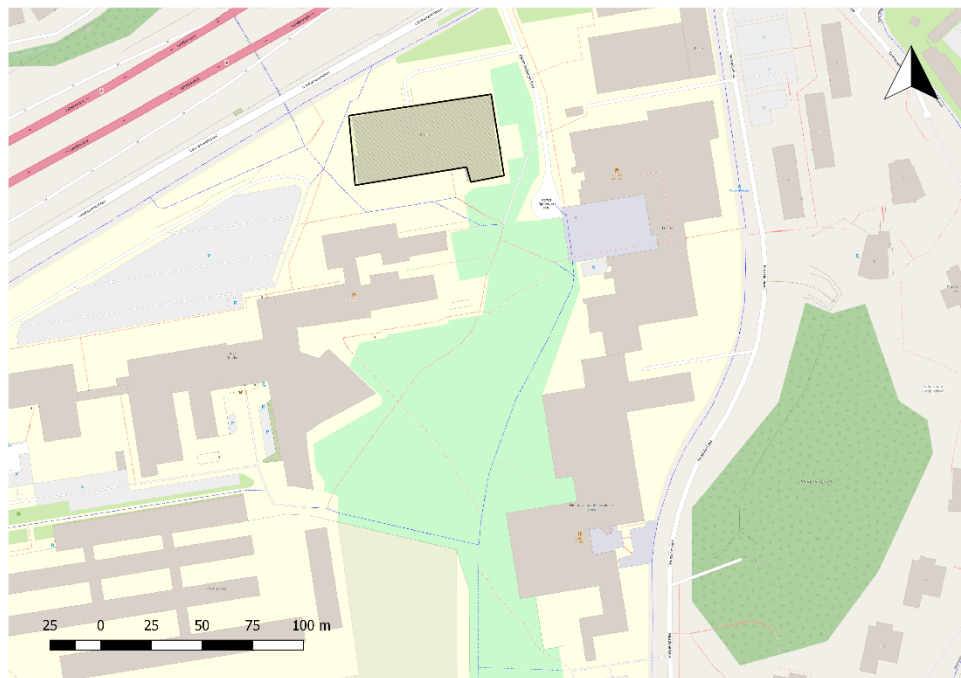
Figure 2. The map of the workplace outdoor environment showing location of the building.

Figure 3. Park area between the office buildings.

Figure 4. Park area between the office buildings.

Figure 5. *The office building used by the participants.*

Figure 6. Interior of the workplace showing original architectural details.

5.4   Sampling and data collection

As is usual in IPA studies, data was collected via semi-structured interviews. Interviews took place at the chosen workplace during the summer of 2019. Four participants were recruited who had worked in that place for at least half a year so that they were familiar with the workplace environment. The four individuals had quite different backgrounds: biology, communications, natural sciences and property management. Only one of the interviewees was a male and other three were females. The common denominating factor was that they all worked in the same building and

their job was mainly challenging specialist work and their days filled with busy schedules. It is apparent that work stress was no obscurity for them.

The interview guide draft in Appendix II gives a detailed description of the interview process and the questions asked. The semi-structured walking interviews took place during a normal workday and they were conducted individually. Each interviewee was first met in the workplace lobby and from there they were asked to take the interviewer to a place at their workplace that they like for some reason. This task was used in the beginning to get the participants to relax. The participants then took the interviewer to eight places at work, either indoors or outdoors, where they best could experience each of the salutogenic affordances. The interview questions were open-ended in order to capture and understand their experience of salutogenic affordances. The description of the affordances were taken from Grahn and Stigsdotter (2010) and Stoltz and Schaffer (2018). For example, for the PSD serene they were first asked "Can you take me to a place here at work where you can experience peace, calm and silence?". It was left to the participant's own interpretation how they understood each of the affordances at question. The participants were not instructed to consider supportive or salutogenic characteristics when choosing the places but just intuitively decide where they could possibly experience the named affordance. Upon arrival to that place they were asked to articulate what factors they think made them experience that affordance there. They were also asked to describe their sensations and feelings in those places to help capture their lived experiences. All interviews were recorded and later transcribed for further analysis. The interviews were done in Finnish and thus also the transcriptions and the analytical phase was done in Finnish. Only after the analysis was made, the results and the interview excerpts were translated into English. Places were photographed and locations marked on a map to help describe the chosen places in the results section. Also, notes were made throughout the interviews about possible embodied aspects which were noticed in the participants as well as reflexively of interviewer's own bodily experiences during the interviews.

5.5 Analytical phase

There is no single method of analysis in IPA research and it gives room for much flexibility. What makes IPA distinct from other forms of phenomenological research, is its analytic focus on participants' efforts to make sense of their experiences (Smith *et al.*, 2009). The analytic process starts with the careful examination of individual cases, then moves on to the exploration of similarities or differences between cases, and finally ends up producing a fine-grained narrative on the patterns

of meaning for participants (ibid.). This study follows the same logic, which is described in figure 8. The four interview recordings were transcribed and then printed. Throughout the analytical process the interview materials for the eight different affordances were treated separately. The eight dimensions were treated as separate phenomena also in the interviews – (1) question about one affordance and where it could be experienced, (2) going to that one place and discussing the experience in more detail and (3) moving on to the next affordance and repeating the process. This means that the transcribed interview material was already organized into separate parts for each affordance when the analytical process began. During the development of emergent and key emergent themes for each affordance only material from the interview sections considering that affordance was used. Only in the development of recurrent themes all material from all interviews and regarding all affordances was processed together. Usually in IPA interpretation the practice of hermeneutic circle is used. It means that while interpreting the participants' sense-making, the analysis at all the times considers both the close-up text word by word as well as the whole interview. During the interpretation of the material in this study, the analysis was not so consistently circulating from local to global scale of interpretation since the eight affordances were treated as separate phenomena in the interview data.

	Process	Output
Individual interviews	Line-by-line analysis of transcribed interviews	Initial notes
	Close dialogue between researcher and data leading to interpretative account	Identifying emergent themes
	Developing structure demonstrating relationships between themes	Development of key emergent themes
All interviews	Searching for patterns across key emergent themes of all interviews	Development of super-ordinate themes
	Searching for patterns across all interview material	Identifying recurrent themes
	Developing descriptive account of environmental factors related to found themes	Description of environmental factors related to themes
Building the narrative	Organizing analytical process into transparent format	Description of analytical process
	Development of full narrative with references to quotes from interviewees	Narrative description of results

Figure 7. The different phases of the analytical process after Smith et al. (2009).

All phases of the analytical process are depicted in figure 7. First the written texts were read through just to get a somewhat holistic picture of the four different interviews. After the first read through, the texts were read again and this time initial

notes were made on the right-side margin of the paper. The notes included ideas and thoughts concerning anything that could be of importance in relation to the first research question about the experience of salutogenic affordances. Some notes pointed out to the words used and construction of the sentences by interviewees while some notes were on a more conceptual and meta level. During the next read through emergent themes were developed based on the initial notes and written on the left side margin of the paper. The idea of the emergent themes was to concentrate meanings into units. Finally, on the next round of reading key emergent themes as more concentrated meaning units were developed from each interview. This stage of interpretation is shown in the first box of figure 8.
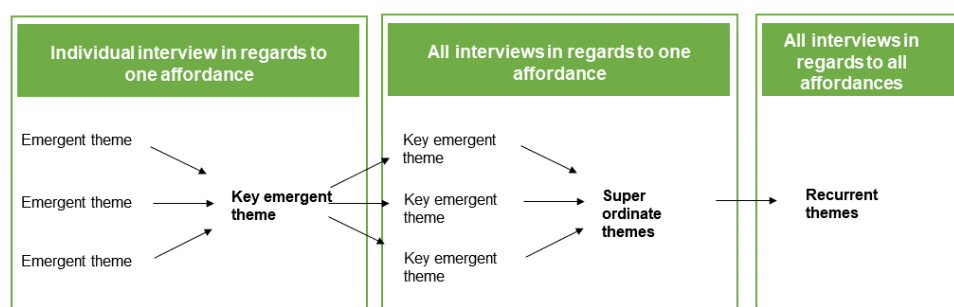
Figure 8. Interpretative process of this study, following in the footsteps of Stigsdotter et al. (2017).

In the next stage, shown in the middle box of figure 8, all interviews were analysed together in order to find possible similarities between interviews. All key emergent themes from all cases related to one affordance were put on one piece of paper in order to analyse them together. For example, all key emergent themes related to the affordance of peace, calm and silence from all four interviews were analysed simultaneously. They were integrated together into super-ordinate themes that would describe the commonalities found in all four interviews while keeping the individual interviews visible in interview extracts. All superordinate themes, the key emergent themes related them and extracts from interviews were put together to produce a summary table, as shown in figure 9, that would help in developing the narrative description of the study findings. The whole summary table can be found from Appendix I. Since the second research question was interested in the description of the physical environment in relation to the affordances, this was added as one step in the analytical process. Based on the super-ordinate themes and pictures of visited places, a descriptive account was developed to synthesize the interview results. At the same time brief estimation of the workplace design implications was described in order to answer to the second research questions about environmental

qualities related to salutogenic affordances. This way the results could possibly be utilized in terms of salutogenic design of the workplace in the future.

Affordance	Super-ordinate themes	Emergent themes (person)	Extract from text
Peace, calm and care	Passive engagement	Stillness from activities A	If I would want to catch breath and calm down somehow [] in such situation I would come here to sit down [], This is not a move-through place
		Passive being in solitude B	There are not lots of such places where one could go and be. Benches or something [] Indoors we have silent spaces if you need to concentrate but if you want just so that you are not working a lot at the same time, If you want more a moment of relaxing I would come here [outside]
		Passive engagement C	We have those silent rooms, I think they are such places for peace. But of course going there means you have to work and not just [] Here you could lay down or sit if you want
		Own place but not separate from the world A	Around this bench area there could be some lush green plants that would somehow enclose this area or would make this []somehow enclose this place but so that it is still connected to the surrounding landscape
	Social acceptance of restoration at work	Not socially acceptable to relax at work B	We are here on the campus so there are lots of students, sometimes you can see them here during sumer times, being on the grass and so on. But we, workers don't do that *laughs*
		Permission to rest C	There is also this resting room if you indeed need to calm down so you could go there and there is a bed and [] This [resting room] is also for those times when you're sick, if you get migrane or something
	Contrast to work environment	Contrast from work environment B	[The things that create a sense of peace in a place are] the bushes, trees and of course this soundscape here, this bird song
		Transition to different context C	If there would some kind of yoga type of retreat music in the background so that would help me to calm down [] This is still quite office like. Of course this wicker chair is little more sympathetic and this partition
		Manmade vs. nature D	[The place that provides sense of peace and calm] starts here once you get past these buildings into this more open space with little more wild nature and bird song [] The technical sounds are bit further away and muted. You can hear nature sounds

Figure 9. Example of the summary table with super-ordinate themes, key emergent themes and interview extracts.

The interpretations were formed in close interaction between the text and the researcher. As Smith and colleagues (2009) point out, the accounts of the participants are seen as reflecting their own attempts to make sense of their experience. On the other hand the double hermeneutic perspective in IPA research means that the researcher should both try to understand what is the experience like from the interviewee's perspective while also questioning and looking at it from the researcher's angle (Smith *et al.*, 2009). This means that the researcher's own sense-making is part of the process as well. The narrative presentation of the IPA analysis results is important part of the process. Usually the results are presented together with appropriate quotations from the participants in order to keep the individual cases close to the final meaning units and provide transparency of the analytical process (Smith *et al.*, 2009). Quotations are thus used in this narrative description as well. In the narrative each affordance is treated first separately on the level of the superordinate themes. The participants' key emergent themes are also briefly elaborated to uncover their contribution to the resulting superordinate themes. Finally, the recurrent themes of the whole analysis across all cases are brought up.

5.6   Ethical considerations

The study followed recommendations of Codex (2019) for good ethical practices in research. One important factor in ethics in human subjects' research is the informed consent. It means that the participants of the study should be informed about the

research and they should have the possibility decide on their participation in a study. The participants of this study were informed about the general aim of the study project and about the methods of it in the first email contact and in the beginning of the interview. It was made sure that they understood they can cease to participate at any moment during the interview. They were also provided with information on how the research data will be handled as well as their personal information which will be handled according to the GDPR (Codex, 2019.)

The anonymity of the participants was assured by removing all names and information that might reveal their identity. Also, the name of the workplace was not explicitly mentioned, even though someone who knows the place might recognize it from pictures and descriptions. Otherwise the study followed a good scientific practice in order to produce results that would be both valid and reliable. This was assured by carefully studying the methods used in this study to make sure that they were handled correctly. The analysis was done systematically and critically, and possible biases or sources of errors will be discussed in the conclusions of this paper. The overall societal and sustainability implications of the study were thought over in advance (Swedish Research Council, 2017.) There were not any substantial issues found in those considerations. However, it is possible that this thesis could have some minor indirect impact on the larger society in relation to the work environment discussions taking place. By adding up to the body of evidence-based design research, this study can help in building more sustainable workplaces for future employees.

6   Results

Overall it seemed quite easy and intuitive for the interviewed employees to find places in their work environment where they could experience the studied salutogenic affordances. About one third (12 out of 32) of the places visited were located indoors, mostly in the office building they used but also in the cafeteria buildings nearby. Rest of the places were located outdoors, along the paths the participants used during their normal workdays. As seen in figure 10, the places where the salutogenic affordances were experienced are all located within about 200 meters of the main building and on the southern side of the main building, opposite side from the busy highway on the northern side. When the participants talked about the eight chosen affordances, it was clear that they were almost always affiliated with positive meanings and functions. This might mean that all eight affordances were interpreted and experienced as salutogenic and supporting their wellbeing, even if they were not instructed to interpret them as such. In most of the cases, however, the affordances were not experienced at optimal levels in the work environment and participants would have wanted more support from the environment for these salutogenic affordances. It was not always effortless for them to come up with environmental factors that they felt influenced their perception of the studied affordances. Clearly, they had not previously thought about their work environment from this salutogenic perspective. This meant that sometimes it took time for them to articulate their perceptions and experiences. It is interesting to notice how different the places providing the same affordance for different interviewees sometimes looked (e.g. figure 11). However even if the places looked different at first look, the accounts of the participants had many similar themes and they used similar descriptions and interpretations. This interesting issue is analysed further in the discussion of this paper.

Overview of all superordinate themes that answer to the first research question "How do the participants experience the salutogenic affordances of the workplace?" is shown in table 2. Some super-ordinate themes recur in multiple affordances, such

as contrast. This means that these themes came up during the interviews when talking about different affordances in different places. For example, both the affordance of entering another world and of social interaction were affiliated with the theme of contrast. This could mean that in the lived experience of these participants, the eight different and separately treated affordances are not after all so distinct. It is also true that contrast is a rather wide theme that could incorporate "different contrasts". The super-ordinate themes of each salutogenic affordance are next described in more detail together with corresponding interview extracts. Each affordance is handled separately in its own sub-chapter just like was done in the interviews and in the analytical phase. In order to answer the secondary research question "How is the environment described by the participants in relation to those affordances?", brief descriptive accounts of the environmental qualities related to salutogenic affordances are provided in the end of each sub-chapter. At the same time, some practical implications of the results in workplace design are raised up. Pictures of the chosen places are shown for helping the reader to get a better understanding of them.

Table 2. *Overview of the eight affordances including the superordinate themes for each.*

Salutogenic affordances	Super-ordinate themes
Peace, calm and care	Passive engagement, contrast, social acceptance
Fascination with nature	Different senses, unofficial, knowledge of nature
Abundance and variation	Exploration and observation, knowledge, human vs nature
Entering another world	Contrast
Prospects and views	Coherence, wider environment, watching
Shelter and safety	Safe place, positive emotions, social norms
Continuity over time	Continuity, memories, contrast
Social interaction	Permission, flexibility, informal

Figure 10. Places shown by participants that corresponded with the eight salutogenic affordances.

Figure 11. Places that offer peace, calm and care for participants

6.1   Affordance of peace, calm and care

Figure 11 shows the places that the participants experienced as affording peace, calm and care. The superordinate theme of *possibility for passive engagement* is based on the participants key emergent themes: stillness from activities, passive being in solitude, passive engagement, own place but not separate from the world. When describing their experience of this affordance, the participants focused much on the possibility to sit down and to just be and not do anything, "If I would want to catch breath and calm down somehow [] I would come here to sit down" (Participant A). They also noted how silence is not necessarily the same as peace, "We have those silent rooms [] going there means you have to work and not just be" (Participant C) and "Indoors we have silent spaces if you need to concentrate, but if you want to just be so that you are not working a lot at the same time, if you want more a moment of relaxing I would come here" (Participant B). They also noted how activities of other people disturbed the experience of peace and calm and how being alone was considered as crucial for it, "This is not a move-through place" (Participant A) and "If I would look for peace and calm, I would come this way [] Usually there is more moving around closer to those buildings" (Participant B).

The superordinate theme of *social acceptance of rest at work* describes how the affordance of peace, calm and care also depends on the social environment and how it could be manifested only if it was experienced as socially acceptable to take a moment to rest. The theme is based on the key emergent themes of participants: not socially acceptable to relax at work, permission to rest. One participant described

how students sometimes were relaxing on the lawn in sunshine, but how "we, work-ers don't do that [laughs]" (Participant B). Another participant told how there is a special room for resting but she implied that it is suitable to go there only if you have a good reason, such as "for those times when you're sick, if you get migraine or something" (Participant C).

The superordinate theme of *contrast to work environment* was based on the key emergent themes: contrast to work environment, transition to different context, manmade versus nature. They told how peace is easier to experience outside, away from the ordinary work space and in nature, "The bushes, trees and of course this soundscape here, this bird song" (Participant B) and "Here once you get past these buildings into this more open space with little more wild nature and bird song [] The technical sounds are bit further away and muted" (Participant D). The contrast could be experienced even indoors if there was something that would create a sense of contrast to work, such as background music or selection of furniture, "Retreat music in the background so that would help me to calm down [] This is still quite office like. Of course, this wicker chair is little more sympathetic and this partition" (Par-ticipant C).

The participants' experiences point out how the affordance of peace, calm and care in work context manifests itself mostly in places that offer possibilities for sit-ting still and being passive. It is also important that taking moments of resting throughout the workday are socially accepted and even encouraged. Places for ex-periencing peace and calm should be designed so that they are clearly a contrast to the regular office space, preferably by incorporating natural or home-like elements in them.

Figure 12. Places that offer the affordance of fascination with nature for participants.

6.2 Affordance of fascination with nature

Figure 12 shows the places that the participants chose to represent the affordance of fascination with nature. The superordinate theme of *different senses* is based on the key emergent themes from participants: multi-sensory nature, multi-sensory nature, room to wonder, possibility to observe nature. When describing this affordance, the participants focused much on the different sensory information they perceived such as the birdsong, nature's small details, butterflies, smells, soundscape and diversity of trees, "This birdlife, this wild greenery and lush greenery, and smells, and um this open landscape and weather phenomena that can be observed" (Participant D). This kind of sensory stimulus is most easily experienced close to trees as all participants chose places that had some trees, "[Under the tree] it is also such a big thing that when you look up there and then how you see through the tree leaves some sky and how at the same time sun shines through the leaves so that you can experience changes of light and shadow" (Participant A) and "I think this [tree] is so fine. It has old bark; you can see it is an old tree" (Participant C). The variety of sensory stimulus could be also experienced indoors in a place where it is possible to experience nature not only visually but also by touching, smelling and hearing, "Well of course it is these [nature] pictures here [] it could be enhanced by soundscape" (Participant B).

The superordinate theme of *unofficial* is based on the key emergent themes of participants: contrast to urban, nature versus manmade, unofficial nature, something out of the ordinary workplace. The experience of fascination with nature was mostly described as something out of the ordinary and as something contrasting from urban and man-made, "Generally this campus area here, this is a park like area. I am actually a little bit fascinated when I walk from there to here. You are not like in the middle of the city." (Participant B) and "Otherwise this area is rather built environment… So maybe I miss a little bit that kind of wilder nature" (Participant C). One participant even had hard time to think about the word *nature* in a work context but once she found a place that reminded her of her summer cottage, she experienced fascination form nature, "It is like being at the summer cottage laying on the ground and looking..." (Participant A). The experience of fascination from nature was described as something rather unofficial compared to the "stiff" office environment and it was told to facilitate social bonding with other people, "When you have some discussions with one other person from the group, you could come here outside. The conversation would go much better in this kind of nice environment" (Participant C).

The superordinate theme of *knowledge of nature* describes how knowledge about nature's processes affects how and where this affordance is experienced. This theme is based on the key emergent themes of participants: knowledge of nature, observing

species, meaning. The employees of this workplace work with environmental issues and it shows in the participant's narrative. They know what is best for nature from a natural sciences perspective and it affects how they relate to their environment. It was mostly mentioned as having a negative effect on their experience, "Our colleagues are a bit more demanding in that sense that they are biologists [laughter] so for them this is not the ultimate nature experience" (Participant C) and "Now that there is so much talk about the degradation of nature. So, we could consciously leave some such [meadow] areas here" (Participant C). But the knowledge of different species and processes could also have a positive impact by making them more curious of observing and exploring the nature, "I was just talking with one work buddy, he works right there and here he has been observing some birds. And just the other work friend who has been observing these plants, the plant researcher" (Participant D).

Overall the participants' experiences reveal how the affordance of fascination with nature occurs when many different sensory stimuli are present. In addition to visual nature stimuli there should be possibilities for auditory, olfactory and tactile sensations that remind of nature. The participants' accounts also express that the experience of fascinating nature arises when some aspects of the environment are perceived as wild, unofficial, not so managed. Also, the employees' level of knowledge about nature and the meaning of nature for them should be investigated in order to fit suitable degree of wilderness for creating a sense of fascination with nature.

Figure 13. Places that offer the affordance of abundance and variation for the participants.

6.3 Affordance of abundance and variation

Figure 13 shows the places the participants chose as affording this experience of abundance and variation for them. The superordinate theme *exploration and observation* is based on the key emergent themes: inviting species richness, interesting diverse nature, nature calls for exploration, observing nature in peace. This theme uncovers how the environment is perceived as affording variation and abundance when there is (unsurprisingly) much to observe and different species to notice, "Here is midsummer rose. Don't ask what blooming plant, probably some vetch [laughs] And here is some kind of birch, don't know which one. And yews" (Participant C). The participants wished for more peaceful areas that would provide possibility for observing nature's details, such as a butterfly bar or a bird watching spot. But the affordance is not only affiliated with passive watching but also with the possibility for active exploration of the environment, "But often I walk along this route just because there is such peace and I get on a good mood since there is so much vegetation and trees giving safety" (Participant A) and "Many people seem to walk here even if this is not along any route" (Participant C).

The superordinate theme *knowledge* expresses how this affordance is affected by previous knowledge and ability to distinguish differences and variation in the surrounding environment. The participants of this study were very much aware of nature's processes and different species which meant that they were prejudiced about the amount of species richness that would be found in the outdoors environment, "I have already taken a stand that this area is lawn and planted trees [] I am a biologists and now I started to think that actually there is some variation" (Participant A). Their foreknowledge also affected how they saw wilder and rather unmanaged looking areas as better since they knew it was beneficial for nature itself, "Possibly those with a biology background [would name this place] but others might think this looks like an unmanaged bush" (Participant C).

The superordinate theme *humans versus nature* indicates how the affordance of abundance and variation is often affiliated with environments that are not touched so much by humans or are seen as natural. Areas that seem tidy and managed aren't experienced as affording variation, "There is truly natural variation here!" (Participant B) and "This is kind of like a backyard, but that's why it is good that this can remains undisturbed and gets to develop by itself" (Participant C).

Altogether the affordance of abundance and variation, in the accounts of the participants, is associated with something that is not manmade or planned by humans but rather a result of nature's own processes. It is experienced mostly in places that offer possibilities for both passive and active observation of the surrounding details. According to the participants there should be both sitting areas and paths that let people explore their environment in all its richness. All of this is affected by the

existing knowledge level of the people in question – biologists perceive the species richness differently than laymen.

Figure 14. Places that offer the affordance of entering another world.

6.4 Affordance of entering another world

Figure 14 shows the places participants chose as representing the affordance of entering another world to them. The superordinate theme *contrast* comprised of the key emergent themes of participants: unexpected details, history, different stimuli, possibilities for different activities, unlike the office, hobby activities, wild vegetation and moving away from ordinary. This superordinate theme describes how it is essential to perceive some kind of contrasts to the ordinary office environment in order to experience the affordance of entering another world. The contrast could be experienced in the amount of peculiar details, "I think it is these details that [] when you start to look at them you somehow get stuck, or not stuck but become so absorbed" (Participant A). It could also be related to features that take the person back in time or shifts their thoughts into some other place, "It requires that there is some other activity [laughs] that there is a yoga teacher or someone who does something else than work related things" (Participant C). Participants mentioned for example different smells, activities, people with different clothes, soundscapes, furniture, colours and lighting. Basically, anything that differed from the ordinary work environment helped them take their thoughts away from their work stress.

This affordance only had one superordinate theme, so it seems that the participants had a rather unified experience of what affords the sense of entering another world in their workplace. In order to increase the availability of this affordance at a

workplace, enough contrasts should be incorporated into the environment. The most important thing is to make resting and social areas clearly different in their character in comparison to office working space. This helps the employees to forget work details and transition into a different state of mind during their breaks. Also, the possibility to go outside and experience nature seems to help in the transition.

Figure 15. Places that offer the affordance of prospect and views for participants.

6.5 Affordance of prospect and views

Figure 15 shows the places that the participants chose as offering them prospect and views. The superordinate theme *coherence* incorporates the key emergent themes: peaceful views, less stimulus, no rushing movement, no disturbing stimuli. It expresses how this affordance is closely related with the coherence of information in the wider environment, "Seeing the sky and the clouds. It is not completely open there further away, but quite far away. And that building disturbs quite a lot" (Participant D). Places with less stimulus and minimal amount of movement were considered better for experiencing prospects and views, "I don't know here somehow it confuses whether one likes to watch that traffic which you can now see here, I do actually pay more attention to it than this scenery" (Participant A).

The superordinate theme *the wider environment* consists of the participants' key emergent themes: reading the environment, predicting the environment and mystery calls for exploration. It expresses how this affordance concerns getting information about the wider environment, "There behind the houses is the shoreline. There are fields and meadows and those cows even. Then there is the forest area and on that side the shore" (Participant D). It also entails predicting as well as explaining the

contents of the wider environment, "But somehow here it feels like the landscape continues much further so that one can imagine that there behind the houses there are more trees and more houses" (Participant A). The prospects and views also call for exploring the wider environment and moving around, "Here opens up quite a straight walking path forward so that it, in a way, 'sucks' one with it so that it feels like you could get far away with it" (Participant A).

The superordinate theme *watching* contains the key emergent themes of the participants: seeing far away, actively watching views, consciously watching. The theme explicates how the explicit act of watching needs to be supported in the environment for it to afford this particular affordance. The participants also expressed how they don't really have time or possibility to watch views during their workdays even if there would be windows and views available, "We go there often to eat. But then you don't watch this scenery" (Participant B) and "If you want to look outside, but rarely you will have time during the workday to look outside" (Participant C).

In order to support the availability of this affordance in a workplace, there should, first of all, be views that are coherent, tranquil and with as little rushing movement or details that demand lot of attention. According to participants' accounts they should have access to viewing the wider environment so that it would raise the curiosity and imagination of the viewers. The best viewing spots, both indoors and outdoors, should also cater for and encourage people to stop there and explicitly watch the views.

6.6   Affordance of shelter and safety

Figure 16 shows the places that the participants chose as offering them shelter and safety. The superordinate theme *safe place* sums up the essence of this affordance in this case with the key emergent themes: hiding place, observing outside world, protection from outside world, inside vs. outside, familiarity with home, play. It is all about having a safe hiding place where no one can surprise and there is protection from many sides, "Here the trees make the protection. [] there are those leaves. And the bushes also make up like a wall I could say" (Participant B). The idea of being hidden and watching the wider environment is also crucial for this affordance, "Also the fact that you can see a little bit outside from here. Quite nice views. Even though you can't see far away with all these leaves" (Participant C). Other qualities of the safe place is that the protective "walls" are preferably made of natural elements like plants or trees and that the décor is more home-like than official. Also, the possibility for playful behaviour in a hidden place is mentioned.

Figure 16. Places that offer the affordance of shelter and safety.

The superordinate theme *positive emotions* indicates how this affordance was connected with strong positive emotional reactions from the participants. Two of the participants changed completely when they entered the place offering this affordance under the trees – they relaxed immediately and started to praise how wonderful the place was, "I mean really this is really very nice place! I have never stood here before, but now when I stand here, yes, this vegetation makes this like a room." (Participant B) and "Aww wow this place [astonished] there is such a place!" (Participant D). One participant also mentioned that if she would be in need of cheering up or getting on a better mood she would seek this kind of refuge place.

The superordinate theme *social norms* is made up of two key emergent themes from the participants: social norms and intended use of spaces. It has to do with the fact that the participants felt like they needed an excuse or a permission to really take advantage of this affordance, "If I wasn't so ashamed I would throw myself there under the trees to lay down, there is safety and [laughter] I mean I would not really" (Participant B).

All in all, this affordance was experienced in places that were rather similar in their experiential qualities (protected, views) even if the places in themselves were different with one place being indoors, two under the trees and one between buildings. Places with this affordance could be designed by adding trees with low hanging leaves and moderate coverage with bushes and other plants while leaving visibility through the coverage. This affordance seemed to be of great stress relief for the participants, so it should be considered in workplaces that seek the greatest reduction of stress levels. At the same time, it should be made socially acceptable to take advantage of this affordance by explicitly indicating places for experiencing it.
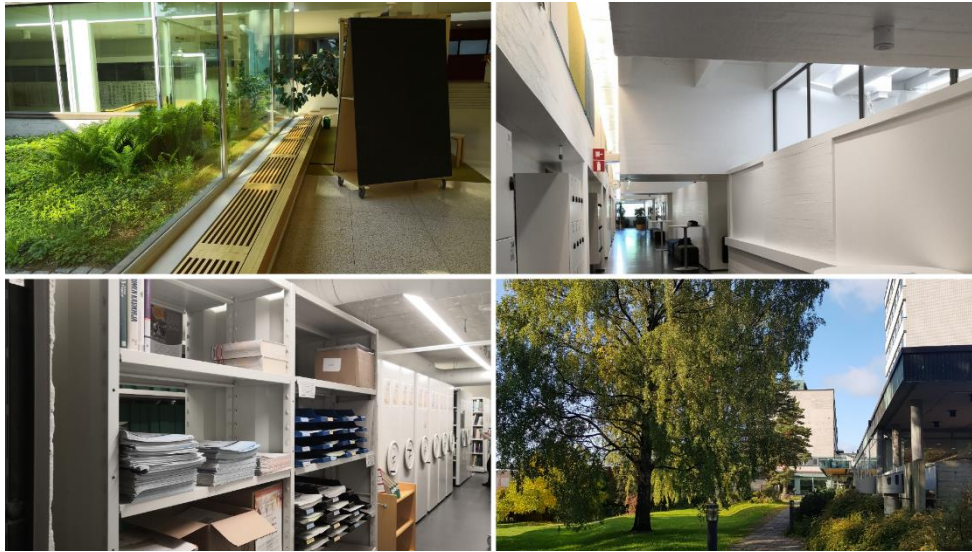
Figure 17. Places that offer the affordance of continuity over time for participants.

6.7   Affordance of continuity over time

Figure 17 shows the places that the participants chose as offering them a sense of continuity over time and with human touch. The superordinate theme of *continuity* is made of the participants' key emergent themes: temporal continuity, connection with history, continuity and discontinuity. The key aspect of this theme is the possibility to form a coherent narrative that merges the past with the present moment and to bring a sense of passing of time for the participants. It can be the way the interior of the buildings has been renovated by leaving layers of the past visible, "Like this here when the surface is painted again, but so that you can see how it was done previously" (Participant B). It is important how the old and the new have been integrated together in the buildings, "And then here in lobby it is kind of made for the students and renewed. You can see the student perspective and then also those remembrance boards at the same time, so there is kind of like continuum how the world has changed" (Participant A).

The superordinate theme *memories* points out how different kinds of personal and shared memories play an important role in making this affordance available for the participants. The theme comprises of the key emergent themes: history made visible, semantic memories, episodic memories. The memories could be some factual details related to cultural history that are activated when experiencing the environment, "These buildings are old and there was even a famous architect who planned these, Paatela. You know it was the architecture of that era" (Participant B).

At the same time the memories could be also more personal, "There have been these university faculties. I have been here on some courses also when I was studying" (Participant D).

The superordinate theme *contrast* comprises of key emergent themes: now and then, out of the ordinary. This theme pieces out how the affordance of continuity over time is also associated with the experience of contrast in the temporal dimension – getting the sense of things being different now than they were before. Sometimes the design features of the built environment are so distinctively different from what is ordinary nowadays, "This kind of spaces would not be made nowadays if you would make an office building" (Participant B). It could even other than visual stimuli that brings this affordance into being, for example the smell of old books and papers.

The accounts related to this affordance mostly deal with the temporal dimension of the environment. This affordance actualized when there were some features reminding of the past. It was experienced at its most salient degree when the historical details were in harmony with the current moment – past and present entangled together subtly. The history of the place could be deliberately highlighted in some details to enhance the experience of the affordance of continuity over time.

Figure 18. Places that offer the affordance of social interaction for participants.

6.8   Affordance of social interaction

Figure 18 shows the places that the participants chose as offering them the affordance of social interaction. The first superordinate theme *permission* points out

once again how important the social acceptance of certain actions is in the workplace context when other people are constantly following your actions and you must keep your professional front undisturbed. The interviewees talked about how certain places were meant for socializing, "this rooms is meant for doing things together. [] I think it is the nature of this space and these fitments [that give the experience of social space]" (Participant B).

The superordinate theme *flexibility* describes how important flexibility of the space was for experiencing the affordance of social interaction. It was made up of key emergent themes: flexible space, flexibility, freedom of form, accessibility and flexibility. Too much rigidity in the physical space was seen as a hindrance for experiencing possibilities for socializing, "This space is meant for many things, free form, breaks but still for almost anything" (Participant B) and "Even if there are other people here you have the possibility to go and be by yourself and look at the scenery" (Participant A). A multitude of options for activities makes the space usable for different people and needs.

The third superordinate theme *informal* dealt with the environmental factors that made the participants feel like not being in the normal workspace where one is expected to concentrate on work matters. Social interaction was seen as an activity that ideally needs an informal space, "This meeting room is nice with these retro wicker chairs [] This is good for interaction since there are no tables or office tables" (Participant C). Spaces that would be something else than the regular office spaces with "hard" elements, were thought as nourishing better interaction between people, "Now this is a space for exactly coffee breaks but for more soft and longer interaction it would be good if there were more softer elements" (Participant A).

According to the participants' descriptions, spaces for social interaction should be designed as open and flexible so that different people in different situations will feel comfortable being there with others. There should be possibility for different group sizes and places to sit and enjoy together. It would also be good to include elements that are not the same "neutral" design as in the regular office space, e.g. rocking chairs, round tables or social games. That way people can easily perceive them as separate from the office space meant for hard work and concentration. Also, here the space should be clearly labelled with its social function so that everyone feels it is socially acceptable to interact with others.

6.9   Recurrent themes

There are four recurrent themes that stand out when looking at how the participants describe their experience of the salutogenic affordances at their workplace:

- o   contrast

- sense of continuity
- prior knowledge
- social acceptance.

Firstly, when talking about the environmental dimensions that allow them to restore, the participants brought up the idea of contrasting environments on many levels. Mostly it concerned the *contrast* between the official workspace and other spaces that didn't remind them of work. Nature seemed to bring this feeling of "not-working" most efficiently, but also peculiar places such as greenhouses or the yoga room. In some of the discussions also the contrast between nature and man-made was talked about. It seemed easy for them to describe the salutogenic factors through opposites to the regular work experience of busy meetings and sitting in front of computer. Overall contrast was mentioned in relation to five of the affordances (peace, fascination with nature, variation, entering a world in itself, social interaction) in 20 key emergent themes. The theme suggests that workplaces should have plenty of places that bring contrast to the ordinary in order to make the employees shift their thinking from stressful work issues.

Sense of *continuity* was another recurrent theme that was talked about – 10 themes were affiliated with it, mostly in relation to affordances of prospect and continuity over time. The participants were explaining how salutogenic environmental factors had a sense of continuity and coherence in them. In some cases, it was continuity in the temporal dimension meaning that past and present were visible at the same time in harmony. Other times it was related to spatial continuity meaning that different parts of the environment formed a coherent whole that was understandable. This theme suggests that the presence of salutogenic affordances is sometimes supported by environments that help the employees understand and connect to other spatial and temporal dimensions. The themes of continuity and contrast might seem contradictory, but they can also be seen as the two sides of the same coin and as having balance between contrast (enough places that don't remind of work) and continuity (coherence in the whole).

Also, the role of prior *knowledge* in perceiving the environment was mentioned in three of the affordances (continuity over time, fascination with nature, variation) in 10 key emergent themes. At least when the participants were themselves explaining why they would experience those affordances in certain places, they talked about the role of their prior knowledge in influencing how their perception. For example, they told that their biology knowledge would affect where they would experience nature and species variation. But the role of personal memories was mentioned as well. This theme reminds all planners of work environments to get to know the employees and fit their plan to employees' backgrounds.

Finally, the *social acceptance* of actualizing certain salutogenic affordances recurred through the discussions with the participants. It seemed not to be enough to

have certain affordances available in the work environment, if it was not seen as acceptable or desirable behaviour during work (e.g. resting or socializing). This theme was mentioned in relation to three affordances (shelter, peace, social interaction) in 6 key emergent themes.

7 Discussion

This discussion first considers how the results answer to the aim and research questions set in the beginning and discusses the results in the wider theoretical contexts of salutogenesis and affordances (7.1). Then some design implications are drawn from the results for the planning of work environments (7.2). Furthermore, some implications of these results on the perceived sensory dimensions framework are considered from the affordance and ecological psychology perspective (7.3). After that the discussion moves on to methodological considerations of using IPA for exploring salutogenic affordances (7.4). At the same time some suggestions for future research are proposed. The last sub-chapter deals with the limitations of this study (7.5).

7.1 Experience of salutogenic affordances

The results of this IPA study consist of themes that emerged when talking with four employees at one workplace about the salutogenic affordances that were representing the eight PSDs. Each affordance was analysed separately (Chapters 6.2 to 6.8) to explore the experiential qualities of salutogenic affordances from the point of view of the participants. The recurrent themes represent some of the common factors that arose across all the affordances (Chapter 6.9). These results answer both research questions about participants experiences of the salutogenic affordances and participants' descriptions of the physical environment in relation to those affordances. The narrative description of the results shows how the participants of this study describe and interpret their own experience of salutogenic affordances. Even if the affordances were not framed as salutogenic or "enhancing wellbeing" in the interview questions, all the participants interpreted them as positive for their wellbeing in different situations. This study does not answer to the question of whether exactly and only these eight affordances are crucial for salutogenic design of work environments. Instead, these results suggest that, at least for these participants, the

eight studied affordances are such that their existence at the workplace promotes the employee wellbeing. Even if the studied affordances were psychosocial (affording psychological or social functions), all of them were also experienced in spatial and physical terms. This is in line with the Supportive environment theory, which argues that people need the support of their surrounding environment also for psychological processes (Grahn, 2011). The results of this study support the previous research findings that it is important to include environmental qualities into salutogenic models of work such as the Job Demands and Resources SoC-Health Model by Jenny and colleagues presented earlier in Table 1 (Jenny *et al.*, 2017).

The participants' descriptions of the eight salutogenic affordances align to a certain extent with the sense of coherence concept (SOC) in salutogenic theory. Antonovsky (1979) argued that SOC is built on the experiences of comprehensibility, manageability and meaningfulness. The first two components were clearly visible in the narrative results of this study, while meaningfulness was not as clearly present. Comprehensibility can be seen in the way it was important for the participants to understand the use of different spaces (where it is okay to rest or socialize) and of the coherent whole of the work environment in spatial and temporal dimensions. In their study, Roskams and Haynes (2019) also found out that clear set of rules for the use of work spaces is key to comprehensibility in the work environment context. Manageability can be seen as having resources that help one in coping with stressful stimuli (Eriksson & Mittelmark, 2017). In this study, manageability came evident especially in relation to the affordances that let the participants experience contrast to the everyday stressful office space and giving them room to rest and observe the peaceful details of the environment. Meaningfulness, which is according to Eriksson and Mittelmark (2017) the motivational or emotional component of SOC, was not as evident in the super-ordinate themes of this study. However, it can be seen in the way the participants talked about nature and its importance for their personal and professional lives in the environmental sector. Fascination with nature and exploring the abundance of other species in their work environment seemed to give the participants joy and meaning.

Few interesting peculiarities arose in the analysis of this study. Firstly, same affordances were found in very different looking places. For example, the affordance of peace, calm and care was experienced both in a slightly sheltered outdoor spot with open views and indoors in an enclosed white resting room. One possible explanation for this can be, that when studying affordances, the perspective shifts from how the environment looks into the different meanings and functions of it (Heft, 2010). Places that look different might hold the same ecologically meaningful information in them. In the theory of ecological psychology this is explained by higher order variables perceived in the. According to ecological psychology, humans don't

perceive the absolute measures of the environment, but rather the higher order variables that communicate the relative information that tells what the individual can make of that information when it comes to his or her physical and mental abilities (Heras-Escribano & De Pinedo-García, 2018). This could explain why different looking places could bring about the same affordance.

After looking at the results of this study, it remains unclear whether the studied eight salutogenic affordances are separate in the experience of the participants or if they rather form an undivided cluster of tightly bound salutogenic affordances. When taking a closer look on the super-ordinate themes (Table 2, page 38) that reflect the participants' experiences of the salutogenic affordances, the separateness of the eight affordance constructs seems to fade away at least partly. The recurrent themes also show that there are some common themes that come up in regard to many of the affordances: continuity, contrast, knowledge and social norms.

Peace, calm and care	Fascination with nature	Abundance and variation	Entering another world
Possibilities for sitting and being passive Encouraging employees to use resting places Clear contrast in design to office space	Variety of sensory stimuli Wild, unmanaged, unofficial nature Fitting the degree of wilderness to employee background	Places for passive and active observation Sitting areas and paths Nature's own processes visible	Resting and social areas clearly different in their character in comparison to office space Possibility for different activities

Prospects and views	Shelter and safety	Continuity over time	Social interaction
Coherent and tranquil views No cars or rushing people Viewing spots	Protected views Tress with low hanging leaves and moderate coverage with bushes Indicating specific places for this affordance	Features reminding of the past Details from past and present in harmony	Open, accessible and flexible For different group sizes "Unofficial" furniture Clearly labeled for social interaction

Figure 19. Applying the narrative results in planning and design of work environments.

7.2   Designing for salutogenesis

On the other hand, it is interesting to think what these results would mean in practice and what kind of work environment would cater for the needs of the participants better. Figure 19 shows how the narrative results on the salutogenic affordances

could be applied to planning and designing of work environments. In order to apply these results to the wider public, more studies in different workplaces should be carried out. However, these can be used as an inspiration to design workspaces with better availability of salutogenic affordances.

When looking at figure 10 (p. 39) it can be noticed, that all the places affording salutogenic affordances were located inside about 200 m radius of the workplace building. The participants were instructed to show places they could normally visit during their workdays. This points out how it is important to have these affordances available close enough to the workspace, so that the employees have possibility to regulate their psychological wellbeing during the workday during shorter breaks. Previous environmental psychology research has shown the importance of accessibility and distance to green spaces for frequency of visits (Grahn & Stigsdotter, 2003). It seems that also in this case, the distance might play a role in employees actualizing some of these affordances in their work environment.

The social acceptance of actualizing certain salutogenic affordances in work context appeared crucial for some participants in this study. Kyttä (2004) talks about the socially approved ways of actualizing affordances and makes a distinction between potential and actualized affordances. This means that it is not enough to merely design workspaces that cater for salutogenic affordances, if the affordances aren't actualized by the employees. Thus, the work environment designer should pay special attention to the implicit social expectations and agreements. The places designed for different salutogenic affordances, should also explicitly encourage the employees to use them for such behaviours.

The design of work environment should contain a variety of contrasts – visually and in other senses. Contrast can be seen as bringing the sense of being away, which is one main component of restorative environments according to Kaplan and Kaplan (1989). This could also be seen as participants' attempt to environmental self-regulation where the physical environment is used in maintaining psychological balance (Korpela, 1989). By going to places that don't remind them of stressful work tasks, the participants could influence their mental state from stress to restoration. A salutogenic workplace should have possibilities for entering different spaces, both indoors and outdoors, so that the employees can use the physical environment to regulate their own mental states easily.

7.3   Implications on the perceived sensory dimensions framework

The PSDs are usually studied more as the dimensions of the environment and by focusing more on the environment than on the perceiver, despite their theoretical

foundations in ecological psychology (Grahn & Stigsdotter, 2010). This thesis took a stronger ecological psychology stance by focusing on the affordances, the possibilities for action or experiences behind PSDs (e.g. the affordance of peace and silence behind the PSD serene). The affordances are not qualities of the environment but of the whole person-environment system (Heras-Escribano, 2019). Thus, here the focus of discussions was not on which places the participants experienced as e.g. nature-like but on the places where they experienced fascination with nature. This seemingly slight difference in the approach of this study to the PSDs, compared to the other existing studies, might explain why some of the results of this study differ from the other studies. Heft (2010) proposes that this kind of change of perspective from the properties of the landscape to the active engagement of the perceiver with the surroundings, can help shed light on some previously unnoticed properties of environments.

PSD	PSD description	Salutogenic affordance	Super-ordinate themes
Serene	Peace, silence, care, undisturbed	Peace, calm and care	Passive engagement, contrast, social acceptance
Nature	Force of nature, fascination with nature	Fascination with nature	Different senses, unofficial, knowledge of nature
Rich in species	Abundance, variation, species richness	Abundance and variation	Exploration and observation, knowledge, human vs nature
Space	Spacious coherent whole	Entering another world	Contrast
Prospect	Open views and vistas	Prospects and views	Coherence, wider environment, watching
Refuge	Enclosed and safe, possibility to watch others alone	Shelter and safety	Safe place, positive emotions, social norms
Culture	Human culture/history, course of time	Continuity over time	Continuity, memories, contrast
Social	Social activites, amusement and enjoyment	Social interaction	Permission, flexibility, informal

Figure 20. The descriptions of PSDs after Grahn and Stigsdotter (2010) and the salutogenic affordances.

Figure 20 shows the results of this study on the salutogenic affordances together with previous descriptions of the PSDs by Grahn and Stigsdotter (2010). The affordance of **peace, calm and care** corresponds with the PSD serene. The participants experienced it in three places outdoors: next to a bench with views, on the lush

walking path and little bit further away from the buildings. One place was located indoors in a resting room. According to the analysis, the superordinate themes for this affordance were *possibility for passive engagement, social acceptance of resting at work* and *contrast to work environment*.

The affordance of **fascination with nature** is translated from the PSD nature. Three of the places chosen by the participants were outdoors, in close vicinity of trees and lush green. One place was in the lobby area indoors with trees, natural materials and nature photos. According to the analysis, the superordinate themes for this affordance were *different senses*, *unofficial* and *knowledge of nature*.

The affordance of **abundance and variation** align with the PSD rich in species. All the places where this affordance was experienced were outdoors next to wilder natural elements such as bushes or some kind of meadows. According to the analysis, the superordinate themes for this affordance were *exploration and observation*, *knowledge* and *humans versus nature*.

The affordance of **entering another world** lines up with the PSD space. It was experiences in places that were out of the ordinary work environment – historic veterinary lab, greenhouse area, yoga room and path further away from the workplace building. According to the analysis the superordinate theme for this affordance was *contrast*.

The affordance of **prospect and views** corresponds with the PSD prospect. Three of the places with this affordance were located outdoors facing the same way with walking paths leading towards a greener area. One place was indoors in the third-floor office space with big windows and high ceiling. According to the analysis, the superordinate themes for this affordance were *coherence*, *the wider environment* and *watching*.

The affordance of **shelter and safety** aligns with the PSD refuge. This affordance was mostly experienced outdoors: under a group of lush trees and in a peaceful corner between buildings. One place was indoors in a resting area. According to the analysis, the superordinate themes for this affordance were *safe place*, *positive emotions* and *social norms*.

The affordance of **sense of continuity over time** was derived from the PSD culture. It was mainly experienced indoors: in lobby spaces with architectural details and in the archives room. One place was outdoors next to the office building. According to the analysis, the superordinate themes for this affordance were *continuity*, *memories* and *contrast*.

The affordance of **social interaction** lines up with the PSD social. The participants experienced it mostly indoors: two of the places were in the same social coffee room, one in a relaxed meeting room and one outside the main entrance next to tables and benches. According to the analysis, the superordinate themes for this affordance were *permission*, *flexibility* and *informal*.

The super-ordinate themes seem quite similar with the PSDs descriptions – some more than others. Most similarities can be seen with PSDs prospect and refuge. Maybe they are the easiest and the most instinctive to understand. Coincidentally, both aspects are also considered important in the evolutionary psychology 'prospect and refuge' theory in facilitating restoration for people (Dosen & Ostwald, 2013). PSDs space and culture seem most divergent from the super-ordinate themes of this study. Space is previously described as spacious coherent whole while here the affordance of entering another world in described as having contrast to the ordinary. Perhaps the PSD space is not focusing on the same thing as the "salutogenic affordance translation" of entering another world. Same thing might be true with PSD culture and affordance of continuity over time. The other four PSDs of serene, nature, rich in species and social are somewhat similar to the salutogenic affordance themes of this study. For example, serene is described with words like peace, silence, care and undisturbed, while the corresponding affordance was related to the possibilities for passive engagement and its' contrast to the ordinary office space and the social acceptance of actualizing that affordance. It seems that the descriptions are on different levels – the first one describes the environment and the second one more the relationship of the person to the environment. Since the PSDs have been previously found to stay relatively stable as the eight distinct building blocks of salutogenic environmental experiences, it is interesting to think what makes the salutogenic affordances appear not as distinct in this study (Grahn & Stigsdotter, 2010). One explanation probably lies in the small sample size and the method of this study – the results certainly look different in large quantitative studies and small qualitative ones. It might also be due to the application of the affordance perspective, that discussions with the participants had a different tone to them.

It is also interesting to notice how different the results of this IPA study of PSDs is in comparison to the IPA study of Stigsdotter et al. (2017) on PSDs in a forest environment. For example, in their study the PSD serene was described as private, inviting and natural while in this study the corresponding affordance of peace, calm and care was related with passive engagement, contrast and social acceptance of resting. Possibly the salutogenic affordance perspective has shifted the focus from merely environmental qualities, like the adjective natural, into possibilities for action such as just being (not doing). But it is also interesting to ponder how the different context, forest versus work environment, might affect how the different salutogenic affordances are perceived. This comes close to the idea of the changing scope of meaning / action, where the current mental context might alter how the same environmental factors are experienced (Grahn, 2011). However, it remains open for future research to continue exploring how the salutogenic affordances or the PSDs come to play in different contexts. A comparative study between work and

some other context would certainly further our understanding on how salutogenic affordances unfold in the lived human experience.

7.4   Methodological considerations

The choice of right method for studying the experience of salutogenic affordances was not easy. Since ecological psychology considers both "the inner and the outer worlds" of a person at the same time, there was a need to find a method that could look at experienced phenomenon without overriding the shared ecologically meaningful information found in the environment. Since Gibson's ecological psychology can be seen as integrating naturalism (all things emerge naturally) and phenomenology (focus on experiential meaning), phenomenology seemed like a possible way forward (Leitan & Chaffey, 2014). IPA, as one phenomenological method, came across as an interesting and straightforward way of looking at how people describe and interpret their own experience. Also the fact that Stigsdotter and colleagues (2017) had used that method for their PSD study, made it appealing. In the beginning, the idea was to follow a rather similar process than they did, but in the end the whole study design was turned around. They had designed forest rooms to afford the eight PSDs and then explored how participants experienced those environments. In this study, the eight theory-based salutogenic affordances were the starting point for participants to explore their work environment and interpret their experience in relation to those affordances. Thus, this study did not have as phenomenologically "pure" base as the other named study did. In hindsight, either the study design or the choice of method should have maybe been different to more clearly grasp the phenomenon of salutogenic affordances and the ecologically meaningful information for the participants. Since the whole concept of salutogenic affordances was new, one might also question whether a more theoretically inclined study would have been more suitable in order to first build a conceptual framework for it before exploring different experiential qualities related to it.

IPA, as a method, is also very time-consuming and difficult for master's level thesis. The interpretative process of this study consisted of various steps (figure 7, p. 33) and it was not always easy to both stay grounded on the descriptions of participants and find valid meaning units in a conscious interplay with previously acquired environmental psychology knowledge. The first steps of finding emergent and key emergent themes were easier, but further on the super-ordinate themes were much harder to form. Condensing the meanings into larger units would have benefitted from in-depth collegiate discussions with another researcher, to make sure that the interpretations were valid and reliable.

7.5   Limitations of the study

Converting the previously established PSDs into salutogenic affordances by using the descriptions from only two studies by Grahn and Stigsdotter (2010) and Stoltz and Schaffer (2018), might decrease the validity of the salutogenic affordance constructs used in this study. For example, by asking the participants about places where they experience entering another world, they might not be talking about the same affordance that deals with the PSD space. To ensure validity of the used affordance classes, it would have been good to first carry out a literature study. Another question is whether analysing the PSDs separately in the IPA process creates artificial boundaries that aren't congruent with the lived experience of salutogenic affordances. One alternative for this could have been to focus on salutogenic affordances in general without categorizing them. This would have also been more in line with the phenomenological approach that does not aim at categorizing or explaining experience (Finlay, 2011). One might also question (chapter 7.3), whether the IPA method suits well for studying this kind of mundane everyday experiences, since it is usually used for exploring human experience of significant life events (Smith *et al.*, 2009). However, the use of the IPA method for studying the PSDs can be considered justifiable, since it has also previously been used in a vaguely similar study by Stigsdotter et al. (2017) with good results. The use of only four participants in the interviews can limit the generalization of the results on the other employees of the same workplace, let alone the wider public. On the other hand, Smith et al. (2009) suggest three to six participants for beginners when using the IPA method.

Another limitation of this study might be the fact that the whole study process included different steps of translation from English to Finnish in combination with lot of interpretation as shown in figure 21. First the PSDs were translated on a conceptual level to salutogenic affordances. After that the language of the concepts was translated to Finnish. It was certainly challenging to ensure that the translation of each affordance was valid, even though special attention was put on the translation process by using official translation tools. The meaning of concepts and words can change between cultures and as Xiao (2010) notes "every language is part of culture". All these transformative steps in the study process might influence the validity and reliability of the results and it is possible the final super-ordinate themes are not completely in line with the original PSDs which were the starting point of the process.
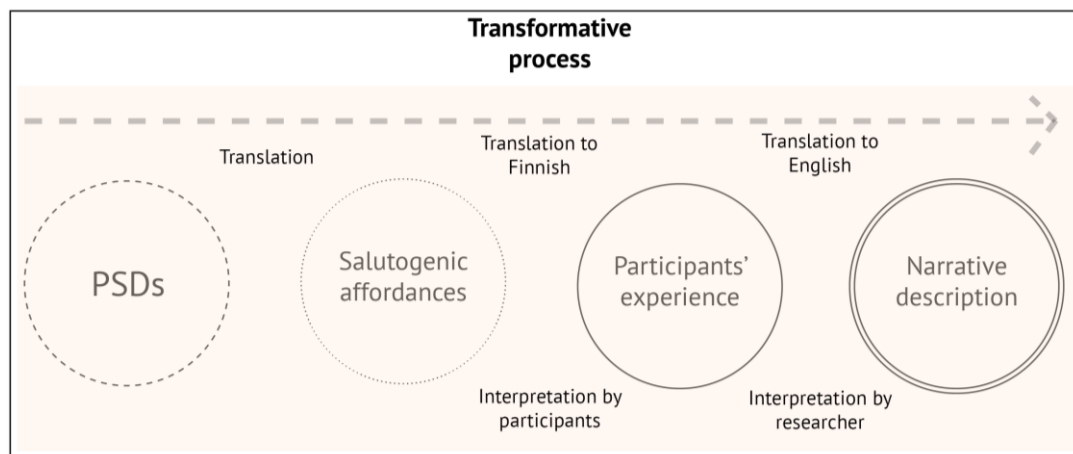
Figure 21. The transformative process of this study with many steps of translation and interpretation.

8   Conclusion

This thesis adopted salutogenic affordances perspective to the perceived sensory dimensions (PSDs) and explored how those affordances were manifested in work environment. The aim was to try to understand how the salutogenic potential of the work environment was experienced by the employees of one workplace and what kind of experiential and environmental factors influenced their experience. Four walk-and-talk semi-structured interviews were conducted and analysed with interpretative phenomenological analysis approach. The results of the analysis on the eight salutogenic affordances were portrayed in a narrative description. The eight affordances were interpreted as salutary and supportive by the participants, supporting the hypothesis that this might be a useful tool for exploring salutary experiences in a work environment context. These findings are in line with previous environmental psychology research and shed some new light on the quality of the experience of salutogenic affordances in a work context. Even if the studied affordances were psychosocial, all of them were also experienced in spatial and physical terms. This is in line with the Supportive environment theory, which argues that people need the support of their surrounding environment also for psychological processes. The results of this study support the previous research findings that it is important to include environmental qualities into salutogenic models of work. The participants' descriptions of the eight salutogenic affordances align to a certain extent with the sense of coherence concept (SOC) and its' three constituents: comprehensibility, manageability and meaningfulness.

More studies with salutogenic affordance perspective could be carried out in order to see if it adds something to our understanding on how the salutogenic potential of environments is perceived. It could also be further developed as a design tool for salutogenic design of work environments. Overall, the salutogenic affordance concept as a tool for researching the embodied and experiential qualities of work environments appeared interesting and possibly complementary to other tools such as the perceived sensory dimensions (PSDs). Salutogenic affordance perspective might

bring up special attention to the different cognitive, behavioural and emotional aspects of the people-environment interaction that take place when people actively regulate their internal processes with the help of environmental resources.

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Appendix I. Summary table of themes

Affordance	Super-ordinate themes	Emergent themes (person)	Extract from text
Peace, calm and care	Passive engagement	Stillness from activities A	If I would want to catch breath and calm down somehow [] in such situation I would come here to sit down [], This is not a move-through place
		Passive being in solitude B	There are not lots of such places where one could go and be. Benches or something [] Indoors we have silent spaces if you need to concentrate but if you want just so that you are not working a lot at the same time, If you want more a moment of relaxing I would come here [outside]
		Passive engagement C	We have those silent rooms, I think they are such places for peace. But of course going there means you have to work and not just [] Here you could lay down or sit if you want
		Own place but not separate from the world A	Around this bench area there could be some lush green plants that would somehow enclose this area or would make this []somehow enclose this place but so that it is still connected to the surrounding landscape
	Social acceptance of restoration at work	Not socially acceptable to relax at work B	We are here on the campus so there are lots of students, sometimes you can see them here during sumer times, being on the grass and so on. But we, workers don't do that *laughs*
		Permission to rest C	There is also this resting room if you indeed need to calm down so you could go there and there is a bed and [] This [resting room] is also for those times when you're sick, if you get migrane or something
	Contrast to work environment	Contrast from work environment B	[The things that create a sense of peace in a place are] the bushes, trees and of course this soundscape here, this bird song
		Transition to different context C	If there would some kind of yoga type of retreat music in the background so that would help me to calm down [] This is still quite office like. Of course this wicker chair is little more sympathetic and this partition
		Manmade vs. nature D	[The place that provides sense of peace and calm] starts here once you get past these buildings into this more open space with little more wild nature and bird song [] The technical sounds are bit further away and muted. You can hear nature sounds
Fascination with nature	Different senses	Multi-sensory nature B	[Fascination from nature] well of course it is these pictures here [] [The experience of fascination by nature] could be enhanced by soundscape…some background sound.
		Multi-sensory nature D	This birdlife, this wild greenery and lush greenery. And smells. And um this open landscape and weather phenomena that can be observed
		Room to wonder C	There were butterflies flying [] I think this [tree] is so fine. It has old bark, you can see it is an old tree. [] Maybe it is this variety since this is not even though this is little park-like but this is still not like onesided
		Possibility to observe nature A	This is in a similar way nice place than the previous one and then sometimes there are lots of little birds in the bushes so that you can hear the sounds and can follow them when they jump on the branches. [] [Under the tree] it is also such a big thing that when you look up there and then how you see through the tree leaves some sky and how at the same time sun shines through the leaves so that you can experience changes of light and shadow
		Observing nature D	Well there are those trees so there might be some birds [] This birdlife, this wild greenery and lush greenery. And smells. And um this open landscape and weather phenomena that can be observed
	Unofficial	Contrast from urban B	Generally this campus area there is, this is a park like area. I am actually a little bit facinated when I walk from there to here. You are not like in the middle of the city.
		Nature vs. manmade C	Otherwise this area is rather built environment… So maybe I miss a little bit that kind of wilder nature, you see this is a little bit park-like city nature.
		Unofficial nature C	Or then I could organize a group meeting [outside], to ask them take blankets and picnic with them and that would so much nicer than being indoors in a meeting [] Or when you have some discussions with one other person from the group, you could come here outside. The conversation would go much better in this kind of nice environment.
		Something out of the ordinary work place A	I think here [under the tree] the biggest thing is that when you look up and then how through those leaves of the tree you can see the skye and how on the other hand the sun shines through the foliage so you get the variation of shadow and light and then those shades of green and it is like being at the summer cottage laying on the ground and looking...
	Knowledge of nature	Knowledge of nature C	Our researchers have said that this lawn, couldn't it be rather a meadow or somehow more natural. [] Here you have the air and the wind, and you know that the wind is clean. Or cleaner [laughter] [] Our colleagues are a bit more demanding in that sense that they are biologists [laugter] so for them this is not the ultimate nature experience.[]But I think that still many were surprised that this is so nice as a working environment
		Observing species D	I have noticed that these bird watchers [from workplace] I was just talking with one work buddy, he works righ there and here he has been observing some birds. And just the other work friend who has been observing these plants, the plant researcher
		Meaning C	I think we could be the pioneers and suggest that this campus area, they you could leave some [meadows] here. Now that there is so much talk about the degradation of nature. So we could consciously leave some such areas here. And then we could inform everyone since I am a communications person.
Abundance and variation	Exploration and observation	Inviting species richness A	On the other hand quite often it is much shorter way to come to work along that big, or not much shorter but shorter still to walk along that big road. But often I walk along this route just because there is such peace and I get on a good mood since there is so much vegetation and trees giving safety.
		interesting diverse nature C	Here is midsummer rose. Don't ask what blooming plant, probably some vetch [laughs] And here is some kind of birch, don't know which one. And yews…
		Nature calls for exploration D	Here I have seen a swallow, that I saw for the first time. And there in that slope is some rocky area and I have seen it there many times. Then there was that echium flower, that my friend showed
		Observing nature in peace B	Well here it is a bit disturbing since there is a walking passage and traffic. So this is not a place where I would stay.
	Knowledge	Knowledge of biology A	I have already took a stand that this area is lawn and planted trees [] I am a biologists and now I started to think that actually there is a some variation of trees and bushes so that in a sense there is species richness and indeed you could find who-knows-what from there

		Value of wild nature B	Well yes when you look carefully you will see that there a lot of different species, I mean plant species. I assume there a lot of insects and birds, in that bush there. [] Maybe we have here at work so many conscious people from this [biodiversity] field so I think they would actually name this place
		Value of wild nature C	Someone might think this is a unmanaged looking bush. There you can see some goatweed growing, but I know that it is better for the environment than that kind of green lawn.
	Humans versus nature	Biodiversity vs. aesthetics B	When I start to look at this musty I notice there is a lot of variation [] But I think this area looks so messy so I don't think many people would choose this just for that. [] First of all I would make this a bit more tidy so it would be nicer to come here and instead of this free growing vegetation I would put something that is meant as permanent.
		Attention to nature A	Somehow this green environment is such that even though there are those big buildings nearby, here you pay attention more this greenery, and not like to those buildings.
		Humans vs. nature C	Ther are both brought species but also these nature's own species. This is kind of like a backyard, but that's why it is good that this can remains undisturbed and gets to develop by itself
Entering another world	Contrast	Unexpected details A	Here the soundspace is often very silent and peaceful, so it makes it easy to focus on these strange samples. Somehow there are so many details in this room so you start to look at them and it takes you to a completely different world. [] Moreover I think it is these details that there are these samples so when you start to look at them you somehow get stuck, or not stuck but become so absorbed. Can there something like this? What is this?
		History A	On the other hand these are very old samples so they take you to the past world - also what it is about and what era it is about.
		Different stimuli B	Now there is not that smell, the cow manure which sometimes smells here. So it is not the smell that makes it feel like stepping into another world. [] We can now go to that greenhouse since it is university's but just even this place being here on the way when you walk past this. These are amidst all these buildings these greenhouses so that it is in a way...
		Possibilities for different activities C	Well probably the gym or then the yoga room [would afford the experience of stepping into another world] [] It requires that there is some other activity [laughs] that there is a yoga teacher or someone who does something else than work related things
		Unlike the office C	Well colors and lighting make a difference as well [] The fact that there are no tables or chairs
		Hobby activities C	Well if one would emphasize the hobby-like stuff, then I think the colours could be something totally different. Not these office colours
		Wild vegetation D	Well it starts right here where the wild starts. Different flowers and… It starts when you get out of this building area. Here the landscape opens and the wild vegetation starts
		Moving away from office D	Once you come here somewhere and walk around this area here [] And when you go there towards the shoreline [] For someone it might start earlier when the landscape starts to open up
Prospects and views	Coherence	Peaceful views B	I don't know here somehow it confuses wheter one likes to watch that traffic which you can now see here, I do actually pay more attention to it than this scenery. [] I think it would be good if somehow with vegetation you could cover those cars there. And it would be more pleasant. And you could imagine there are not those buildings either.
		Less stimulus C	The experience of the sky, that it can be seen from here. Somehow that makes me think of the wind and such. Completely different experience than out ther in the yard where you can see the ground and plants
		No rushing movement A	There behind I can see that big road where there is quite a lot of cars at this moment.
		No disturbing stimuli D	Seeing the sky and the clouds. It is not completely open there further away, but quite far away. And that building disturbs quite a lot [] The most important thing is the sky and the clouds. It is rather nice that the landscape opens up
	The wider environment	Reading the environment D	There behind the houses is the shoreline. There are fields and meadows and those cows even. Then there is the forest area and on that side the shore. There you can see the forest!
		Predicting environment A	But somehow here it feels like the landscape continues much further so that one can imagine that there behind the houses there are more trees and more houses and whatever there might be.
		Mystery calls for exploration A	Here opens up quite a straight walking path forward so that it, in a way, 'sucks' one with it so that it feels like you could get far away with it. [] But somehow here it feels like the landscape continues much further so that one can imagine that there behind the houses there are more trees and more houses and whatever there might be. [] This is exactly that kind of place when you want to make a short walk during lunch, when you want some space around.
	Watching	Seeing far away C	I would like to make the windows double the size, so it would be possible to watch outdoors from here
		Actively watching views B	We go there often to eat. But then you don't watch this scenery. [] In the future I could watch these views from here a bit more.
		Watching as a conscious activity C	If you want to look outside, but rarely you will have time during the workday to look outside
Shelter and safety	Safe place	Hiding place A	[] this is quite like steep angle how these buildings' walls are against each other. They form this kind of safe and secure place here. [] If you would want to make this place really safe and secure, I would add more higher vegetation.
		Observing outside world C	Also the fact that you can see alittle bit outside from here. Quite nice views. Even though you can't see far away with all these leaves.
		Protection from outside world B	This is actually really nice. Here the trees make like a shelter [] Here the trees make the protection. So even the rain won't probably get here. Now during the summer when there are those leaves. And the bushes also make up like a wall I could say. Yes. This is like a small area. [] [others would like this] if they would find this! [laughter]
		Inside/outside D	It is this foliage and these branches that create like a dome or a cloche [] It is still living and multi-dimensional without delimiting something out
		Familiarity and home C	Overall the fact that the interior of this place is more home-like than those offices
		Affordances of play D	You could build swings here! Or make some kind of climbing...so you could climb on the branches
	Positive emotions	Strong positive feeling B	I mean really this is really very nice place! I have never stood here before, but now when I stand here, yes, this vegetation makes this like a room.

		Strong positive emotions D	Aww wow this place [astonished] there is such a place!
		Restoring mental resources A	If I would have had a terrible day at work and would need some time to restore maybe with some difficult tasks coming up, or I would have had a terrible day and would need resetting or get something done, so somehow I would first come here and seek that kind of refuge before continuing with work.
	Social norms	Social norms B	If I wasn't so ashamed I would throw myself there under the trees to lay down, there is safety and [laughter] I mean I would not really but… [] Well so that one could really come here to experience this there should be some kind of area made for staying. One could even work here if there was a little bit tiles and sitting places and so on.
		Intended use of spaces C	I would come here during the coffee break, I mean these are meant for that use. The coffee is not so important [laughs] it is just an excuse to come here
Continuity over time	Continuity	Temporal continuity B	Like this here when the surface is painted again, but so that you can see how it was done previsouly. So that from underneath you see the pattern so that it has not been covered. So that you see the history.
		Connection with history A	Well these buildings represent their own era. You can see the outside of the buildings but also the indoors lobby and that building is also a product of its' era. And then here in lobby it is kind of made for the students and renewed. And then again you can see the student perspective and then also those remembrance boards at the same time, so there is kind of like continuum how the world has changed.
		Continuity and discontinuity C	This is over 100 years old stuff [astonished] So much of our history went into the rubbish bins. All of that historical experience was thrown away then. If one would like to immerse onself into the past, there would be all kinds of interesting things [] It is great that someone has organized all of these into here. It gives the experience that this deals with long time periods
		Sense of history D	There is a sense of history. There are those tomb stones and such.
	Memories	History made visible A	Maybe here indoors there could be more something about the history of the buildings and the past times. Not super strong but so that it would be available
		Semantic memories B	These buildings are old and there was even a famous architect who planned these, Paatela. You know it was the architecture of that era. [] Well there are these different heights of windows and those things go a little weirdly. And between those machinery rooms there are those massive beams. [] This kind of spaces would not be made nowadays if you would make an office building
		Episodic memories D	One of my colleagues, a little bit older one, has lived his childhood in here. He knows all the stones and holes [laughs] There have been these university faculties. I have been here on some courses also when I was studying
	Contrast	Now and then B	Well there are these different heights of windows and those things go a little weirdly. And between those machinery rooms there are those massive beams. [] This kind of spaces would not be made nowadays if you would make an office building. [] In a way it is like it was back in the day and how it looked then, but of course now there are those elements that we have brought with us as well.
		Out of the ordinary C	There is this kind of smell of paper, since there are these old documents. I wonder what that is?
	Good old times	Good old times C	So much of our history went into the rubbish bins. All of that historical experience was thrown away then. If one would like to immerse onself into the past, there would be all kinds of interesting things
		Intrinsic value of history B	Right here you can see the original floor so you see the style of that era And of course these stairways and all those that are original. [] This style doesn't maybe attract everyone but it belongs to this house.
Social interaction	Permission	Permission to socialize B	[] this rooms is meant for doing things together. [] I think it is the nature of this space and these fitments [that give the experience of social space]
		Place is meant for socializing D	These benches and tables are in a way good. [] There could be more benches against the walls. People come and go here. It creates a common space in here.
	Flexibility	Flexible space A	There are many table groups where there can be many different groups that come and work or have a break. [] Even if there are other people here you have the possibility to go and be by yourself and look at the scenery.
		Flexibility B	This space is meant for many things, free form, breaks but still for almost anything. So like… this is that kind of open space.
		Freedom of form C	It is good that we are able to choose from different meeting spaces [] whatever suits the nature of interaction
		Accessibility and flexibility D	This is here along the passage, next to the entrance [] Here people both pass by and hang out.
	Informal	Informality C	This meeting room is nice with these retro wicker chairs [] This is good for interaction since there are no tables or office tables.
		Not the regular office space A	Maybe there could be more softer elements. Now this is a space for exactly coffee breaks but for more soft and longer interaction it would be good if there were more softer elements.

Appendix II.

Individual semi-structured interviews (1,5-2h)

Finding a starting point for interview
- Can you take me to some place here at work that you like?

On the way to that place
- Explain the aim and process of the study. Brief introduction to the eight affordances that we will be going through.
- Explain what is meant with workplace (as area) in this study – it is all the places you could visit during your regular workday.

In the starting place
- Why do you like this place?

Next taking each affordance at a time, asking the following questions and going together into a place that affords that experience to the interviewee.
- Can you think of any place here at work where you can experience [affordance x]? It does not have to be 100% that, but even slightly.
- Can you take me to that place? [walking there together]
- Can you explain to me what do you experience here and now with your senses?
- Can you specify which elements in this place make you experience [affordance x]?
- Do you think other people would experience the same [affordance x] here?
- Can you think of some concrete ways in which the experience of [affordance x] could be fortified in this place?
- In what kind of situation would you come into this place? What would you do? With whom?

Salutogenic work environment for psychological wellbeing – Interpretative phenomenological analysis of salutogenic affordances

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Introduction

Environments in which we work can be simultaneously demanding and fulfilling. Recently there have been efforts to consider the salutogenic approach with focus on environmental factors that support human health and well-being at work. Salutogenic design of workplaces is considered as a useful and valuable framework for making a positive impact, but there is still need for more research on the topic.

This thesis adopted salutogenic affordances perspective to the perceived sensory dimensions (PSDs) and explored how those affordances were manifested in work environment.

Salutogenic affordances can be defined as psychologically meaningful dimensions of the material environment that enable salutary processes to take place.

The eight PSDs that have been previously identified as the main components of salutogenic environmental experiences were translated into affordances that were used as the backdrop of walk-and-talk interviews with four employees in one workplace in Finland.

The aim was to try to understand how the salutogenic potential of the work environment was experienced by the employees of one workplace and what kind of experiential and environmental factors influenced their experience.

Method

Interpretative Phenomenological Analysis (IPA)
- semi-structured interviews of four employees from one workplace
- systematic, qualitative analysis
- narrative account

In analytical phase narrative descriptions were condensed into meaning units in three steps:
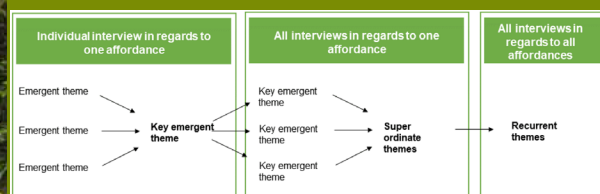
Results

How do the participants experience the salutogenic affordances of the workplace?

Salutogenic affordances	Super-ordinate themes
Peace, calm and care	Passive engagement, contrast, social acceptance
Fascination with nature	Different senses, unofficial, knowledge of nature
Abundance and variation	Exploration and observation, knowledge, human vs nature
Entering another world	Contrast
Prospects and views	Coherence, wider environment, watching
Shelter and safety	Safe place, positive emotions, social norms
Continuity over time	Continuity, memories, contrast
Social interaction	Permission, flexibility, informal

Overview of the eight affordances including the superordinate themes for each.

Applying the narrative results in planning and design of work environments:

Conclusions

The eight affordances were interpreted as salutary and supportive by the participants, supporting the hypothesis that this might be a useful tool for exploring salutary experiences in a work environment context. Salutogenic affordance perspective might bring up special attention to the different cognitive, behavioural and emotional aspects of the people-environment interaction that take place when people actively regulate their internal processes with the help of environmental resources.

- People need support from their work environment for psychological wellbeing
- It is important to include environmental qualities into salutogenic models of work
- The salutogenic affordances align to a certain extent with the sense of coherence concept (SOC) and its' three constituents: comprehensibility, manageability and meaningfulness