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**DESIGNING NATURE-BASED LANDSCAPE SERVICES
FOR OPTIMUM WELLNESS**

Master Thesis

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INTRODUCTION

The popularity of health and nature theme in leisure is growing nowadays and a lot of attention is paid on ecological sustainability, wellness, healthy lifestyle, high quality health service and other similar topics. The contemporary life tempo has been significantly accelerated due to the development of technologies and the need of everyday achieving the better results. People hasten from home to work and back home and do not notice, that the daily routine destroys their physical and mental health as well as the whole surrounding environment. Various researches give out the idea that 'lack of meaningful involvement, lack of mental involvement, slowness of time, and lack of physical involvement' make humans feel boredom during their leisure time (Haller, M., Hadler, M., Kaup, G., 2013). The problem is that people either due to their laziness or lack of knowledge, do not know how to spend their leisure time the way they get maximum benefit from it for their health and wellbeing.

Estonia has a fascinating nature and good possibilities of offering nature-landscape services within it. Due to the existing knowledge about the healing benefits of nature for humans' physical and psychological wellbeing that will be discussed in the following chapters, the paper will be concentrated on human-nature interrelation. The problem is that recreation and wellness oriented enterprises in Estonia do not use the surrounding nature and landscape sufficiently, possibly, because of lack of knowledge about the international practices in the field. The current research may help to raise the acknowledgement of the healing properties of nature and landscape and help to get to know, how to use the surroundings for designing unique nature-based landscape services.

It is important to pay humans attention to health benefits perceived from nature, because many researchers claim, that nowadays it can be seen, that people are losing rich and diverse forms of interaction with nature, but a significant number of researches prove, that humans still need to deepen connection with nature for their physical and psychological well-being (Kahn, et al, 2010).

The author thinks that there are ways to catch peoples' interest towards nature and turn their attention to its benefits. People should be aware of all the damage they cause themselves via using technologies and living the lives they live nowadays. Of course, it is impossible to drastically change the life people live, but it is possible to find options to improve the wellbeing of a person within the existing lifestyle.

Master thesis topic is "Designing Nature-Based Landscape Services for Optimum Wellness" studied via conducting questionnaire based survey and existing literature review. In order to conduct the research, the author determined several objectives as follows:

- analyze the connections between the meanings of health, quality of life and wellness via implementing critical literature review;
- explore and describe the benefits mainly of such natural landscape environments, as forest, lake/river, sea coast and mountains for human being and study the process of nature-based landscape service design;
- understand and explain peoples' nature-based leisure preferences via conducting questionnaire based survey;
- as a result of the study give service-design recommendations for achieving optimum wellness.

The following tasks were set up for systemising the research process:

- Review and analysis of thematic literature (books and academic articles about health and wellness, quality of life, ecotherapy, ecopsychology healing landscapes, service design, etc),
- designing the questionnaire for primary data collection,
- distributing the questionnaires and collecting the data,
- choosing the appropriate research methods for analysing the collected data,
- data coding and analysis,
- discussing the results and giving appropriate suggestions for designing nature-based landscape services for optimum wellness.

The hypothesis of the current research is as follows: "Tallinn citizens are interested in nature-based leisure options, but the existing spa and wellness services could be designed better to link more closely to nature."

Deductive reasoning is used for finding out if the theory about humans'-nature-wellbeing beneficial interaction finds acceptance in humans apprehension of healthy lifestyle.

The outcome of the current research is meant to contribute into changing service providers' understanding of the nature-based landscape service design via introducing the fundamental aspects to be taken into consideration while designing the leisure services located in nature towards achieving optimum wellness.

The current paper is designed basing on the first three stages of service design process: understanding, thinking and generating. It consist of introduction, three main chapters, conclusion and ends with short summary (resümee) in Estonian language. The first chapter is divided into three subchapters and contains critical literature review related to health and wellness, nature-based landscape and service design subjects. The second chapter explains research methodology and contains the questionnaire results analysis. According to the understanding stage of service design process, the first two chapters help to understand the background of the field to operate in. The third chapter brings together theoretical background and the results' analysis and gives author's suggestions about re-designing the existing leisure and recreation services into optimum wellness-based nature landscape services. It represents the thinking and generating tasks - the conclusions considering the results of the answers will be presented as problem identification tool, and some ideas, concepts and solutions will be given within the generating process.

The volume of the paper contains 62 pages and 4 appendices, 14 figures, and 80 references.

The author of the paper would like to thank all people, who contributed in the research, especially, Melanie Kay Smith, PhD, for encouraging and professional guidance during the working process and Bas Amelung, PhD, for his critical review and further possible improvement advice.

1. OPTIMUM WELLNESS AND LANDSCAPE SERVICE DESIGN

1.1 Wellness, Quality of Life and Leisure Time Importance

The terms of health, wellness and quality of life always intersect, influence and depend on each other. This is the reason of why the author decided to give out the definitions of the terms mentioned above and find the linkages between them in the following chapter.

According to the Constitution of the World Health Organization (later in the text WHO abbreviation will be used) (WHO, 1948): "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." In process of time mental and social well-being became important in the meaning of health in addition to physical health. Health is no longer a simple physical state of a man, it is a multidimensional concept (Hjelm 2010). The meaning of health state of a person became more complex and professionals started to pay more attention to other aspects, which health depends on. In 1950's Halbert Dunn gave out an idea that health is a positive or optimal state of being, not just neutral condition (Hjelm 2010).

The terms wellbeing and wellness are more difficult to be explained, as they are relatively new. The term "wellness" was developed from the WHO definition of health and is "clearly a complex concept, incorporating element of lifestyle, physical, mental and spiritual wellbeing, and one's relationship to oneself, others and the environment"(Smith and Puczko, 2008). The main concept of wellness is to reach the harmony between body, spirit and mind and has a lot of aspects underneath this meaning. Wellbeing has been defined as "being at ease with oneself, having meaning and fulfilment, experiencing positive emotions, being resilient and belonging to a respectful community" (Campion and Nurse 2007, p. 25).

As there are many aspects, which influence people's health and wellness, a significant number of professionals mention "wellness dimensions" in their publications.

The Six Dimensions of Wellness Model developed by Bill Hettler, co-founder of the National Wellness Institute, in 1976 is the most known and close to author's view of wellness. According to this model (see the Figure 1), human wellness consists of the following dimensions: Occupational, Physical, Social, Intellectual, Spiritual and Emotional.

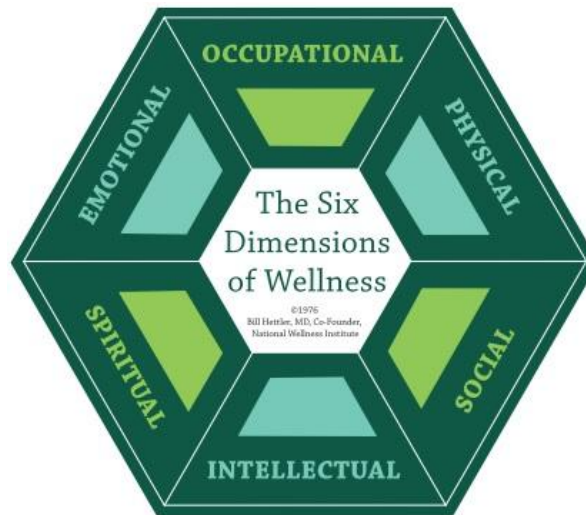


Figure 1. The Six Dimensions of Wellness (retrieved from <http://c.ymcdn.com/sites/www.nationalwellness.org/resource/resmgr/docs/sixdimensionfactsheet.pdf>)

According to Hettler (1976), occupational dimension explains person's satisfaction with his working environment, and occupational development.

Physical dimension "recognizes the need of regular physical activity", which includes not only living an active life, but also leading a healthy-lifestyle with its dieting, habits and such supporting rules, as regular medical checking, personal responsibility and care and so on.

Social dimension pays attention to the relationships in the community a person lives. The relation is important not only between community members, but also between people and the surrounding environment, nature, where harmony needs to be achieved.

Intellectual dimension involves one's intellectual skills, creativity, cultural activity, learning abilities, problem solving abilities, interests, curiosity - all what helps one to become a personality with his own views and understanding of the world.

Spiritual dimension implies the understanding of human existence, forces existing in the universe, feelings, personal beliefs and values.

Emotional dimension includes feelings and awareness, the possibility of managing personal feelings, cope with stress and other emotional changes in life. Determines personal independence (Hettler, 1976).

Optimum wellness considers a person's well-being from the view of different dimensions. It is quite difficult to measure whether the harmony between body, spirit and mind is reached or not, as it is very individual, as every person has his or her own priorities considering each dimension. The paper will focus mainly on the idealized meaning of optimum wellness, where the maximum harmony is achieved between all the dimensions, which in real life is very difficult to be reached permanently due to different factors - foremost emotional. In reality, many people are never finally satisfied with what they have achieved, so undoubtedly some dimensions will outstrip others.

Alfred Adler (1935, 1938, 1954) considers optimum health and wellness as an ultimate goal and striving of humankind (as cited in Sweeney and Witmer, 1991). Optimum wellness should be the main goal to aim for during the whole life duration for everyone.

The term wellness goes in parallel with another term- Quality of Life (later on - QoL), which is measured with different indicators and is an important issue in nowadays economical measurements in addition of GDP- Gross Domestic Product, which is no more the only indicator showing country's success.

There are over 100 definitions and models of QoL, though there is an agreement in recent years that it is a multi-dimensional and interactive construct encompassing many aspects of people's lives and environments (Schallock, 2000). The Organisation for Economic Co-operation and Development (later on - OECD) defines QoL as 'the notion of human welfare (wellbeing) measured by social indicators rather than by 'quantitative' measures of income and production'.

WHO defines Quality of Life as individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO, 1997).

According to Delibasic, Quality of Life is the degree of well-being felt by an individual or group of people. "Well-being" is without arguments not tangible and difficult to be directly measured, since social, geographical, historical and economic factors come into play and have a significant role in such evaluation (Delibasic, Karlsson, Lorusso, Rodriguez and Yliruusi, 2007/2008).

Quality of Life indicator is based on factors, very close to the dimensions of wellness. (See Figure 2.)

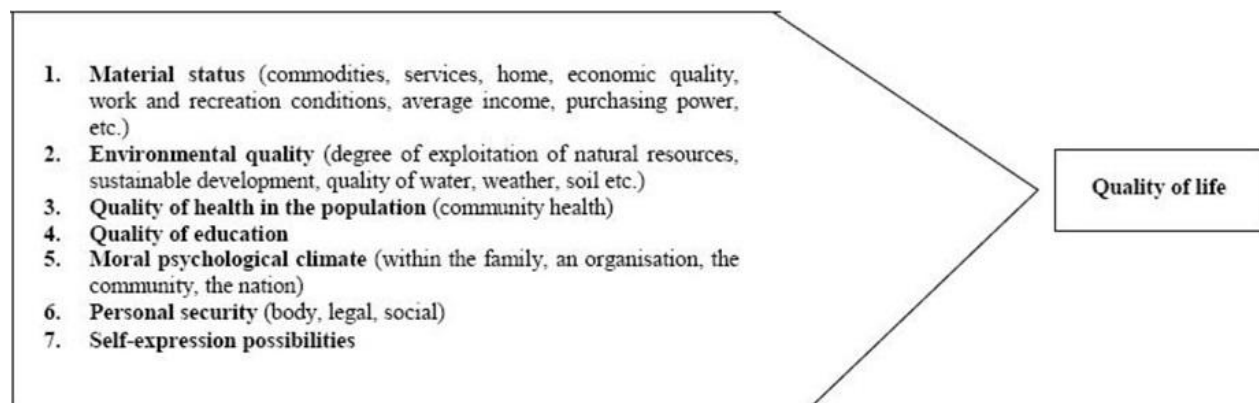


Figure 2. Factors which make up quality of life. (Source: Engineering Economics, 2007, Vol.52 Issue 2, p45)

The following Quality of Life factors, very similar to wellness dimensions, can be seen from the Figure 2.: material status, environmental quality, quality of health in the population, quality of education, moral psychological climate, personal security and self-expression possibilities.

Despite the fact, that Quality of Life is difficult to be measured, professionals found different instruments to measure the level of life quality. The most common Quality of

Life indicator, measuring overall well-being in different regions (the OECD includes 34 member countries) and taking into consideration various dimensions is OECD Better Life Index. It allows to compare well-being, basing on 11 essential topics in the areas of material living conditions and quality of life (OECD, 2014).

As the current research is going to be based on the Estonian situation and give suggestions about how to reach optimum wellness via offering nature-based leisure and recreational services, it is essential to pay attention to the country's Better Life Index latest data. The current Quality of Life statement in Estonia based on 11 topics of Better Life index can be seen from the Figure 3.

As the topic of the research mainly affects the environmental, psychological, health and satisfaction topics and concentrates on leisure time activity, the author will pay attention mainly on environment, that shows people's satisfaction with the surrounding environment; health which helps to understand, how healthy the population is; life-satisfaction and work-life balance topics which explain how happy people are and if they really have time for themselves.

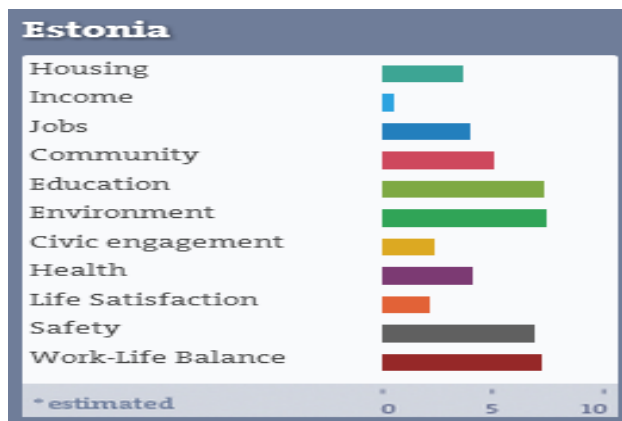


Figure 3. Estonian OECD Better Life Index indicators 2013/2014 (Retrieved from <http://www.oecdbetterlifeindex.org/countries/estonia/> April 2014)

According to the data given by OECD (2014), considering the environmental aspect, 11% of people feel they lack access to green spaces or recreational areas, slightly less than the 12% average of OECD European countries (OECD, 2014). The percentage is pretty high if to take into consideration that Estonia is one of the most forest-rich

countries in the world – approximately half of land area or 2.2 million hectares are covered with forest (RMK, 2014). Over 10% of Estonia's land territory considered to be a protected area with its nature reserves, landscape reserves and five national parks. In addition to that- Estonia has over 200 natural rivers and close to 1,500 lakes and about one-fifth of the mainland area of Estonia is covered in bogs and mires (Visitestonia.com, 2014). These facts show that the reason is not caused by the lack of nature resources, but there are other influence factors, some of which can be found in the next Better Life Index topics.

As to health issues, reported by OECD (2014), Estonians' life expectancy for women is 81 years, compared with 71 for men. This situation can be mainly justified by the fact, that most of men work more physically and their working environment is known to be more stressful. Women are also more attentive in health questions and care more about timely medical checking. About 51% of people in Estonia, less than the OECD average of 69%, reported to be in good health, from where 54% were males and 50% females. The percentages given are based on the subjective answers of the respondents about how they feel their health state is. These numbers do not indicate the real medical health situation, but only show peoples' satisfaction with their health. Health satisfaction is not as high as it could be, but it is undoubtedly influenced by the regional health care system and people's lifestyle.

For some time, it has been argued that achieving a 'balance' between home life and work life is increasingly a priority for many people (Sturges and Guest, 2004). Work-life balance can be defined as 'satisfaction and good functioning at work and at home with a minimum of role conflict' (Clark, 2000 p. 751). Work-life balance determines, how much time people have for leisure besides their everyday work and duties. Unfortunately, it is pretty difficult to reach the balance, as in most situations it is not regulated by a worker, but depends on the employer's decision. As well as wellbeing overall, work-life balance is also very individual.

A significant amount of researches were made on the topic of work-life balance and as a result, academics came to the conclusion, that job stress is widely linked to the employees' psychological and physical wellbeing independent from occupation kind

(Bell, Rajendran and Theiler, 2012). Moreover, nowadays 'work-related stress has been identified as one of the largest problems in the European Union working environment' (Skakon, Nielsen, Borg, & Guzman, 2010).

Burnout is another condition, that is caused by a long-term work-related stress and it affects both- an individual and organization he or she works in (Devi and Nagini, 2013). To eliminate such a condition it is essential to provide workers with maximum balanced work time. Employees also have a role to play in not over-working at home or weekends and care about taking time out from technology.

'The amount and quality of leisure time is important for people's overall well-being, and can bring additional physical and mental health benefits' (OECD, 2014). OECD reported, that men in Estonia spend 169 minutes per day cooking, cleaning or caring, more than the OECD average of 131 minutes, women spend more time on average on domestic work - 288 minutes per day. Men devote nearly 15 hours per day to personal care and leisure and women approximately 14 hours per day.

The numbers show only the average hours, but it does not mean that all people have quiet balanced days. As most jobs in Estonia are paid hourly - people use possibilities to increase their income by over-working, what leads to stress, depression and burnouts.

Life satisfaction index can be meant as a kind of happiness and well-being measurements, but very subjective one. This is how people evaluate their overall satisfaction of life rather than their current emotions. According to the data given by OECD, on a scale from 0 to 10, Estonians' life satisfaction is pointed on 5.4, which is lower than the average of 6.6.

As to the positive feelings, 69% of people reported having positive experiences in average day. With this indicator Estonia is considered to be 'one of the unhappiest countries in the OECD' (OECD, 2014). The increase of everyday stress situations, the complexity of the construction of human's personal life, socialization difficulties and different changes of social norms and values increased the demand for the research on the phenomenon of happiness (Kalvāns and Ignatjeva, 2013).

The author considers the wise usage of leisure time to be the possibility to minimize harmful impacts of everyday stress on emotional state and one of the ways of raising peoples' happiness and wellbeing.

Leisure time is the time free from daily duties and work, when people can choose the activities they like to do – leisure activities, and is 'expected to be the time with the fewest commitments and the greatest freedom of choice to do whatever we want' (Glorieux, Laurijssen, Minnen and Tienoven, 2010). Another good definition of leisure time given by Cushman and Laidler (1990) is as follows: 'Leisure is considered primarily as a condition, sometimes referred to as a state of being, an attitude of mind or a quality of experience...It is distinguished by the individual's perceived freedom to act and distinguished from conditions imposed by necessity...It is assumed to be pleasurable and, although it may appeal because of certain anticipated benefits, it is intrinsically motivated: it is an end in itself and valuable for its own sake.'

Together with leisure goes another term - recreation - an act or experience, selected by the individual during his leisure time, to meet a personal want or desire, primarily for his own satisfaction (Yukic, 1970) and 're-create' the individual so that he/she may be refreshed to enable him/her to resume daily obligations, whatever those may be (Ap, 1986).

From the definitions of the terms leisure and recreation such important key words, as 'free time', 'freedom', 'pleasure', 're-creation' can be found, which indicate the possibility of leisure to influence well-being. People want to be free in some of their choices, only then they feel themselves valuable to the contemporary world, with high living tempo and with information overflow, it is essential to balance body and mind in order to be able to fight with everyday difficulties.

Leisure and recreational activities can be divided into passive (i.e. reading a book, watching television, etc) and active (doing sports, travelling, attending different events, etc) leisure activities. These activities can be taken indoors or outdoors, in the city or in nature, depending on peoples' preference.

Over the past several decades, research has indicated that leisure participation is positively linked to psychological wellbeing as well as physical health (Caldwell, 2005).

In the following chapters the author will concentrate mainly on nature-based leisure and recreational activities, study the relation between humans and nature and find out methods of designing nature-based landscape services to meet optimum wellness.

1.2 Humans and Nature

Before studying the process of designing nature-based landscape services it is essential to understand the meanings of nature, landscape and peoples' interaction with nature, in order to understand all the benefits and importance of nature in human lives. This understanding will add special value to the reasons of why is it worth paying so much attention to nature and services to be provided in this environment.

The word 'nature' is very widely used and it is very important to give an exact definition of nature, that is going to be discussed in the current work.

In its wide meaning - nature refers to the physical world and life in general, it includes plants, animals, landscapes and other features and products of the earth. In other words it can be said, that nature is everything that was not made by man (Smith, 2014).

Nature surrounds us everywhere - in the city and in the countryside, so it is essential to determine, that the subject of the current work is countryside nature.

Countryside means 'land outside the cities and towns, used for farming or left unused'. There are many synonyms used when speaking about countryside: rural landscapes, agricultural area, open space and so on (Antrop, 2000). Rural means 'of or like the countryside; concerning country of village life' and has a broader meaning than agrarian, which focuses upon farming and agriculture (Longman Dictionary of Contemporary English, 1990).

Nowadays it can be seen, that we are losing rich and diverse forms of interaction with nature, but a significant number of researches prove, that humans still need to deepen connection with nature for their physical and psychological well-being. All this mainly refers to different experiences with nature (Kahn, Jolina, Ruckert, Severson, Reichert and Fowler, 2010). Experience is first and foremost a psychological phenomenon and is meant to be central in human-landscape relationship (Karmanov, 2009).

The repercussion of lack of nature interaction, especially, for children, is described in a very detailed way in Richard Louv's (2005, 2008) book "Last Child in the Woods", where such term as Nature Deficit Disorder is represented.

Nature-deficit disorder is not a medical diagnosis, but it implies the psychological, physical and cognitive costs of human alienation from nature (Louv, 2009).

The main problems, caused by nature deficit in children lives are: childhood obesity, poor academic performance, declining emotional well-being, low sense of safety and connectedness, increasing attention-deficit-hyperactivity. Louv (2005) claims that spending time in nature reduces stress and awakens creativity.

Nature Deficit Disorder can also be viewed from adult perspective. In case with contemporary children it is worse due to the early psychological sensitivity and is caused by technological development. As to contemporary adults, their childhood was mainly spent outdoors, not far away from nature and they did not experience such problems so early. With the age life changes and adults need to contribute most of time to work and have too little of free time for themselves, everyday stress increases and people feel lack of leisure time far away from urban areas and without technology. Nature Deficit Disorder for adults, as well as for children, may cause obesity, low emotional stability, lack of safety feeling and psychological problems, additionally enhanced by burnouts and stress.

Nature and human interaction can be viewed from different angles. First of all, humans are an indivisible part of nature - humans are natural, alive so by any consequence they are part of nature and physically dependent on it. Secondly, nature gives people air to breathe, water to drink and food to eat. Moreover, nature has a special impact on

humans' emotional and physical state, which will be studied further via finding connections between landscape forms and peoples' reaction.

Landscape is “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (European Landscape Convention, 2000). According to Jackson (1986) the word ‘landscape’ means the scenery, the depiction of scenery or that which visually relays an aesthetic experience.

The current research will be concentrated on natural landscape forms. Nature-based landscape is actually the visible features of an area of land, with its physical elements of landforms - mountains, hills, forests, deserts, rivers, lakes, ponds, sea and so on, what was formed without humans' intervention.

Nowadays urban or city environment with its fast development, speedy living tempo, high noise level and various pollutions is meant to be a significant source of stress. Enormous contrast between urban and rural conditions increased attention on - diverse mental and physical disorders. An idea that time in nature, away from the usual urban setting, would facilitate a therapeutic process was developed (Bell et al. 2011).

Ecopsychology, like all forms of psychology, concerns itself with the foundations of human nature and behaviour. Ecopsychology suggests it is possible to read transactions with the natural environment as projections of unconscious needs and desires (Roszak, 1995. p. 4-5).

The relationship between humans and nature is viewed by ecopsychologists as much more expanded than normally either by ecologists or psychologists. They study the healing potential of contact with nature, work on grief and despair about environmental destruction, ecotherapy, psychoemotional bonding with nature as a source of environmental action, and the cultivation of sustainable lifestyles (Davis,1998).

'Landscapes provide a site for reflection, where the pleasure taken from the aesthetic beauty of the natural environment provides a setting in which it is possible to think through immediate and unresolved problems, moreover, they are viewed as offering settings for attention recovery from the fatigue of those demands placed upon the individual by the everyday environment' (Milligan, Gatrell and Bingley, 2004).

The following definitions given by the American Psychological Association dictionary are important to be mentioned in order to understand the headspring of people's perception of the surrounding environment:

Cognitive psychology - The study of higher mental processes such as attention, language use, memory, perception, problem solving, and thinking.

Perception - the processes that organize information in the sensory image and interpret it as having been produced by properties of objects or events in the external, three-dimensional world.

There were several researches made by different professionals on the theme of nature impact on humans' psychological and physiological wellbeing and the two foundational theories were worked out by Ulrich and Kaplan - stress reduction theory and attention restoration theory. After several tests, it was found out that viewing natural scenery either in pictures or in reality and presenting in nature help to reduce fear, cause elation and affection, help the neural mechanisms to rest and replenish, moreover, improve memory. At the same time- the city view makes people experience an increase in aggravation, anxiety and sadness feelings (Bratman, Hamilton & Daily, 2012).

Nature is considered to be more peaceful than other environments and this can be the reason for restoring benefits of attention abilities. Brief interactions with nature were proved to be able to produce marked increases in cognitive control (Berman, Jonides & Kaplan, 2008).

Natural landscapes are thought to be able to 'moderate and diminish states of arousal and negative thoughts within minutes, through psycho physiological pathways' (as cited in Bratman, Hamilton & Daily, 2012).

Nature-based recreation contributes in 'experiencing calmness, getting new spirit and vitality for the everyday routines, forgetting everyday worries, clarifying one's thoughts, and gaining faith in tomorrow' (Korpela, et al., 2014).

People perceive the environment via visual, auditory, olfactory, haptic (touch) and gustatory (taste) perceptions. The following study of human interaction with natural-

landscape environment and its influence on human wellbeing will be mainly viewed from the perspective of the cognitive psychology perception forms.

The most typical Estonian landscape forms were selected for further studies: forest, mountains, river and lake area and the sea coast. The aim is to find out how the mentioned above environments influence humans physical and mental well-being.

Estonia's landscape is characterised by diverse forests which cover over 50% of the country, bogs and mires, over 1500 islands and islets, nearly 3800 km of coastline covered with sand, stones, reeds, mud flats or cliffs, more than 1500 natural lakes, northern Estonia's limestone cliffs and klint; characteristic hillocks in southern Estonia, rivers with small rapids and waterfalls. The overall picture is characterised by lowlands and highlands (Arold, 2005). Unfortunately, there are no high mountains in Estonia, the highest point is considered to be Suur Munamägi - 318 metres high from sea level (Visitestonia.com). So, when speaking about mountain environment it is important to understand, that Estonian mountains do not have the same environment, as high mountains do, but is at least a little bit alike.

'The forest represents the antithesis of the city' (Bell and Thompson, 2014, p.73). Forest is known to be the main source of oxygen on the Earth. The Forest Encyclopaedia written by Beh, Kalinin and Taran in 1986 describes the healing properties of forest pointing out the most important factors that influence peoples' health. A significant number of studies made by resort specialists showed that spending about 5-7 hours in forest facilitates the tone raise, improves the functions of nervous activity, reduces fatigue and improves performance, increases the volume of respiration by 10-20 percent. Particular importance is given to the degree of ionization of air oxygen. Humans and animals are not indifferent to what kind of oxygen they breathe.

It was proved that biologically active oxygen that is rich in light or fast ions - molecules with excessively positive or negative electric charge - is needed for people's health and normal life. Light ions, mainly with negative sign are beneficial for human health, especially for breathing. Once ions get into the body via respiratory tract, they give their charges to alive tissue and blood, exerting a beneficial effect on the entire body. The minimum amount of light negative ions, in which you can still use the breathing air is

25 units per cubic centimetre. In this case a person has a natural need to open the window, go out for getting air or leave the city. Particularly high proportion of light ions is in the pine forests, where a positive effect on the ionization have resinous and aromatic substances secreted by woody plants in the course of their life (Beh, Kalinin and Taran, 1986)

Ionized air supports the treatment or radical improvement of respiratory diseases, hypertension, atherosclerosis, nervous and endocrine systems' disorders. Breathing in such air reduces fatigue, improves performance and emotional state (Cramer, 1996).

Phytoncids found in forests' air are gaseous substances with bactericidal effect, such as essential oils, alcohols, aldehydes, organic acids, glycosides, coumarins, alkaloids and tannins that are produced in forests. These substances have antimicrobial and sterilizing influence on the atmosphere and have beneficial effect on the human body. It is important to mention, that phytoncids are able to activate physiological processes in the human body. They are also called the 'vitamins of the atmosphere', because they contribute to the deposition and economical use of vitamin C, have beneficial effects on the cardiovascular system and activate the enzymatic activity of the organism.

Increased noise interferes with people working and relaxing reduces productivity, and destabilizes nervous system. A person working long time in the area of strong noise may face hearing disorders, equilibration destabilization, blood circulation disorders, anaemia and gastrointestinal disorders. Moreover, noise violates the central nervous system, causing neuroses, headaches and insomnia, moreover, worsens information processing, attention, and memory. (Szalma & Hancock, 2011). Green spaces have an ability to reduce the noise level, but absolute silence is depressing and even frightening, so songs of birds, the noise of water, rain drops, and other soft sounds have a beneficial effect. This is a perfect place to escape from noisy city life, especially it is necessary to leave city to nature for children, elderly and sick people.

Various researches were conducted in order to understand the impact of natural landscapes on a child and it was found that children's ability to cope with adversity is reduced by lack of interaction with nature, it negatively affects children's wellbeing.

Children who spend more time in natural areas experience lower stress and can better cope with it (Corraliza, Collado, Bethelmy 2010,2012).

'Natural landscapes are intimately linked to older people's social interactions in ways that can be central to relieving the stresses of everyday life'. These landscapes are mainly meant to contribute in mental well-being of older people as well as physical health (Milligan, Gatrell and Bingley, 2004).

According to Kaplan (1995), sick people, especially people suffering from mental fatigue tend to perform better on tasks under experimental conditions after they spend time in natural landscapes.

Besides its healing properties, every forest is beautiful in its own way. Visiting a forest landscape after a busy day and watching the perfection or the variability of its forms, calms down and gives relief (Beh, Kalinin and Taran, 1986). Forests, because of the way that trees enclose the observer, contribute to a multi-sensory “engagement” with the environment and create specific aesthetic conditions' (Bell and Thompson, 2014, p.80).

Sea coast is the primary place, where people go to get inspiration and relax, moreover, the latest trend is to do sports close to the coast line and the sea. What are the main reasons for such behaviour? The following description of the sea benefits will explain this tendency.

The sea environment has several beneficial properties: seawater, sea air, sand, sounds, sunshine.

Sea air as well as the forest air contains the optimum amount of oxygen and ozone for human organism. Ozone activates the human body, stimulates metabolism, promotes deeper and even breathing. Waves continuously spray the seawater and fill it in with large quantities of hydro aerosols and microscopic marine medicinal salts, such as sodium chloride, iodine, bromine. Increased ionization of the air is beneficial for human health, especially if a person constantly breathes ionized air at the beach or at home.

There is another reason, that makes it worth spending time at the sea coast - the space, which stretches over the water, allows the sun rays and light smoothly affect people staying at the beach (Krasotkina, 2008). This very fact shows that coast line is the place, where vitamin D is easily assimilated by human organism.

Another health resource is the seawater, which is not only rich in mineral salts, it also contains all the necessary ions that help to keep body in a good working condition and chemical form. It is claimed that humans' plasma, lymph and extracellular liquids are physiologically similar to the seawater. 'Injections and oral administration of seawater, even in minute quantities can claim serious therapeutic effects' (Charlier & Chaineux, 2009).

As water in the Baltic Sea is relatively cold, then it is important to mention the impact of cold water on the body. Cold water plays a role of a mini-stress for the organism, that accelerates blood circulation and supports oxygen movement in the vessels, increases the body temperature that makes the unwanted microbes die. Cold water promotes rejuvenation and strengthens the immune system (Zolotarjov, n.d).

'Sea sand contains of sediments of all types of rocks, from quartz to silicon and limestone, and residues of minerals that are present in sea water, such as sodium, magnesium, potassium, iodine, chlorine and calcium, which penetrate the body, absorb heat, improve the signs and symptoms of rheumatisms and arthrosis, speeds up healing of dislocations and sprains, relieves skin diseases and allergies, works on inflammations of the airways and works against osteoporosis' (benessere.com, 2014). The sea sand is a good exfoliation tool, that exfoliates dead skin and renews it.

Another therapeutic substance is sea mud rich in sulphur. The use of sea mud in therapies 'may reduce inflammation, increase production of endorphins that may lead to a decrease in pain, increased vitamin D serum levels, transdermal absorption of magnesium and selenium that can replete their relative lack in the tissues, which has been reported in some inflammatory diseases' (Katz, et al, 2012).

The sea sounds as well as the whole scenery are also very calming, de-stressing and are a good addition to all the other positive effects of the sea environment.

Mountain landscapes differ greatly from the other landscape forms at least because they stretch skyward pretty high. The main uniqueness of the mountain landscape healing properties is the air condition. People are used to knowing that oxygen is the main breathing product and carbon dioxide is just a discharge product of breathing process, but the role of carbon dioxide in the mountains is of much more importance.

When speaking about the clean mountain air, strong ultraviolet radiation, low atmospheric pressure, which slows down blood circulation, low temperature, usually forget about the main operational factor- rarefied air with a reduced content of oxygen in the air has a very powerful and versatile positive impact on human body. Carbon dioxide, in reasonable quantities, has a powerful healing effect on the body (Bulanov, n.d).

'A mere 75% increase in the air's carbon dioxide (later CO₂) content increases the concentrations of five different substances proven effective in treating a number of human cancers (leukaemia, melanoma, brain, colon, lung, ovarian and renal)' (Idso, Kimball, et al 2000). It is known, that mountain food and water is qualitatively different from the one on the flat land. It can be due to the increase of concentrations of vitamins A and C in various fruits and vegetables as a result of elevated concentrations of atmospheric CO₂. The atmospheric CO₂ enrichment also increases the concentrations of several disease-fighting substances in certain medicinal plants (Caporn et al. 1999).

The increased amount of carbon dioxide in the air and an amazing scenery gives people the feeling of a slight euphoria that makes them happier and helps to forget about the daily routine.

The knowledge about all the mentioned above benefits of various natural landscape environments is widely used in ecotherapy - 'as an umbrella term for nature-based methods of physical and psychological healing, points to the need to reinvent psychotherapy and psychiatry as if nature and the human-nature relationship matters' (Buzzell and Chalquist, 2009).

These landscapes are able to heal people from stress, burnouts, mental disorders as well as to cure serious physical diseases. They are also a very good destination for leisure and recreational activities, as the healing benefits of the environment add special value to them.

It is clear, that the mentioned above landscapes have a positive impact on physical, mental and spiritual health, what leads to the fact, that healing landscapes are the perfect destinations for locating the services for optimum wellness achievement.

The natural environment is meant to be a vital resource to human physical and mental wellbeing (Kellert and Wilson, 1993). Everyday visits of green or natural settings, can have benefits for mental wellbeing and relief from stress (Kaplan and Kaplan, 1989).

Researchers have identified landscape effects on health as follows:

- short-term recovery from stress or mental fatigue (psychological);
- the physical recovery from an illness or reduced incidence of physical illness;
- a long-term behavioural change and an overall improvement in well-being (increased social interaction and reduction of aggressive behaviour) (Velarde, Fry, Tveit, 2007).

Barton and Pretty (2010) found that such exercises as walking, gardening, cycling, fishing, boating and others performed in nature can improve self-esteem and mood much more than any activity in the city or indoors.

The Finnish studies of favourite natural environments and the restorative experiences also stress on the beneficial natural impact on wellbeing in opposite to the city environment. The findings 'show that restorative experiences were the strongest, and of statistically similar strength, in everyday favourite places located in outdoor exercise and activity areas, waterside environments and extensively managed natural settings (mainly urban woodlands)'(Korpela, Ylén, Tyrväinen and Silvennoinen, 2010).

From the two findings it can be assumed, that no matter what activities a person presumes and no matter in what kind of landscapes it is taken, the main thing it is in

nature and is favourable for a person. In this situation, he or she will undoubtedly experience benefits for wellbeing and health.

The following chapter will explain the speciality of nature-landscape services' design basing on typical service design process.

1.3. Nature-Based Landscape Service Design

Due to constantly increasing competition entrepreneurs pay more and more attention on service design process and try to make the services they offer as unique as possible. It is not easy to create a totally new service, but there is always where to develop and improve the existing ones to be more competitive in the industry the entrepreneur works.

The current chapter will study the service design process and tools used, find out the benefits of service design and apply it on nature-based landscape service design.

According to Business Dictionary's definition:

'Services are intangible products...no transfer of possession or ownership takes place when services are sold, and they cannot be stored or transported, are instantly perishable, and come into existence at the time they are bought and consumed.'

(BusinessDictionary.com, 2014)

As some services may include tangible products as well, then there is another explanation of the term 'service' given by Gummerson (1994):

'...customers do not buy goods or services in the traditional sense. They buy an offering which renders services which create value for the customer. The offering and the value consist of many components, some of them being activities (services), some being things (goods). As a consequence, the traditional division between goods and services is long outdated. Instead, it is a matter of redefining services and seeing them from a customer perspective: activities render services, things render services..'

'Service' is a quite complex term, which is actually manufactured at the moment of delivery to the customer and practically never can be the same, as the process of manufacturing and delivering depends on different influence factors - emotions, climate, time and so on. As to nature-based landscape services - such factors, as weather/natural phenomenon, personnel and customer emotions can be considered the main ones to influence the quality of the service delivered, but there are also many other factors, that may have impact. The main idea is to remember, that the same service offered in different time period is never hundred per cent identical. Depending on this fact, service design process is complex and it helps to identify the problems, that may occur during the manufacturing process and offer the solutions to different situations in order to provide maximum high quality service no matter what situation occurs.

The definition of service design given by Erlhoff, Mager and Manzini (1997) and Parker and Heapy (2006) is as follows: 'Service Design aims to ensure that service interfaces are useful, usable, and desirable from the client's point of view and effective, efficient, and distinctive from the supplier's point of view'. Service designers are people, who try to find solutions to the problems via studying the behavioural patterns of the consumer and designing the services there is a need for at the market (Erlhoff, Marshal, 2008 p.355).

The scheme, seen on Figure 4, shows the complexity of the relationship between the organisation that delivers services, service design team and the client.

A good description of the relationship between the client and the organisation was given by Gummesson (1994): 'The customer is a partner and value creation is a balance between human input and technology, between cost and revenue, and between customer perceived quality and productivity.' The scheme shows all the aspects that are important in the process of which the aim is to reach the balance between the needs of the customer and the possibilities and interests of the organisation business. In this situation service design team is the one that helps organisations to find the best solution.

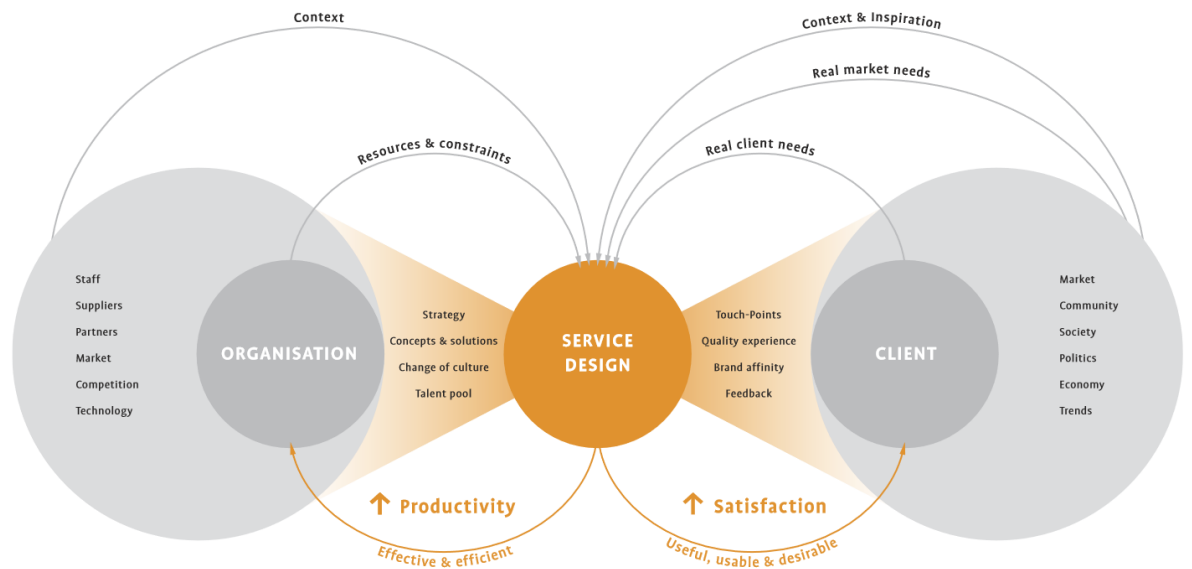


Figure 4. Service design overview model. (Source: Moritz S., 2005 p. 152)

In the case of nature-based landscape services, the author would suggest to add one more circle - Landscape - to the scheme, denoting specific aspects of landscape peculiarity. It would be important to take into consideration all the mentioned in the previous chapter landscape environments' specific properties, sustainability aspects, which are very important for reserving the nature and so on. It means, that Landscape should be presented as another engaged party with its own beneficial interests, such as effectiveness and efficiency. The aim is to extract maximum benefit from the nature landscapes possibly without causing any harm either to the nature, or to service consumer.

Moreover, as the nature-based landscape services within the current research are meant to be designed for optimum wellness, all the wellness dimensions (Occupational, Physical, Social, Intellectual, Spiritual and Emotional) must be fulfilled and the harmony should be reached between them. Another important aspect is educational. The services should educate people about healthy lifestyle and the healthy benefits of the landscapes they visit.

The author considers harmony between wellness dimensions to be achieved from consumers' perspective as well as from service offer's perspective.

Every service design process is known to be based on 4D's concept: Discover, Define, Develop and Deliver. (Passos, lecture notes. P2PC.00.520 Wellness and Spa Service Design and Marketing. March 7, 2013) Furthermore, the main 4 stages of service design process can be split into 6 tasks: understanding, generating, filtering, explaining and realising. There are auxiliary tools and methods that help to go through all the stages of the design process without missing important details (Moritz, 2005 p. 123). The tools used for designing process may differ depending on the type of the service to be designed. Every design process requires first of all background studies that help to understand all the participants in the process, their preferences and needs, then the process goes to identifying the problem, finding solutions to the problem and delivering the solution to the clients.

Why is service design meant to be so important? What kind of benefits does it give to the business?

The benefits of service design are both - internal and external. The service design process helps to truly understand the needs of the market a business operates in, as it requires detailed study of the market. It is also a good possibility to make the services of a higher value with the existing resources, as it makes entrepreneurs optimize the services. It is a good 'tool' for changing organisational culture, because during the design process visions and missions may be renewed, it will also improve teamwork, as all will be involved into the process. Service design process raises work effectiveness and efficiency. The interest as well as motivation of the workers involved in the process will be raised significantly. The design process will enable to work out the unique concepts of the service, what will lead to the service quality raise and give competitive advantage to the organisation. Moreover, good designed service will amplify organisation brand image.

Nature-based landscape services within the current work are meant to be leisure and recreational activities settled in different landscape forms.

'Outdoor recreation refers to activities that people undertake out of doors in places where they can access nature or green areas, mainly as part of their daily or weekend routines. These activities range from the very passive, such as sitting relaxing or enjoying a view to the very active, such as skiing, mountain biking or horse riding' (Bell, Tyrväinen, Sievänen, Pröbstl and Simpson, 2007).

According to Bell, Tyrväinen, Sievänen, Pröbstl and Simpson (2007) attractive environment makes people become more active during their leisure time. Such activities as recreational walking and cycling already have a positive effect on health. But, recreation does not have to be only active, as there is also an important positive health effect of viewing and experiencing nature found- stress reducing effect. Many of the newer spas are designed so that they afford views of nature such as mountains in Austria and Switzerland.

As recreational services are meant to be located in nature, then it is important to pay attention to possible conflicts between nature visitors and landscape environment: visitors must cause as minimum impact as possible, so the number of the customers at the same period of time should be minimized; a constant observation of climate/weather changes must be conducted in order to eliminate possible threats.

As the paper is based on the principles of service design process and the current chapter is a part of the understanding process, it is important to give an overview of the existing leisure and recreational, preferably, nature-based landscape services existing in Estonia.

So called benchmarking was made via Estonian web-site Puhkaeestis.ee. The main idea was to look through all the existing services under the themes 'Green Holiday', 'Active Holiday', 'Wellness and Spa' and 'Nature Holiday'. The database of all possible leisure variations is significant. Estonia offers tourists as well as to locals a huge number of outdoor nature possibilities starting from ordinary nature hiking and ending with numerous eco-spas and recreational centres with their own services. These offers include both- active and passive leisure possibilities, take into consideration mental and physical wellbeing as well. The activities offered are the following: hiking, cycling, skydiving, adventure, water activities, horse riding, hunting, games, pampering eco-spa procedures, saunas, landscape scenery aesthetics-based possibilities and others.

The main issue is that all the numerous offers have a good location, but most of the services provided are not very much connected with healing landscapes. There is a significant number of holiday houses, located all over Estonia, but most of them offer little services, from where the most popular are saunas, grilling possibilities, canoeing and boating in case the house is located near water. All the other activities are left for the customers' imagination. It can be assumed, that due to the lack of activities offered, clients choose the easiest way and spend their holidays grilling, drinking, playing simplest ball games at the best.

The spas in Estonia have a wide range of therapies, massages and procedures to be offered. There are a lot of spas, which have a very good location, but all the potential of the surrounding is not used efficiently. Estonian eco-spas offer ecologically pure products and cosmetics what is, undoubtedly, connected with nature, but all the procedures are conducted in mainly small spa rooms.

The issue is to find out, how the benefits of the surrounding healing landscapes can be used in all these services, making them more useful for humans and designed for optimum wellness. There should be definitely found the harmony between the wellness dimensions.

The following chapters will be built mainly basing on 2 tasks of service design process: thinking and generating, as the first chapter of the work can be meant under the stage of understanding, where a certain background research was made, only the analysis of the questionnaire answers will be done in the second chapter under the understanding task. The third chapter will represent the thinking and generating tasks - the conclusions considering the results of the answers will be presented as problem identification tool, and some ideas, concepts and solutions will be given within the generating process.

2. RESEARCH METHODOLOGY AND RESULTS

The current chapter will describe the methodology of primary data collection and analysis and give the results, which will later lead to reasonable conclusions and suggestions in the next chapter.

Primary data collection was implemented via questionnaire. The author used quantitative data analysis with some features of qualitative analysis in order to be able to do further explanatory analysis of the received results. Quantitative data analysis is the 'analysis, where there is some attempt to summarize the data and/or describe the relationships found using numbers' (Cramer and Howitt, 2004 p. 134). This analysis helped to identify popularity of certain answers, rank the answers where needed and find the percentage of respondents' participation. Attention was paid not only to numbers gathered in the process of quantitative analysis, but also on the content of the chosen answers. Qualitative data analysis - 'is largely concerned with the development of coding categories to describe fully the data in question' (Cramer and Howitt, 2004 p. 134), in the current work such aspect of qualitative analysis, as content analysis, was implemented. The content analysis of the answers helped to give out some connections with theory and nowadays tendencies, and understand the reasons of the received answers. This is a process of explanatory analysis - the analysis, which helps to answer the question Why? and determine different associations according the research theme (Blaikie, 2003 p.116).

Individuals living in Tallinn were chosen as the unit of analysis- a subject of study (Long, 2004 p.1158) (more detailed sampling strategy will be explained further).

Questionnaire is 'a list of written questions or statements which is given to a person to complete (self-completion questionnaire) or may be read to the participant by a researcher or interviewer who records their response' (Cramer and Howitt, 2004 p. 135). The author used questionnaire type of data collection first of all due to the time limitations and financing limits as well as of the various distribution possibilities. It is

the best way to get rich primary data within a small period of time. Unfortunately, questionnaires have certain weak features- not all questions may be understood in the right way, as people are different and even the easiest wording may be confusing for someone. Questionnaires do not give reasoning possibilities and are limited in possible answers, which may lead to the situation, where respondents do not find the answer, which reflects his or her opinion. In order to eliminate such situations in the future, it would be better to conduct both- questionnaires and small interviews, considering the questionnaire questions at the same time.

The questionnaire (see Appendix 1) consists of 2 demographic questions- age and gender; and 13 multiple-choice questions about the leisure time spending preferences, healthy lifestyle and nature. The questionnaire was translated into two languages- Estonian and Russian in order to get both representatives of the main nationalities, living in Tallinn. The aim of the questionnaire is to get information about how people understand the meaning of healthy lifestyle, what are the reasons of destination and company choice for leisure, why people prefer city to nature, or vice versa and what kind of activities do they prefer or would prefer to participate in while spending their leisure time in nature. The results are expected to be a reasonable basis for choosing the existing leisure and recreation services' range for further improvement towards nature-based landscape services.

Sampling 'is the selection of a given number of units of analysis (people, households, firms, etc.), called cases, from a population of interest. Generally, the sample size (n) is chosen in order to reproduce, on a small scale, some characteristics of the whole population (N)' (Trobia, 2008 p. 784). It has certain limitations and there exists an equation that helps to find the right number of respondents, able to represent the population of the whole city.

The suitable sample size can be determined by the following equation (Trobia, 2008 p. 784):

$$n = \frac{z^2 pqN}{E^2(N-1) + z^2 pq}$$

where

- z - confidence level (equals 1.96),**
- pq- the variance (maximum 0.25),**
- N - the whole population,**
- E - sampling error (often <0.04).**

The sampling was first aimed to represent the population of Tallinn, but as according to the Statistics Estonia (2014) there are 345126 people living in the capital, the size of the sample should be:

$$n = \frac{1,96^2 \times 0,25 \times 345126}{0,04^2(345126 - 1) + 1,96^2 \times 0,25} \approx 599$$

Unfortunately, it is not possible to get so many answers within such a limited period of time and with lack of resources, so the author decided to get as many respondents as possible, via simple random sampling, trying to make more or less equal number of representatives of each age group as well as gender representatives. Simple random sampling, where 'every case in the population has an equal likelihood of being selected' (Cramer and Howitt, 2004 p. 153), the only criteria was to pay attention to balancing the age groups' representative number. Snowball sampling- 'a method of obtaining a sample in which the researcher asks a participant if they know of other people who might be willing to take part in the study' (Cramer and Howitt, 2004 p. 155)- was used for gaining missing data from elderly people via friends and their parents and grandparents.

The questionnaires were distributed in the period between 13th of March till the end of March. Paper questionnaires as well as electronic version were used for distributing the questions. Social network Facebook was used for distributing questionnaires between friends for further snowball process and the main amount of paper questionnaires were distributed personally by the author in the streets, bars, cafe's and work environment. The pilot study of the questionnaire was conducted at school via questioning students of secondary education in the age of 19-20 years, both males and females. After conducting the pilot study it appeared, that the questionnaire works effectively and only a few wording changes were needed. As the pilot study was conducted with the presence of the author, all the misunderstood aspects were explained at the moment of

answering the questions and possible wrong answers were eliminated, so the pilot study results were considered in further analysis.

There is no background information in the questionnaire list due to the fact that all the questionnaires were distributed personally by the author and the information about the theme of the research was given orally or in written form to the respondents.

The collected primary data was coded with a combination of numbers and letters- codes (see Appendix 2), transcribed and analyzed in Excel using the Countif and Countifs functions in order to find relations between different variables. All the following figures, shown in the analysis are composed by the author.

There are 4 different age groups that are aimed to represent different lifestyles, preferences, needs and expectations:

- 18-25
- 26-35
- 36-50
- 50+

Teenagers and children below 18 years were excluded, as the author considers them not being relevant for the current research due to the fact that most of the decisions in this age are made by their parents.

As a result, the author got 132 respondents, of whom 86 were female and 46 male. This difference is caused mainly by the fact that it is easier to get contact with women rather than with men, moreover, women are frequently more interested in participating in different kinds of research. One of the reasons could be also the fact that the Tallinn population consists of 44% of men and 56% of women (Statistics Estonia, 2014).

As to age groups, the representatives' balance is more or less achieved: there are 37 respondents in the first age group (18-25), 32 from the second age group (26-35), 35 from the third age group (36-50) and 28 people from the fourth age group (50+). The smallest amount of representatives was in the last age group is because it was difficult to reach them.

The gender interrelation within each age group can be seen from the Figure 5.

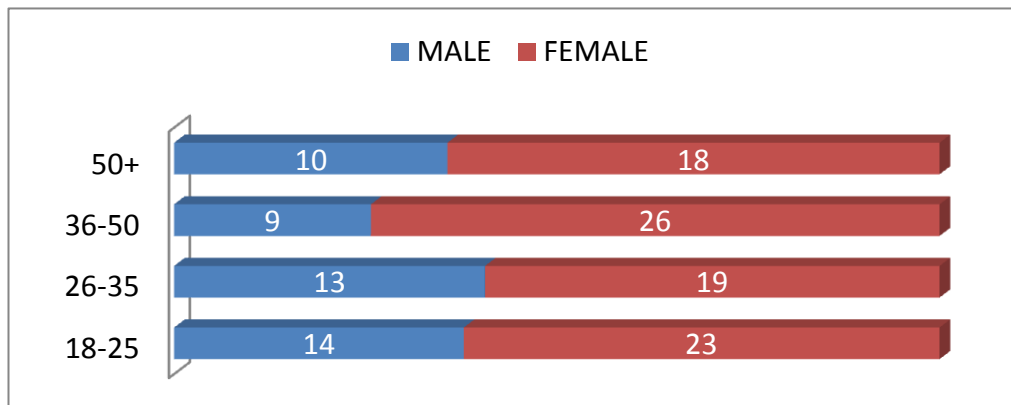


Figure 5. Gender and age group interrelation

When asking people about the destination of their leisure preferences, the answers gave information, that Tallinn city residents prefer spending free time more in nature than in the city (see Figure 6.). Moreover, it is pleasant to witness such a significant difference between the city and nature preference.

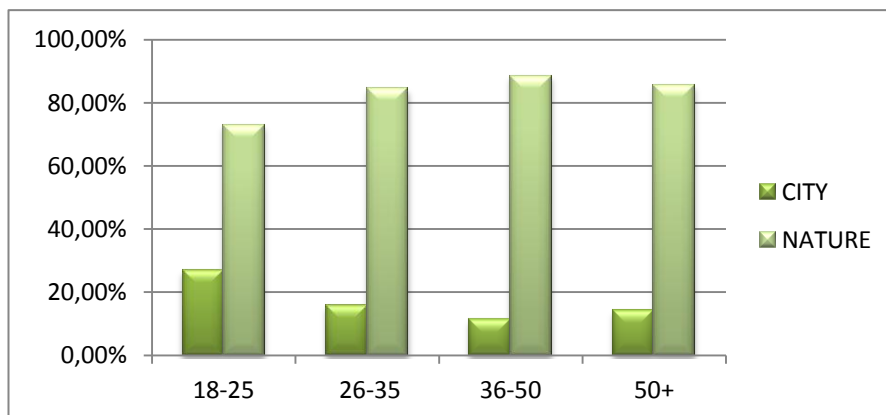


Figure 6. Leisure location preference

Such tendency can be caused by the increase of life tempo and information overload, so that people search for relaxation far away from the city daily routine. There is a term 'escapism' existing for this trend. The term originated from the word 'escape' and means escaping from the usual environment and daily problems with the aim of forgetting about everything. The term is widely used in a negative meaning that 'suggests inability to face the facts-the real world' (Tuan, 1998 p.5) but in the current context the author

suggests to look at this term in the meaning of willing to escape from daily routine with the aim of resting and re-creation. As already discussed before, the tests of Bratman, Hamilton and Daily (2012) showed, that the city view makes people experience an increase in aggravation, anxiety and sadness feelings, so it can be considered as one of the main reasons of why people prefer to change the city environment for nature landscapes for leisure purpose.

When comparing the leisure location preferences from the angle of gender difference (see Figure 7.), it was found out, that 21% of women, compared with 11% of men, prefer to spend leisure time in the city. The author assumes the present results to be caused by the interests-difference. Men are more likely to spend leisure time fishing, or hunting rather than window-shopping and visiting beauty salons and spas, which can be afforded in the city and are more typical female interests. Another factor may be the family factor that women do not find it easy to leave for nature, when there are small children at home. They prefer leisure at home to any kind of leisure in the nature, especially, if there are not so many days off from work.

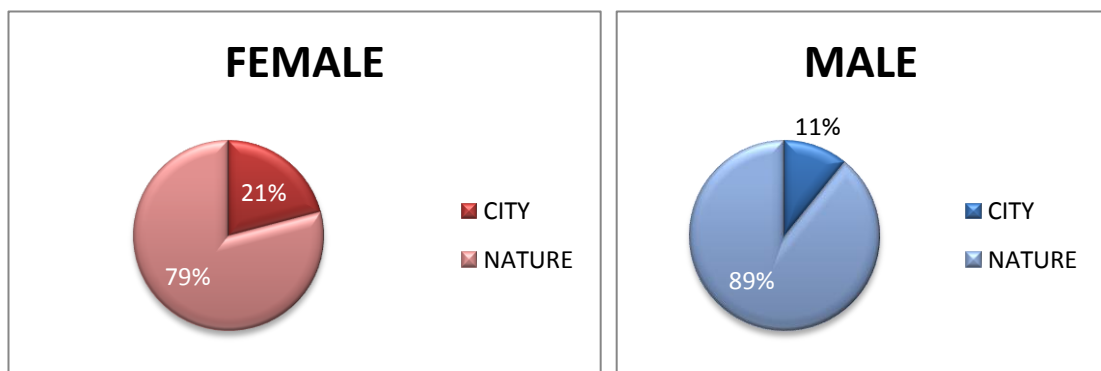


Figure 7. Gender and leisure location preferences

According to the frequency of nature visits, 35% of respondents answered they visit nature several times a year, 28% visit about once a month, 21% spend time in nature most weekends, 14% respondents claimed they rarely go to nature and 2% of respondents answered they never go to nature. The reasons for such results in total are seen from the next question (see Figure 8). No-one answered that he or she does not like nature. The lack of time was mainly the reason for men rather than for women, which is justified by the more frequent male status of family's main income source, which

demands more working hours. The same reason is seen from the next answers, where mainly female considered lack of money and transportation difficulties as the reason of not visiting nature. The current aspect must be definitely taken into consideration while designing new services. What was really surprising is that the absence of company to join was more chosen by women rather than by men ignoring the common thought, that women are easier to communicate and get friends. It could be the case, that women have other daily duties to be done besides work and it is difficult to gather friends all together at the same time. It can be assumed that even if women have friends with whom to go to nature, they may prefer to go shopping in the city or get together with children in other places. Among 'other reason' the most common answers were weather and seasonality reasons, so it is essential to design different service packages according to the seasonality in order to not losing customers in the low season. Estonia is known to have 5 seasons besides ordinary four: winter, spring, summer, autumn and a special one-flood, when mainly rivers overflow. Despite the variety of seasons, seasonality is a very big issue in Estonia, as nature can be inaccessible for many months of the year. Health issues were also the reasons among elderly people. What was surprising, two respondents answered they were lazy, which highlights the situation, that people are losing their activity and interest, perhaps, because of lifestyle changes and passive leisure preferences, such as playing PC-games or watching TV are dominating the active ones.

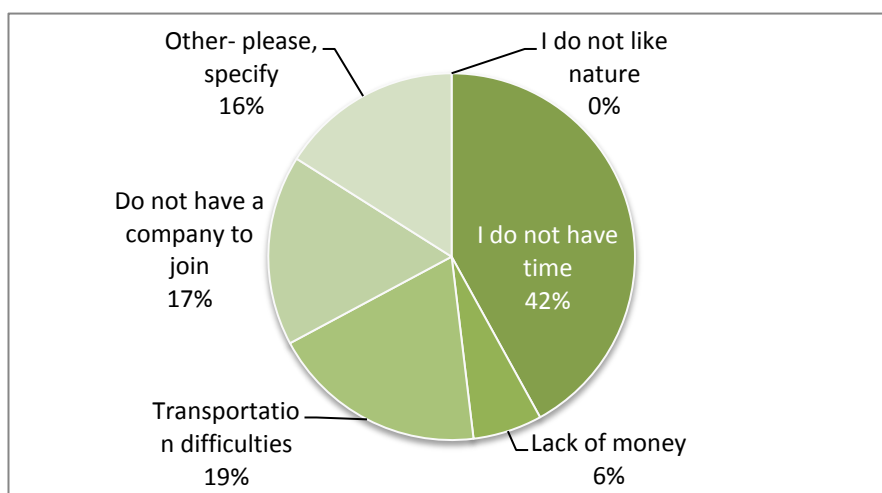


Figure 8. Reasons of not going to nature (total)

Despite various barriers occurred for not visiting nature, the total interest of people in nature is very high, which stresses on the fidelity of the assumption given in hypothesis, telling that 'Tallinn citizens are interested in nature-based leisure options'. The following results support this statement even more, explain the reasons for making choice towards nature and show the preferences in nature-based leisure activities.

In order to get information about peoples' experience of nature, the respondents were given 5 statements about what they may experience in nature and they were asked to rate them from 1 to 5, where 1 was considered to be the most important and 5 the least important. The questionnaire enabled the author to rank the main ideas about what people think they experience when being in nature (see the Figure 9.).

The first place was assigned to such feelings as calmness and relaxation, which can be explained by the fact that no matter what kind of landscape is visited, nature is free from urban noise- it is quiet and relaxing with its own sounds and the scenery a person observes has a calming effect on human brain.

The second place was given to the fresh air, which is explained by ionized nature air, as it was explained in the first chapter of the current work- biologically active oxygen that is rich in light ions is beneficial to humans health. It might be suggested, that people feel the difference between the air they breathe in the city and the one they breathe in nature, so they differentiate an easier breathing.

The third place was given to the state free from stress and depression. The current fact as well as the ones described before prove all the mentioned above information taken from a significant number of studies, that nature-based landscapes are vital resources for human mental wellbeing as well as physical one. Healing landscapes are able to reduce stress and awaken creativity, moreover, help to get rid of fatigue. Especially awakened creativity might be the factor, which helps to avoid depression, because a person, who has ideas and motivation for achieving something or creating something, will never lose positive life-mood.

The acknowledgment of Korpela, et al.(2014), that nature-based recreation contributes in 'experiencing calmness, getting new spirit and vitality for the everyday routines,

forgetting everyday worries, clarifying one’s thoughts, and gaining faith in tomorrow’, mentioned in the previous chapter, finds proof in the respondents' choices.

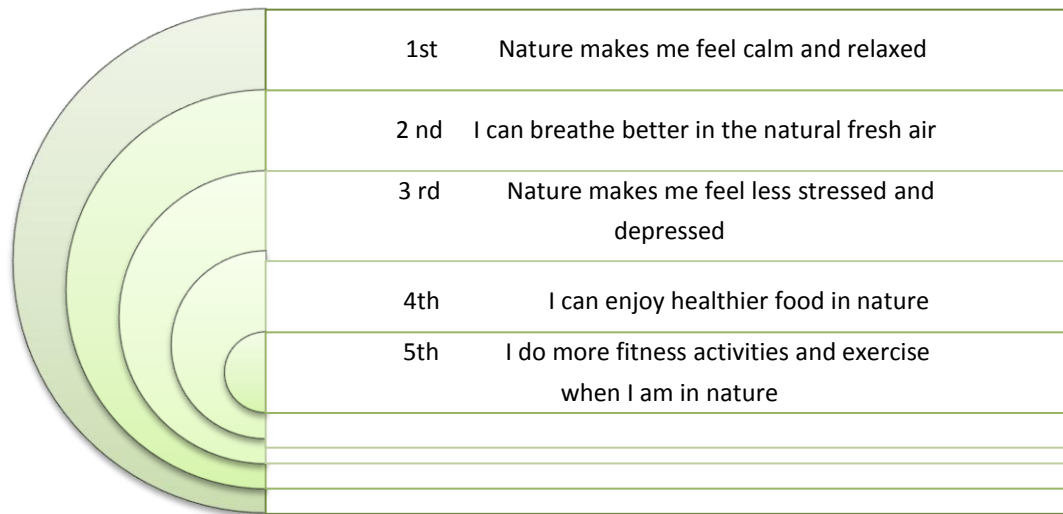


Figure 9. Experiences in Nature

What is surprising is that such experiences, as healthier food and doing more fitness activities in nature, appeared to be given the two last places. The author suggests this situation to be proved by lack of awareness about the reality and the benefits of nature considering these two statements. It could be suggested, that if people knew more about the benefits of nature, described in the previous chapters, these two statements would become the main reasons for visiting nature-based landscapes, because nature is the main place to get healthy food free from pesticides and rich in vitamins and the best place for more effective exercise.

There were two questions asking about landscape and accommodation preferences, with the aim of getting the idea about where to locate the services in order to meet the customers' preferences and what kind of accommodation to offer (See the Figure 10). In the analysis of nature-based recreation benefits for emotional wellbeing, made by Korpela et al.(2014), 90% of the respondents reported the presence of a forest and 46% a lake or a pond in their most recent nature-based recreation visit. The preference of the mentioned above landscapes can also be seen from the current study. The most popular choice among the current study responses was river or lake environment, what may be due to the fact that this is the most calming and quiet place to go. The river environment

was not described in the literature review due to the fact that it can be considered that this is the same as a forest environment with its ionised and highly fresh air and the same sea environment, but excluding the features of salty water. The sea coast got the second place and only third place was given to forests, but if to consider Estonian nature- then it should be mentioned, that both- lake/river and sea coast landscapes are most frequently in neighbourhood with forests, so the forest landscape can be also meant to be of great value to all the respondents.

The main accommodation preference is considered to be private house- this characterises Tallinn citizens as quite closed and privacy loving people, what should also be considered in the process of service design. As there were no detailed explanations, whether it was meant as a second home or a private house for rent, then one of the issues of choosing this variant can be money saving, as resting in his or her own private house is a cheaper option, especially knowing that people in Estonia often have their own small countryside houses.

As to the company preference, the respondents prefer friends, family and partners to join them for leisure time. Only few respondents prefer colleagues and tourists to be the company to join, and only 15 people prefer being on their own during their trip to nature.

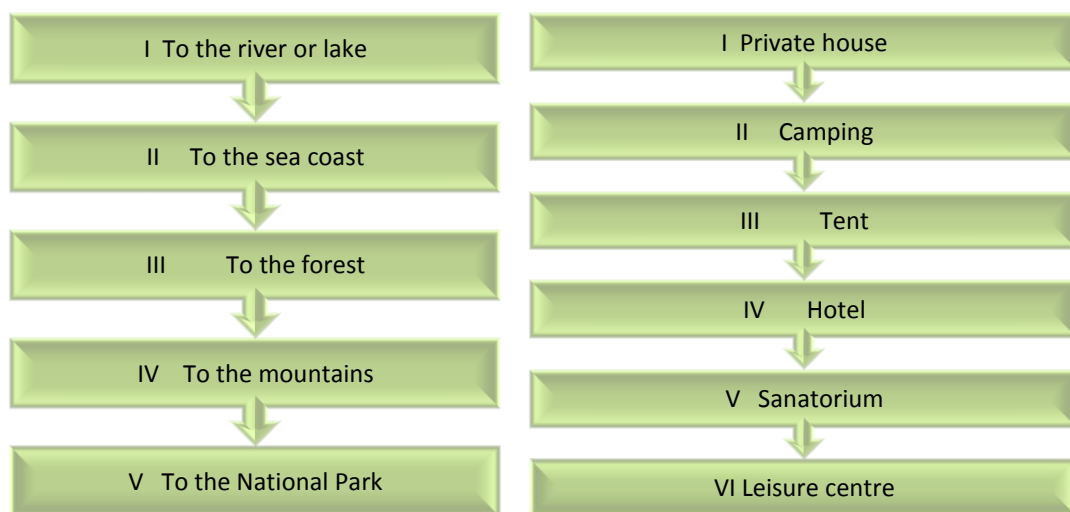


Figure 10. Landscape and accommodation preferences

Among leisure activity preferences (see the Figure 11.) the most popular are picnic, coastal leisure activities and different games and sports, and only then come spa retreats and educational and interest-based activities. The choice can be mainly explained by the previous landscape and accommodation preference. Health and spirituality-based activities are not popular among Tallinn citizens, so there should be found the way of informing people about the benefits of these activities within nature-based landscapes in order to raise the demand. As it was found out, that any activity performed in nature can improve self-esteem and mood much more than activities in the city or indoors (Barton and Pretty, 2010), it is a matter of personal preference, what activity to choose, the main thing is to locate it as close to nature as possible. The current results show, that the emphasis should be put on more precise promotion and improvement of medical, healing and spiritual services.

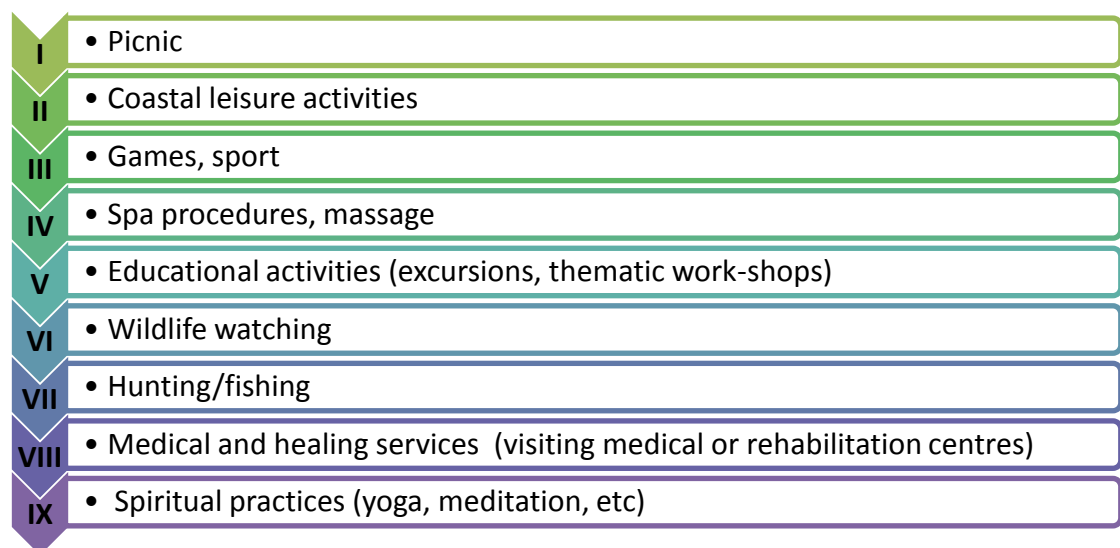


Figure 11. Leisure activity preferences

Among important healthy lifestyle issues respondents were offered to choose the 5 most important for them while leading a healthy lifestyle (See the Figure 12). The most important issues appeared to be good sleep, healthy food most days and walking. Good relations with people and positive mood (represented by 'smiling') were of reasonable significance as well. Respondents also consider drinking a lot of water, not smoking and drinking limited alcohol amounts as well as regular exercise to be quite important

issues. Spiritual activities, beauty procedures, mental improvement (self-education) and time free from technologies (car and other electronic gadgets) are of least importance.

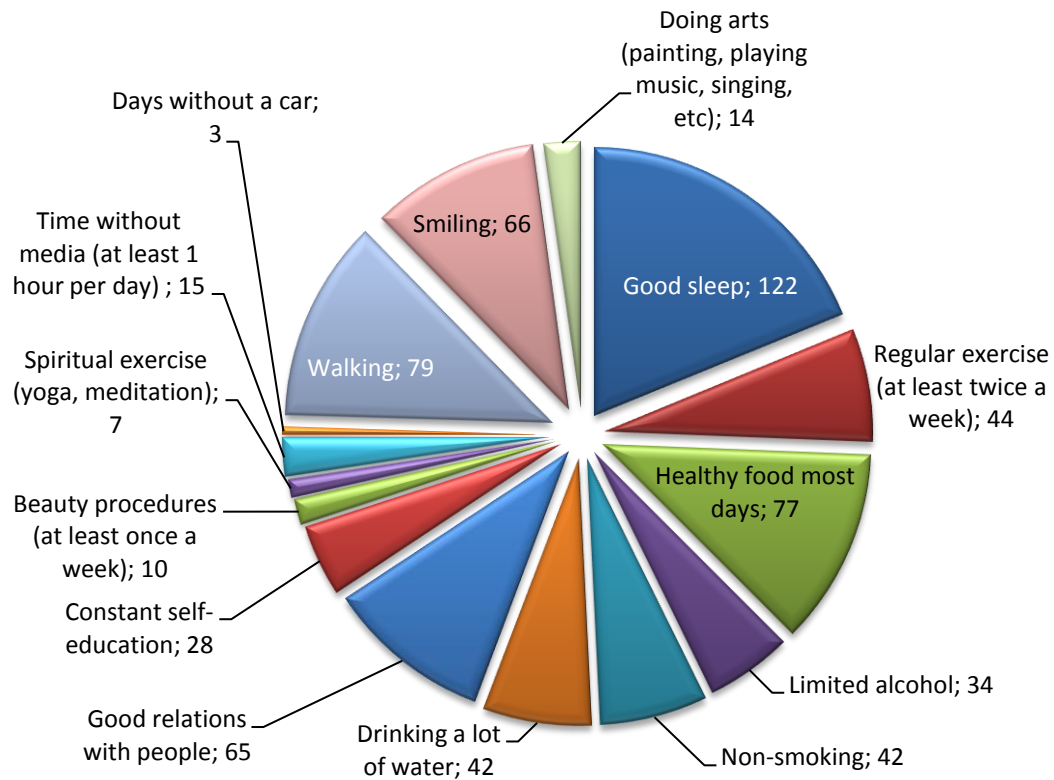


Figure 12. Healthy lifestyle issues (each answer if the result out of 132 answers)

Technology has become an inherent part of people's life and the negative impact of it is not taken very seriously. Although, it was found, that about 46% of the world's population say that technology is making people sicker (McCANN Truth Central, n.d). Car presence in most cases reduces humans physical activity, which leads to obesity and makes people lazy, which frequently leads to the loss of life motivation and depression. The PC and Internet presence in people's life have a negative impact on human physical and mental health.

The monitor impact on eyesight is also an issue. The majority of people working in offices wear glasses as well as young children lose good eyesight in early years because of spending too much time mainly playing computer games. Magnetic rays of all the electronic gadgets are known to have negative impact on humans health as well, so it is

highly important to limit the time of constant technology using and have 'days off' in order to give the organism, especially, brain, rest of the stress obtained by this activity.

Self-education raises interest, which is the leading life-motivator, preventing people from indifference. It can be suggested, that due to unwillingness to self-educate, people are not so much aware of the benefits of spiritual exercises, which lead to positioning among the least popular healthy lifestyle issues. The nowadays issue is that most people do not think they need self-education and do not believe in its benefits.

Continuing the knowledge issue, it appeared that most people are not aware of the term 'Nature Deficit Disorder'. As it can be seen from the Figure 13, 65% of respondents

Have you heard of a condition called Nature Deficit Disorder?

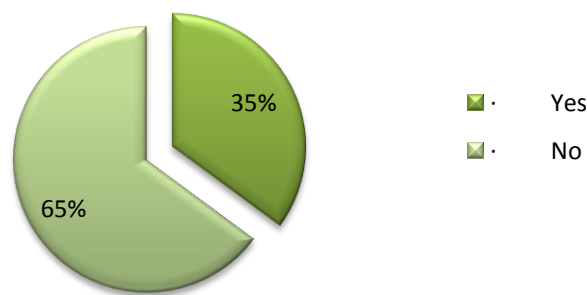


Figure 13. 'Nature Deficit Disorder' awareness

answered they did not hear about such a condition. As there were no explanations about the meaning of the term, it can appear that people, who answered 'YES' have heard the term, but are not aware of what exactly it is. They may have supposed that it is just a situation, similar to burnout, when people need relaxation in nature, but as it was discussed in the previous chapter, it has a serious impact on human health and wellbeing. Translation into different languages may also have added some confusion, but before distributing the questionnaires, the author asked different language native speakers about the possible wordings of the term as well as looked into reliable literature.

As to nature-based landscapes, then the majority of respondents (98%) find nature to be beneficial to human health, making them happier and less stressed.

As it can be concluded from Figure 14, people would like to see such activities as hiking in landscapes, picking mushrooms/berries and forest therapy and scenery observation the main components of ecotherapy services. Spa procedures, sleeping under the stars, meditation and yoga, and 'slow food experience' are left among least popular services.

Despite the fact, that there is a significant number of various spas in Estonia, it is not the most popular activity. It can be caused by the highly set prices for spa services rather than by unwillingness of experiencing such services. Yoga and meditation in nature are as well not the most popular, but it tends that the popularity of these activities is constantly growing. A certain popularity of sleeping under the stars option is interesting as a good option of adding uniqueness to the services provided.

The benchmarking results discussed in the previous chapter points on the fact that having a significant variation of leisure possibilities enable people get the services they prefer, moreover, the service providers' facilities are located in beautiful natural landscapes, but most of the services provided are not enough connected with healing nature. Instead of using all the properties of the surrounding nature, the services are mainly provided within the facilities, or even worse- indoors. As it was claimed in the hypothesis, presented in the very beginning, 'the spa and wellness services could be designed better to link more closely to nature'.

The main issue is to find the way of designing these kind of services so that they attract people mainly as ecotherapy services. The most important aspect is raising people's awareness about the benefits of these activities taken in nature landscapes, taking into consideration the previous chapters' discussion.

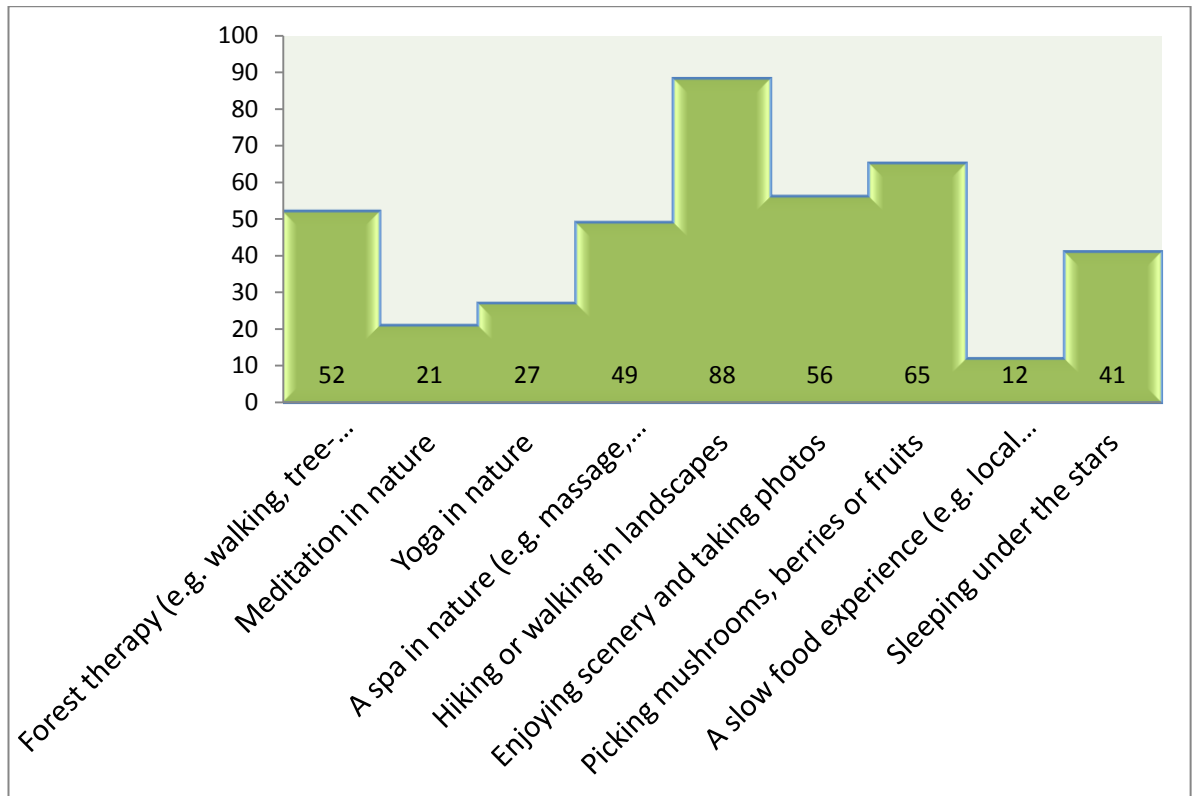


Figure 14. Ecotherapy service preferences

The conducted questionnaires gave very rich data for the analysis, which enables to get the whole picture about people's leisure activity preferences as it was required in the stage of understanding in service design process. The following chapter will be built according to the principles of thinking and generating processes of service design - it will conclude the main issues that came out during the analysis, identify the problem and give suggestions which will help to meet peoples' needs of improving well-being and raise the popularity of nature-based leisure and recreation activities, as well as ecotherapy services.

3. CONCLUSIONS AND SUGGESTIONS

The primary data collection via questionnaires enabled the researcher to get a very rich data about the preferences of people living in the city within a short period of time. The questionnaires did not take much time for the respondents to answer the questions and the author got 132 responses during the last two weeks in March.

As a result, the balance between the number of representatives of each age group was found and the author got information about the preferences of each group representatives, which points at the success of the research, as the aim was reached.

The author found out the main tendencies, preferences and problems people face when choosing nature as leisure destination and the current chapter will try to identify the main problem and find the solution to it, as it is made during the thinking and generating processes of service design.

The research showed that people understand the importance of healthy lifestyle, have their own opinions about what it is and try to follow the concepts of healthy lifestyle.

Due to this fact, citizens prefer to spend their leisure time in nature despite the fact that they do not have enough time and resources as well as face difficulties in reaching the destination they choose for recreation. Nature-based landscapes are the places, where people experience relaxation, calmness, can breathe fresh air, get rid of depression, eat healthy food and do sports. Respondents mainly emphasized the relaxation feeling taking into consideration the fact that there was no information about the scientifically proven benefits of nature-based landscape on human being provided.

Such main landscapes, as forests, mountains and sea have a significant number of properties, which influence human body, spirit and mind. As it was found in the literature review, the landscapes are the perfect destinations for reaching optimum wellness. (Beh, Kalinin and Taran, 1986; Krasotkina, 2008; Bulanov, n.d)

The human-landscape relationship is studied via experience- the main psychological phenomenon. As nowadays urban or city environment with its fast development, speedy living tempo, high noise level and various pollutions is meant to be a significant source of stress, then spending time in nature reduces stress and awakens creativity.

'Landscapes provide a site for reflection, where the pleasure taken from the aesthetic beauty of the natural environment provides a setting in which it is possible to think through immediate and unresolved problems, moreover, they are viewed as offering settings for attention recovery from the fatigue of those demands placed upon the individual by the everyday environment' (Milligan, Gatrell and Bingley, 2004).

It was proved, that about 5-7 hours in forest facilitates the tone raise, improves the functions of nervous activity, reduces fatigue and improves performance.

The ions, found in pure fresh air of landscapers, alive tissue and blood, exerting a beneficial effect on the entire body, reduce fatigue, improve performance and emotional state. Moreover, the air environment has bactericidal effect and phytoncids, found in it, are able to activate physiological processes.

Green spaces have an ability to reduce the noise level and songs of birds, the noise of water, rain drops, and other soft sounds have a beneficial effect on human mental state.

Visiting a forest landscape after a busy day and watching the perfection or the variability of its forms, calms down and gives relief (Beh, Kalinin and Taran, 1986).

The sea coast is the primary place, where people go to get inspiration and relax, the hydro aerosols and microscopic marine medicinal salts, such as sodium chloride, iodine, bromine in the sea air benefit respiratory system. The sea is the perfect place for obtaining D-vitamin from the sun as well. The seawater, which is not only rich in mineral salts, it also contains all the necessary ions that help to keep body in a good working condition and chemical form. Cold water plays a role of a mini-stress for the organism, that accelerates all the defence processes in the human body. The sand is a good exfoliation tool, as well as good remedy from rheumatism. The sea mud has several curative effects due to its composition of natural components. The sea sounds and the vibrations coming from it are able to relax the human brain.

Mountains are beneficial because of carbon dioxide, which in reasonable quantities, has a powerful healing effect on the body. This is also the place, where all the growing processes are accelerated and due to the special air composition, all the vitamins in the growing plants are concentrated in larger amounts. The feeling of a slight euphoria that makes them happier and helps to forget about the daily routine is felt in mountains.

These landscapes are able to heal people from stress, burnouts, mental disorders as well as to cure serious physical diseases. They are also a very good destination for leisure and recreational activities, as the healing benefits of the environment add special value to them.

The research showed, that people prefer lake/river, sea and forest environments the most. The lake and river environment is meant to be very similar to the forest environment with some aspects from the sea environment, so it can be concluded that people prefer calming, quite and relaxing environment independently from the age group.

Active leisure is more popular among the respondents, but at the same time, people prefer privacy to crowd surrounding. People would like to see such activities as hiking in landscapes, picking mushrooms/berries and forest therapy and scenery observation as the main components of ecotherapy services. Spa procedures, sleeping under the stars, meditation and yoga, and 'slow food experience are not still the most popular among Tallinn citizens.

The main problem issue, based on the whole research was identified by the author: there is a lack of nature-connections in the leisure and recreational wellness activities, both-physical and informational. As to active leisure, there is no such problem with nature-connectivity, as mainly all the active outdoor leisure services are offered in nature, such as bicycling, jogging, hiking and so on. The issue may be the absence of healing landscape properties' and benefits' information, provided to the customers.

The author will concentrate concentrated on such services, as yoga, meditation and spa procedures, as there is a need of raising its popularity among the citizens and such services are mainly offered indoors.

The author suggests to re-design the existing services to meet the optimum wellness via using the benefits of nature-based healing landscapes.

The main idea is to re-locate meditation, yoga and spa services and offer them in the healing nature environment. In order to understand the idea, it would be useful to have a short overview of the services.

Forest therapy includes mainly walking tracks in forests, where people experience the silence of the surrounding atmosphere, breathe fresh air and relax, but there is a quiet unusual activity, such as tree hugging, which is proved to be especially beneficial for mental well-being. It positively influences concentration ability, reaction, prevents from depression, stress and other mental illness. It is believed, that the positive impact on health comes from the vibrations and energy from trees (The Mind Unleashed, 2013).

Tree meditation is also known to be a kind of energy-exchange activity. This kind of meditation is based on deep breathing and visual imagery that helps to imagine a person is becoming a tree. This kind of imagination helps to 'take over' the powerful energy of the trees and feel all the underground tree root networks, which are known to give people the feeling of strength. It is thought to be beneficial to the immune system as well (Malnati, 2008).

Yoga is another well-known activity, which is more beneficial if taken in nature. It is also a combination of breathing exercises, postures, meditation aspects, visualization. It has special energetic benefits, mental, emotional and physical benefits: affects positively central nervous digestion, respiratory systems, lowers blood pressure, improves brain work, concentration level and sleep, calms the mind and reduces stress and anxiety, strengthens the body and enhances inner peace (Yogabynature.com, 2014).

Spa procedures include a wide range of beauty and healing therapies as well as massages and everyone can find the suitable service. Spa procedures are always meant to reach the harmony between body, spirit and mind. Each procedure is concentrated on certain human health needs and the range of them various greatly.

As all the services have their own beneficial properties on human health and wellbeing, there is sense to try to multiply the benefits via using the existing natural healing

properties. The visuals, shown in Appendix 3 transfer the feeling of the possible experiences people can feel in case of re-designing the existing services into more landscape-related ones. Most common is the usage of natural products during the procedures, but the author suggests to increase the healing benefits using different details of service design and nature-landscape resources for optimum wellness.

Humans perceive the surrounding world via visual, auditory, olfactory, haptic (touch) and gustatory (taste) perceptions. And it is important to pay attention to every perception kind, as it will help to reach the harmony between all the wellness dimensions: occupational, physical, social, intellectual, spiritual and emotional.

The author uses the Feature tree, as a service design generating process tool, in which special aspects are sketched that will help to re-design the services in order to make them maximum nature-based landscape and optimum wellness- oriented (See Appendix 4).

The basement of the tree represents the six dimensions of wellness, as the services for optimum wellness must maximally achieve the harmony between these dimensions.

The occupational dimension mainly implies the payment ability of the customer, which means, that the price for the services should be as affordable, as possible. Transportation possibilities may also refer to the occupational dimension, as it is the question, which determines accessibility of the services provided and influence the decision making. At the same time, the business interest, such as gaining profit, should also be followed. The price will add competitive advantage as well as will make entrepreneurs use the resources efficiently and be sustainable- being useful not only to the business, but also to the surrounding environment. Sustainability aspect under the occupational dimension also involves local people engagement into the process- the business should first of all try to find working stuff among the locals.

Physical dimension implies all physical benefits of the nature-based landscape environment, as discussed in the previous chapters of the paper as well as all the possible physical benefits of the services provided in these landscapes.

Under the social dimension personal approach is meant first of all. As the services-to-be-offered are mainly very personal and spirit-touching, so personal approach is the most important while delivering such services to the client.

Intellectual dimension involves educational approach as well as mental relaxation. All the services offered must involve some informational aspects in order to raise customers' awareness of the benefits he or she perceives from the service. Mental relaxation is very important in contemporary information-overloaded life, as it help reduce stress and avoid depression and other mental illnesses.

Spiritual, the most difficult in achieving, dimension implicates that all the services should help customers achieve the inner peace. This is a complex process, which actually involves the fulfilment of the requirements of all the perception kinds, which will be described as follows.

Emotional dimension is connected with all the aspects of the service design, which have an impact on person's emotional state, calm down and make people feel renewed and happy.

Perception kinds are the auxiliary tools, which help to achieve the harmony between harmony, spirit and mind and reach optimum wellness. It is a connection network built between all the dimensions. In order to make the leisure and recreational services valuable and competitive, it is important to pay attention to every aspect of human perception features.

The visual perception must be satisfied by the surrounding landscape scenery. Aesthetic impact of the landscapes on human being discussed before is meant here as well as the visual design of all the accessories and facilities used during the service delivery. An overall atmosphere should calm down, all the details should be in harmony with each other and the colours used in the design should not be in contrast with the surrounding.

The auditory perception in the nature is mainly fulfilled with the natural sounds, such as bird songs, wind blowing and water flow gurgling. As it was mentioned above, the total silence may make people insane, so nature sounds are beneficial. In some cases additional calming and relaxing music can be added to the process.

Haptic perception points out the importance of all the textures used in the services beginning from the environmental textures customers experience (sand, soil, grass and others) to the materials, from which the products and equipment is made. Preferably, all the materials should be maximum natural. As to the spa procedures, then a special attention must be dedicated to the feeling of continuous touch.

Olfactory perception within the landscape environment can be satisfied by the mixture of the pure nature flavours and natural essential oils, which can be chosen by the preference of the customer.

Gustatory perception is frequently fulfilled by drinking options and healthy snack offers. In case of berries' picking- the berries are the main product for gustatory perception.

Optimum wellness is very individual as well as every person's preferences, so it is essential to provide services as personal as possible. People first choose the environment by their own preferences and then the personnel should offer the additional services, which will satisfy each preferences.

If all the mentioned above aspects are fulfilled during the landscape leisure service re-design, then the existing services would definitely obtain the additional value and competitive advance. This will add uniqueness to the services as well.

Unfortunately, due to the seasonality, it is difficult to re-locate permanently all the services to the outdoor environment of the healing landscapes, but the design of the facilities may be done the way that the services will not lose the attractiveness and follow the concept as much as possible. There can also be some special seasonal services offered, as there is a common knowledge, that there is no bad weather.

Service design is a very complex process, which helps to achieve the goals and work out a good and competitive service of high quality.

CONCLUSION

The popularity of health and nature theme in leisure is growing nowadays and a lot of attention is paid on ecological sustainability, wellness, healthy lifestyle, high quality health service and other similar topics.

The current research proved that nature-based landscapes have a significant impact on human health and wellbeing and the theme of human-nature interrelation is of great importance in everyone's life. A broad literature review showed that contemporary life is full in stress and in order to eliminate physical and mental illnesses, people need good recreation. It is essential to have days off from work and everyday environment in order to relax and renew mentally and physically as well as spiritually.

Numerous researchers explain the importance of nature in human lives and write about the fabulous nature healing properties. Nature landscapes are able to heal people from stress, burnouts, mental disorders as well as to cure serious physical diseases. They are also a very good destination for leisure and recreational activities, as the healing benefits of the environment add special value to them.

Besides studying background information about leisure, health, wellness and nature issues, the author also tried to apply the existing service design process to the design of nature-based landscape services in order to understand, how can the leisure services benefit from their re-location to the healing landscapes' environment.

The conducted questionnaire enabled to get very rich data about peoples' understanding of healthy lifestyle concept and get information about their leisure location and activity preferences. Besides quantitative data analysis, the author made an explanatory analysis in order to understand possible connections of the found out trends, theory and Estonian background.

The literature review, author's personal experience and the survey prompted the idea of suggesting to re-design the existing leisure services into improved ones, more nature-related and optimum wellness oriented. The services, which are unique, competitive and

interesting to the customer. The services, which help to achieve maximum possible harmony between all the dimensions of wellness, such as occupational, physical, social, intellectual, spiritual and emotional.

The author believes, that the leisure services should be located in different nature-based landscapes, maximally possible outdoors in order to multiply the benefits, received from different leisure and recreation activities.

The paper is designed based on the first three stages of service design process: understanding, thinking and generating. Every design process requires first of all background studies that help to understand all the participants in the process, their preferences and needs, then the process goes to identifying the problem, finding solutions to the problem and delivering the solution to the clients. The current paper mainly concentrates on background study, problem identification and solution finding, not delivering.

During the research process it was found that the Estonian database of all possible leisure variations is significant. Estonia offers a huge number of outdoor nature possibilities starting from ordinary nature hiking and ending with numerous eco-spas and recreational centres with their own services. These offers include both- active and passive leisure possibilities, take into consideration mental and physical wellbeing as well.

The main issue is that all the numerous offers have a good location, but most of the services provided are not very much connected with healing landscapes. There is a significant number of holiday houses, located all over Estonia, but most of them offer little services, from where the most popular are saunas, grilling possibilities, canoeing and boating in case the house is located near water. All the other activities are left for the customers' imagination.

According to the mentioned above issue, it can be claimed, that the hypothesis, set in the beginning, found its proof during the research and was set up as a problem issue for the further service design process.

In order to improve the current situation, the author compiled a feature tree, one of the tools used in the generating stage of service design process, where the main aspects, on which attention should be paid for achieving optimum wellness were offered. The feature tree is meant to be a kind of guideline or criteria, which helps to achieve optimum wellness for the nature-landscape services designed.

To sum up, it can be said, that the conducted research helped to find out the main healing benefits of nature landscapes and understand the importance of nature in human lives. The research engendered the idea of finding the way to design the nature-based landscape services for optimum wellness, but as there research has its limitations, there is a need for further research in the field in order to finish the whole service design process and have a nature-based landscape service designed as the outcome. Numerous researches should be conducted for getting more detailed information about humans' preferences and professional approaches according to the aspects of all the perception kinds, showed in the feature tree in order to make it a more detailed and ready-to-use guideline for service design.

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APPENDICES

Appendix 1. Questionnaire

LEISURE AND WELLBEING IN NATURE QUESTIONNAIRE

Please, answer the following questions. Here the nature is meant to be in the countryside.

Age:

- 18-25
- 26-35
- 36-50
- 50+

Gender:

- FEMALE
- MALE

1. Where do you prefer more to spend your leisure time?

- In nature
- In a city

2. How often do you go to nature for leisure or tourism reasons?

- Most weekends
- About once a month
- Several times per year
- Rarely
- Never

3. Which of the following statements about nature and wellbeing do you agree with most (please, rate these from 1 to 5, where 1 is the most important).

- Nature makes me feel calm and relaxed
- I can breathe better in the natural fresh air
- I can enjoy healthier food in nature
- I do more fitness activities and exercise when I am in nature
- Nature makes me feel less stressed and depressed

4. If you DO NOT go to nature, why is this?

- I do not like nature
- I do not have time
- Lack of money
- Transportation difficulties
- Do not have a company to join
- Other- please, specify

5. Where would you prefer to go? (More than one answer is possible)

- To the forest
- To the mountains
- To the river or lake
- To the sea coast
- To the National Park

6. When being in nature you would prefer the following accommodation. (More than one answer is possible)

- camping
- hotel
- tent
- private house
- leisure centre
- sanatorium

7. Which of the following activities do you like or would like to do in nature? (More than one answer is possible)

- spa procedures, massage
- medical and healing services (visiting medical or rehabilitation centres)
- games, sport
- spiritual practices (yoga, meditation, etc)
- educational activities (excursions, thematic work-shops)

- coastal leisure activities
- picnic
- wildlife watching
- hunting/fishing

8. If you do have a trip to nature, who would you prefer to go with? (More than one answer is possible)

- with a group of tourists
- with friends
- with a partner
- with family
- with colleagues
- alone

9. How important do you consider a healthy-lifestyle?

- not important at all
- not very important
- quite important
- very important

10. When leading a healthy lifestyle, what is the most important? Please, choose 5 most important answers.

- Good sleep
- Regular exercise (at least twice a week)
- Healthy food most days
- Limited alcohol
- Non-smoking
- Drinking a lot of water
- Good relations with people
- Constant self-education
- Beauty procedures (at least once a week)
- Spiritual exercise (yoga, meditation)
- Time without media (at least 1 hour per day)
- Days without a car
- Walking
- Smiling
- Doing arts (painting, playing music, singing, etc)

11. Have you heard of a condition called Nature Deficit Disorder?

- Yes
- No

12. Do you think that activities in nature could be offered to people as a way of making them feel happier, more relaxed or less stressed?

- Yes
- No

13. As a form of so-called Eco-therapy, which of the following activities would you like to do in nature (more than one answer is possible)?

- Forest therapy (e.g. walking, tree-hugging)
- Meditation in nature
- Yoga in nature
- A spa in nature (e.g. massage, sauna)
- Hiking or walking in landscapes
- Enjoying scenery and taking photos
- Picking mushrooms, berries or fruits
- A slow food experience (e.g. local gastronomy, organic and bio foods)
- Sleeping under the stars

THANK YOU!

Appendix 2. Questionnaire Coding

QUESTIONS	CODE
Age:	Q
• 18-25	1
• 26-35	2
• 36-50	3
• 50+	4
Gender:	q
FEMALE	1
MALE	2
1. Where do you prefer more to spend your leisure time?	Q1
• In nature	1
• In a city	2
2. How often do you go to nature for leisure or tourism reasons?	Q2
• Most weekends	1
• About once a month	2
• Several times per year	3
• Rarely	4
• Never	5
3. Which of the following statements about nature and wellbeing do you agree with most (please, rate these from 1 to 5, where 1 is the most important).	Q3
• Nature makes me feel calm and relaxed	Q3.1
• I can breathe better in the natural fresh air	Q3.2
• I can enjoy healthier food in nature	Q3.3
• I do more fitness activities and exercise when I am in nature	Q3.4
• Nature makes me feel less stressed and depressed	Q3.5
4. If you DO NOT go to nature, why is this?	Q4
• I do not like nature	Q4.1
• I do not have time	Q4.2
• Lack of money	Q4.3
• Transportation difficulties	Q4.4
• Do not have a company to join	Q4.5
• Other- please, specify	Q4.6
5. Where would you prefer to go? (More than one answer is possible)	Q5
• To the forest	Q5.1
• To the mountains	Q5.2
• To the river or lake	Q5.3
• To the sea coast	Q5.4
• To the National Park	Q5.5
6. When being in nature you would prefer the following accommodation. (More than one answer is possible)	Q6
• camping	Q6.1
• hotel	Q6.2
• tent	Q6.3
• private house	Q6.4
• leisure centre	Q6.5
• sanatorium	Q6.6
7. Which of the following activities do you like or would like to do in nature? (More than one answer is possible)	Q7
• spa procedures, massage	Q7.1
• medical and healing services (visiting medical or rehabilitation centres)	Q7.2
• games, sport	Q7.3
• spiritual practices (yoga, meditation, etc)	Q7.4
• educational activities (excursions, thematic work-shops)	Q7.5
• coastal leisure activities	Q7.6
• picnic	Q7.7
• wildlife watching	Q7.8

- hunting/fishing

8. If you do have a trip to nature, who would you prefer to go with? (More than one answer is possible)

- with a group of tourists
- with friends
- with a partner
- with family
- with colleagues
- alone

9. How important do you consider a healthy-lifestyle?

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- Drinking a lot of water
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- Constant self-education
- Beauty procedures (at least once a week)
- Spiritual exercise (yoga, meditation)
- Time without media (at least 1 hour per day)
- Days without a car
- Walking
- Smiling
- Doing arts (painting, playing music, singing, etc)

11. Have you heard of a condition called Nature Deficit Disorder?

- Yes
- No

12. Do you think that activities in nature could be offered to people as a way of making them feel happier, more relaxed or less stressed?

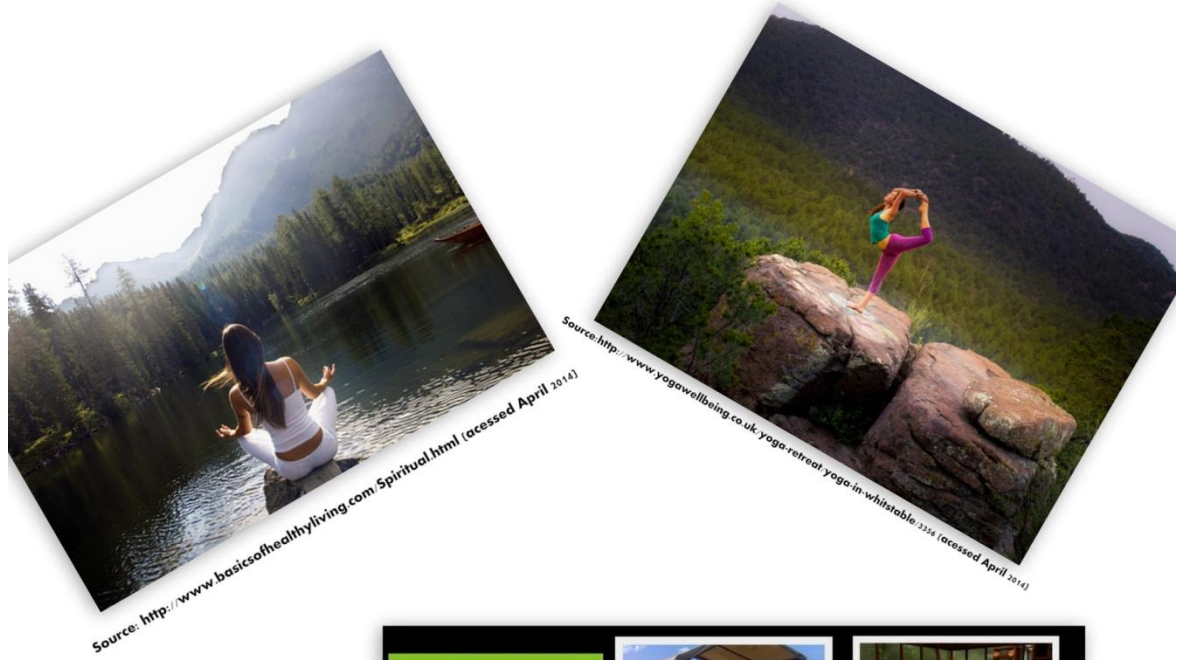
- Yes
- No

13. As a form of so-called Eco-therapy, which of the following activities would you like to do in nature (more than one answer is possible)?

- Forest therapy (e.g. walking, tree-hugging)
- Meditation in nature
- Yoga in nature
- A spa in nature (e.g. massage, sauna)
- Hiking or walking in landscapes
- Enjoying scenery and taking photos
- Picking mushrooms, berries or fruits
- A slow food experience (e.g. local gastronomy, organic and bio foods)
- Sleeping under the stars

Q7.9	
Q8	1/0
Q8.1	
Q8.2	
Q8.3	
Q8.4	
Q8.5	
Q8.6	
Q9	
1	
2	
3	
4	
Q10	1/0
Q10.1	
Q10.2	
Q10.3	
Q10.4	
Q10.5	
Q10.6	
Q10.7	
Q10.8	
Q10.9	
Q10.1	
Q10.1	
Q10.1	
Q10.1	
Q10.1	
Q10.1	
Q11	
1	
2	
Q12	
1	
2	
Q13	1/0
Q13.1	
Q13.2	
Q13.3	
Q13.4	
Q13.5	
Q13.6	
Q13.7	
Q13.8	
Q13.9	

Appendix 3. Nature-Landscape Service Visual



Source: <http://www.forestnaturespa.com-rural-upliftment-project.php> (accessed April 2014)



Source: <http://kosmicday.com/le-blog> (accessed April 2014)

Appendix 4. Nature-Based Landscape Feature Tree



Source: Compiled by the author

RESÜMEE

DESIGNING NATURE-BASED LANDSCAPE SERVICES FOR OPTIMUM WELLNESS

LOODUSLIKE MAASTIKUTEENUSTE KUJUNDAMINE OPTIMAALSE HEAOLU TAGAMISEKS

Tervise-, heaolu- ja vabaaja teema populaarsus on tänapäeval kasvamas ning üha rohkem pööratakse tähelepanu ökoloogilise jätkusuutlikkuse-, heaolu-, tervisliku eluviisi- ning kõrge kvaliteedi teenuste teemadele.

Uurimuse teema valik on tingitud paljude teadlaste arvamusega, et tänapäeval inimesed kaotasid väärtusliku ja mitmekesist koostoimet loodusega. Inimestel on vaja süvendada kontakti loodusega nende füüsilise- ja psühholoogilise heaolu tagamiseks (Kahn, Jolina, Ruckert, Severson, Reichert and Fowler, 2010).

Eesti on mitmekesise looduse allikas ning omab palju häid võimalusi loodusmaastiku teenuste pakkumiseks. Probleemiks on olukord, et vabaaja rekreatsiooni ja heaolule suunatud ettevõtet ei kasuta piisavalt ümbritseva looduse potentsiaali.

Autori meelest on olemas palju erinevaid võimalusi pöörata inimeste tähelepanu looduse ja selle kasulikkuse poole ning näidata, kuidas tähtis on looduse osalus inimese tervise ja heaolus.

Uurimuse hüpotees on järgmine: "Tallinlased on huvitatud vabaaja veetmisest looduses ning olemas olevad spa- ja heaoluteenused võiksid olla paremini kujundatud tagamaks nende maksimaalset seotust loodusega".

Arvukad uurimused toovad esile looduse tähtsuse inimeste elus ning tunnistavad looduse unikaalsete raviomaduste olemasolu. Loodusmaastike keskkond on võimeline parandada inimeste tervist, ravida vaimseid ja füüsilisi haigusi, aidata inimesel taastuda ja puhata igapäevasest stressist. Loodusmaastikud on üks parimaid kohti vabaaja veetmiseks, sest keskkonna raviomadused suurendavad puhkuse väärtust ning kasu.

Antud uusimusega oli tõestatud, et loodusmaastike keskkond omab väärtusliku mõju inimese tervisele ja heaolule ning inimese ja looduse suhe teema on tähendusrikas. Ulatuslik olemasoleva kirjanduse ülevaade toob esile kõikvõimalikud looduse omadused ning nende seos inimese heaoluga.

Töö on koostatud teenuse disaini protsessi printsiibil ning hõlmab protsessi kolmest esimest staadiumit: arusaamine, mõtlemine ning genereerimine. Arusaamise staadiumis autor uurib teema tausta kirjanduse ja inimeste arvamuse analüüsi abil, mõtlemise protsessis toob esile probleemi ning genereerimise staadiumis pakub probleemi lahendamise võimalust.

Uurimuse ajal oli välja selgitatud, et Eestimaa pakub suure hulga erinevaid vabaaja võimalusi looduses alustades tavalisest loodusmatkast ning lõppedes ökoloogilise spaa teenustega ning rekreatsiooni keskustega. Pakutud on nii passivsed kui ka aktiivsed vabaaja veetmise võimalused.

Peamine probleem seisneb selles, et ulatuslikud vabaaja keskused asuvad suurepärasest looduskohtades, kuid pakutud teenused ei ole väga seotud ümbritseva loodusega ning loodusmaastike raviomadused ei ole täies mahus kasutatud.

Probleemi lahendamiseks autor pakub ümberkujundada olemasolevad teenused ning teha nad rohkem loodusega seotud. Autor koostas teenuse iseloomu puud, kus tõstis esile tähtsad aspektid, mis aitaksid teenuste järgneva ümberkujundamiseks optimaalse heaolu saavutamiseks.

Kokkuvõtteks saab väita, et uuring aitab tuua välja tähtsaimad loodusmaastike raviomadused ning aru saada looduse tähtsusest inimeste elus, uurida inimeste arusaamu tervisliku eluviisi kohta ning leida nende vabaaja veetmise eelistusi. Uuring aitab edasi minna leida sobilik loodusmaastike teenuste disaini meetod, mis aitaks tagada optimaalset heaolu.

Igal uurimisel on oma piirid ning kindlasti on vajadus edasiseks uuringuks. Selleks, et lõpetada teenusdisaini protsessi ning lõpptulemusena saada üht hästi kujundatud loodusmaastiku teenust, autor peab tähtsaks viia läbi uuringud detailsema informatsiooni saamiseks inimeste eelistustest ning professionaalsetest lähenemistest, mis aitavad

tulevikus rahuldada kõik inimese taju aspekte, mis olid esile toodud omaduse puu skeemil, tagamaks pakutava teenuse inimese optimaalse heaolule vastavat mõju. Täiendavad uuringud muudavad olemas olevat omaduse puu skeemi palju detailsemaks ning tulevikus võiks sellest saada üks hea teenusdisaini juhend.

Uuringu eesmärk oli täiel määral saavutatud, hüpotees leidis kinnitust ning ettepanek situatsiooni parendamiseks oli autori poolt esitatud.

Magistritöö koosneb 62 leheküljest, sisaldab 14 joonist ning 4 lisa, mis täiendavad ja ilmestavad uuringut. Uurimuseks on kasutatud 80 allikat.

Autor soovib tänada kõiki, kes võtsid osa uuringust, oma juhendajat, Melanie Kay Smith'i, PhD, professionaalse juhendamise ning julgustamise eest tööprotsessis ning Bas Amelung, PhD, kelle kriitiline ülevaade aitas kaasa töö parendamisele.

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