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Benefits of Mindfulness in Regulating Children's Stress

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Stressi on nykypäivän suoritusyhteiskunnan väistämätön ilmiö ja siitä kärsivät niin aikuiset, kuin lapsetkin. Koska stressin eri muodot ovat läsnä läpi elämän, on syytä pohtia sen syitä ja seurauksia jo varhaisvuosista lähtien. Lapsuus on aikaa, jolloin ihmisen suurin kehitys ja kasvu tapahtuu, näin ollen lapsi on alttiimpi stressin pitkäaikaisvaikutuksille, kuin aikuinen. On tärkeää paneutua lapsuuden lukuisiin stressitekijöihin ja etenkin keinoihin auttaa lasta stressinsäätelyssä.

Tietoinen läsnäolo, on yksi tapa tukea lapsen stressinsäätelyä. Tietoinen läsnäolo, tai *mindfulness*, on itämaiseen filosofiaan ja meditaatioon pohjautuva menetelmä, jota sovelletaan nykypäivänä myös länsimaisessa kulttuurissa ei-uskonnollisena menetelmänä. Tietoisen läsnäolon periaatteet pohjautuvat kehon ja mielen symbioosiin ja sen tarkoitus on nimensä mukaisesti lisätä ihmisen omaa tietoutta omista kehon ja mielen tuntemuksista ja avartaa läsnäolon tärkeyttä rauhalliselle, stressittömälle mielelle.

Tämän tutkielman tarkoitus on tarkastella stressiä lapsuusajan näkökulmasta ja luoda kokonaiskuva tietoisien läsnäolon hyödyistä lapsuuden stressinsäätelyn tukena. Tietoisuustaitoja on käytetty aikuisten stressinsäätelyn tukena jo vuosikymmeniä ja tutkimus lasten stressinsäätelyn ja tietoisuustaitojen yhteydestä kasvaa alati. On tärkeä nähdä lapsuusajan stressi nykyajan vakavasti otettavana ilmiönä, sillä se voi hoitamattomana vaikuttaa jopa fyysisten sairauksien muodossa.

Tämä tutkielma on englanninkielinen ja se on toteutettu kvalitatiivisin menetelmin, kirjallisuuskatsauksena. Näin ollen se perustuu pitkälti monipuoliseen lähdekirjallisuuteen. Aihe tähän kandidaatin tutkielmaan valikoitui omien kiinnostusteni kohteiden pohjalta, sillä tietoisien läsnäolon menetelmät ovat olleet itselleni apuna rentoutumisessa ja stressinsäätelyssä, erityisesti joogaharjoittelun kautta. Tutkimuskysymysten kautta pyrin löytämään luotettavaa aineistoa tukemaan mahdollisia johtopäätöksiä. Tutkielmassa ilmeneekin, että tietoisuustaitojen harjoittaminen voidaan nähdä yhtenä toimivana metodina lasten stressinsäätelyn tukena.

Avainsanat: stressi, stressinsäätely, lapset, tietoinen läsnäolo, meditaatio, tunneäly

Stress is a present day's inevitable phenomenon and it is experienced by both adults and children. Since stress is present through a person's whole lifespan, it is important to consider the causes and effects already from the early years. Childhood is the most intensive developmental time in a person's life, hence children are more vulnerable for the long-term effects of stress, compared to adults. It is important to recognize the multiple factors that cause stress for children and above all, look into the ways to help children regulate the stress they are experiencing.

Mindfulness is one way to help children cope with stress. Mindfulness stems from an eastern philosophy and meditation and has been applied today in the western culture as a non-religious method. The principles of mindfulness are based on the symbiosis of the body and the mind. The purpose is to increase awareness of one's own sensations in the human organism, as well as open the importance of the awareness in order to reach a calm, stress-free state of mind.

The purpose of this study is to examine stress from the point of view of the child-experience and create a coherent picture of the benefits of mindfulness in supporting children's stress regulation. Mindfulness-methods have been in use with adults for decades and research among children's stress regulation and mindfulness is growing persistently. It is important to see childhood stress as a 21'st century phenomenon that needs to be taken seriously. If untreated, stress can lead to unfavorable consequences such as physical health-problems and diseases.

This study is conducted as a literature review; hence it is based on versatile existing literature. The topic of this study was selected based on my own personal interest, as mindfulness has been helpful for myself in relaxing and coping with stress through yoga practice. By the guidance of my research questions the aim is to find trustworthy literature to support possible conclusions. The study in fact shows, that mindfulness can be seen as a method to help children cope with stress.

Keywords: stress, stress regulation, children, mindfulness, mediation, emotional intelligence

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1 Introduction

"Teacher, I am experiencing extreme stress!"

- an anonymous second grader. (Uusikylä, 2017)

This amusing sentence that I came across at a lecture, originally from the mouth of a second grader, was somewhat the trigger for my personal interest in doing research amongst childhood stress. In this particular example, the child was found, by her teacher, to have heard this type of lingo spoken at her home, hence the mimicking during a class situation. However, the amusement of this sentence quickly disappears when taking a closer look at the phenomenon of childhood stress and once realizing that the relevance of this issue is actually nothing but extremely current.

The world we live in today, seems to be about constant performing and numerous statistics show that stress-levels are in a progressive rise (Humphrey, 2004). This in mind, I took the liberty of freely translating a sentence from a song by Haloo Helsinki, which in my opinion is on point when describing the world today:

"I am afraid that people have been forced to keep moving. Hurry, hurry, so the brain wouldn't have time to get too anxious" - Haloo Helsinki (Free translation from the song "Vihaan Kyllästynyt (2014))"

There is plenty of literature that discusses stress from the point of view of the adult experience, however there is more and more attention targeted towards the research of stress in children (Miller, 1986; Humphrey, 2004). Since stress is an important factor for every human being, it is crucial to study the phenomenon from the very early years. In addition, this branch of research has become increasingly important due to the recent clear demonstrations that being around stressed adults burdens the child's own wellbeing, which makes him or her an easier target for childhood stress. (Humphrey, 2004.) Also, literature indicates that there has been an alarming increase in stress-related health problems in children, such as headaches, asthma and stomach disorders (Napoli, Krech & Holley, 2008).

There are plenty of ways to attack this issue and help children in coping with stress and stressful situations. In this thesis I will be focusing on a method that I for myself have learned to

use, and found useful, in reducing the mind from unnecessary stimulus and in regulating stress. This method, and philosophy, is *mindfulness*.

As for myself, the interest in mindfulness, and for that, the interest in the topic for my thesis, has come through practicing yoga. Yoga is a form of mindful meditation and they walk hand in hand for many reasons. First of all, learning how to breathe is a key factor in both yoga and mindful meditation. Yoga stems from an Indian Vedanta-philosophy approximately 5000 years BC. Vedanta is a philosophy that highlights the connection of the body and mind, hence yoga is a comprehensive practice that includes exercise, breathing, meditation and relaxing. (Boggenboel, 2017.)

Mindfulness, in turn, refers to a state of awareness that pays attention to the present moment as it is. According to Humphrey (2004), mindfulness methods can be beneficial for both adults and children when coping with stress and stressful situations. Mindfulness Based Stress Reduction (MBSR) was founded by Jon Kabat-Zinn, who himself is a long-term practitioner of mindfulness and yoga. He invented MBSR in the 1970's to reduce stress in adults. (Silverton, 2013, 13.) I am interested in finding studies that support implementations of MBSR for children as well, hence applying MBSR with children is quite a new idea and little is known about the possibilities of these modifications.

The topic of this thesis is current, since stress and mindfulness are both present-day's phenomena and repeatedly presented in the media. Stress is a serious health issue and, in addition, quite an expensive disease. In the United States, only the hypertension costs, that are connected to stress are approximately 30 billion dollars. Additionally, in Britain, 40 million workdays are missed out due to stress related health problems. As a consequence of stress being so common among adults, it has become a concern for children as well. (Kirsta, 1992.) Video- and computer games have become more popular than ever among children, and more and more time is spent in the virtual world. Some researchers are, in fact, concerned about the impact of this leisure-time activity on children's stress-levels. (Humphrey, 2004.)

The purpose of this research is first, to discuss childhood stress, with a focus on its' causes in present-day's hectic society and second, to present evidence from literature that support the use of mindfulness methods with children in coping with stress. In addition to discussing the concepts of stress and mindfulness, I will also be discussing the concept of emotional intelligence, since it kept arising in the supporting literature of these phenomenon's. Emotional Intelligence is a competence that helps us in regulating emotions and sensations of our own and

others, hence it walks hand in hand with the phenomena of stress and mindfulness (Barret and Salovey, 2002). Researchers have studied the correlation between mindfulness and emotional education and found that they indeed do have many similarities and support each other in many ways (Lantieri, 2008).

The aim of this bachelor's thesis is to get a better understanding of the topic in general and study the phenomena of childhood stress and mindfulness with the support of relevant, trustworthy literature. In addition, building from previous research and recent reviews, I hope to construct a broad overview of current implementations of mindfulness for children in reducing, and coping with, stress. This thesis is constructed to three main parts. In the first part, I aim to focus on the concept of stress, with the highlight in children's experiences. In the following chapter the focus is on mindfulness, from what in the third part I aim to build a coherent picture finding relevant literature to connect these phenomenon's and support the topic of this thesis.

I will look at the entirety of this thesis through two following research questions:

- 1) What causes childhood stress?
- 2) How can the use of mindfulness be beneficial in children's stress regulation?

2 Perspectives to Childhood Stress

Stress is the body's natural reaction to any perceived threat (Silverton, 2013). When we experience stress, our body produces hormones, such as cortisol; and neurotransmitters, such as adrenalin and noradrenalin (Stahl & Goldstein, 2011). The evolution of our species, since the prehistoric times, has shaped the physiological reactions we experience when stressed. When put in a life-threatening situation, the prehistoric human had to react to these situations immediately, hence the body's physical energy, in all dangerous situations, activates the sympathetic nervous system, which directs us to either fight, escape or freeze. (Tompuri, 2016; Boggenpoel, 2017.) This is more familiarly known as the *fight-or-flight response* (Stahl & Goldstein, 2011). This primitive reaction is programmed in the human nature, and even today, after being far removed from the prehistoric days, this is the body's response to any triggering factor (Silverton, 2013). While the sympathetic nervous system activates, the parasympathetic nervous system abates, hence relaxing and calming down becomes more difficult. In a long-term, an ongoing fight-or-flight stress response burdens the mind and the body and may lead to, for example insomnia, depression, weight gain and chronic stress. (Boggenpoel, 2017.)

Many researchers believe that any change, whether it is positive or negative, can affect an individual in a stressful matter. Reactions to these situations are very much dependent of our individual abilities and attitudes. Stress can be caused by both internal and external factors that threaten the balanced state of mind. (Tompuri, 2016, 15.) Today, stress factors are in fact more frequently *thoughts* and imagined scenarios, rather than actual physical threats. (Silverton, 2013) For example stage fright, which is very common, especially with children, and results from the fear of failure. (Humphrey, 2004)

According to Minkkinen (2001, 63.) children's wellbeing is constructed from four different sectors that are all connected to one another: physical, material, social and psychological wellbeing. Physical wellbeing includes the satisfying of physiological needs, state of health and psychosomatic sensations. Material wellbeing is based on the material resources available. Social wellbeing is constructed by social relationships and behavior in social situations. Psychological wellbeing on the other hand, is often the connecting factor among the other sectors, since through psychological interpretations these sensations above are transmitted. Psychological wellbeing is constructed by emotions, cognitive evaluation and psychological ability to perform. It is revealed by children's subjective experience of their self, wellbeing,

relationships and circumstances. (Minkkinen, 2001.) Greenberg and Harris (2012) point out that there is a major concern that children, predominantly, experience less than optimal mental health and that it affects directly to outcomes such as, obesity, substance use, violence and poor academic performance. In Finland, roughly 14% of children between ages eight and nine, and 15-25% of the adolescent population already suffer from a mental health problem of some sort (Volanen, Lassander, Hankonen, Santalahti, Hintsanen, Simonsen, Raevuori, Mulla, Vahlberg, But & Suominen, 2016.) These are substantial reasons why the nurturing the psychological or mental wellbeing of the child is not only important, but necessary for a healthy, happy childhood while building a strong base for a balanced adulthood. (Diener, Suh & Oishi, 1997. 25)

2.1 Classifications for Childhood Stress

Stress as a concept is somewhat problematic, since there is not, even to this day, a clear agreed upon definition (Rutter, M 1983, 1). However, some classifications have been made by researches to understand the concept better in a universal matter.

According to Humphrey (2004), stress can be divided into four categories: desirable and undesirable stress, physical stress, psychological stress and social stress. He divides physical stress to emergency stress and continuing stress. For these two types, the organism reacts a bit differently. In emergency stress, bloodstream is discharged by hormones and this causes reactions in the body such as higher blood pressure and increase in heart rate. This type of stress naturally occurs suddenly. In continuing stress, which is a bit more complex, the same reactions in the body occur but more hormones are continuingly produced so that the body's resistance increases. This type of stress can be very harmful in the long run and lead to many unfavorable consequences. (Humphrey, 2014.) Goode, Goode & Russel (2006) also support this idea of two physical stress types. However, instead of using the terms *emergency stress* and *continuing stress*, they refer to these as *acute-* and *chronic stress*.

The National Scientific Council on the Developing Child, identifies three different types of childhood stress: Positive-, tolerable- and toxic stress (Middlebrooks & Audage, 2008, 3-4).

Positive stress according to Middlebrooks and Audage (2008) can arise when children are put unfavorable and short-lived experiences, such as attending new daycare, getting a vaccination shot or having a toy taken away from them. Stress this type, causes only minor physiological

changes, such as changes in hormone levels and increase in heart rate. Positive stress is considered a normal part of the child's developing process and is seen to be manageable with the help of a caring adult.

Tolerable stress on the other hand refers to more intense unfavorable experiences, yet short-lived to some extent, such as death of a family member, parents' divorce or a natural disaster. This type of stress can usually be overcome by the help of an adult but in some cases, without adequate support, tolerable stress may become toxic and even lead to long-term negative health effects. (Middlebrooks & Audage, 2008, 3-4.)

Toxic stress is the extremity of all three childhood stress types. This type of stress refers to intense intolerable experiences that may continue for weeks or even years. Examples of this type of stressors are for example, neglecting, long-term bullying and mental, physical or sexual abuse. Being exposed to toxic stress, children's development can be endangered, and permanent changes can occur in the brain. In these extreme cases, adult intervention and support is crucial and help is needed in returning the stress response system back to a healthy, normal state. (Middlebrooks & Audage, 2008, 3-4.)

If children are not given adequate help to relieve toxic stress, they often seek to find another, usually an unhealthy, form of release. Instead of attacking the problem with trying to end these destructive behaviors, such as substance abuse and violence, adults need to offer healthy alternatives, care and attention to avoid trauma from occurring. Trauma, which could be mentioned as a fourth unofficial type of stress, is a disassociating state that occurs when a stressing experience becomes too difficult to be adequately responded to. (Rechtschaffen, 2014.) Goode and colleagues (2006), in fact, talk about childhood stress as a continuum from tension to trauma.

Children at the age of 6-12 experience stress and depression through feelings of sadness and melancholy and, in addition, experience of guilt and strong self-criticism. When it comes to behavioral level, depression can be seen in neglecting one's own safety, self-destructing behavior and, in a milder sense, in poor school achievement, when the child is too tired to use his or her full capacity. (Sourander & Aronen 2007, 583.) According to Napoli et al. (2008) childhood stress today results in anger and violent behavior, in ways like never before. However, children, like all people, respond to stress in different ways. Each individual is built from different characteristics and personal qualities that shape through life. Evidently, these characteristics and qualities have an influence on how each child feels and behaves in stress-

ful situations and stress interaction. (Garmezy & Rutter 1983.) All these psychological and even physical characteristics are affected by the symbiosis of nature, surroundings, and nurture, genes (Sajaniemi, Suhonen, Nislin & Mäkelä, 2015).

2.2 Reasons Behind Childhood Stress

Childhood, the period from birth through puberty, is the most intensive developmental time in a person's life. This time period molds the mind and body and formulates its basic response mechanisms. Thus, it is crucial to identify some factors that affect the child's wellbeing. (Goode et. al. 2006.) It is fairly impossible to list all the reasons that cause stress for children, since the trigger can be nearly anything. Instead, I will compare different ideas that researchers have found in their studies about stressors for children.

Statistics show that among both adults and children, the level of stress has increased in the past few decades (Humphrey, 2004). In her book, *Childstress*, which was written in the 1980's, Miller (1986, 40.) already stated, that children live constantly under stress. Unfortunately, this phenomenon has only gotten worse since then. There is no denying the fact that we live in a hectic and a fast-paced society. Children spend less and less time playing outside with their peers and more time staring at different sized screens, whether it is a cellphone, tablet or a television. Video- and computer games have become a popular habit for children and especially violent games are seen mostly as a negative influence. (Humphrey, 2004.) All and all it can be assumed that children spend less time developing their social skills than ever before.

A Person's neurological system's ability to regulate stress reaction matures approximately until the age of 25, hence a child cannot be expected to similarly act in a stressful situation as expected from adults. However, stress is a major part of humanity and is experienced by people of all ages, children as well. (Tompuri, 2016, 16.) As discussed, children are faced with daily stressors in the modern society, that may arise from number of things. School and home context, peer competition, family conflicts and socio-cultural challenges, to name a few. Perhaps the most worrying factor is also the most uncontrollable one: The fact that we live in a media-saturated world that sets extreme demands for competition and success, already for

children. (Volanen et. al. 2016.) In order to help children to cope with stress that they are experiencing, it is important to identify some of the causing stressors.

According to Miller (1986) stressors can arise from physical factors, experiences as well as unrealistic wishes. An American national kids poll, n=875 (2008), conducted a survey for 9-13-year-olds about what causes stress for them and how they usually cope with it. The most stressful factors mentioned were homework and pressure of grades (36%), home and family (32%) and gossiping and bullying among peers (21%) When it came to coping strategies, children were given a variety of answer options and they were allowed to pick more than one answer for the question. Coping methods with the highest percentages were; playing or doing something active (52%), listening to music (44%) and watching television and playing video-games (42%) (Lantieri, 2008)

According to Sajaniemi and colleagues (2015) it is beneficial for a child to learn how to use one's brain in a way that it strengthens and supports good, happy life and balanced development, thus it is necessary to understand some of the brains basic functions to know what to regulate and how. *Coping*, according to Goode and colleagues (2006) is the child's capability to consciously act in answer to trauma, anxiety or the impact of emotional events and it is a continuing process of the mind and body. Garmezy and Rutter (1983), support this idea, as they talk about coping as responding to stressful situations, which needs to be considered as an operation developing over time.

It is extremely important for adults to recognize, how much stress children can face daily, since it is often hidden, as children adjust to the pressure and expectations of their surroundings (Sajaniemi et al. 2015). Children need the support from adults to recognize the sensations of these harmful feelings, since they are, due to the lack of cognitive development, more vulnerable to the injurious of long-term effects of stress (Miller, 1986). According to Sajaniemi and colleagues (2015) it is the adult's obligation to help the child in regulating the daily information flow and act in a way that strengthens beneficial nerve connections. Since the child's brain differs from the adult's brain in a way that it is not as developed, children's brains are more easily exposed to unnecessary stimulus and therefore they need to be protected from a stimulus overflow.

3 Benefits of Mindfulness for Children

There are multiple ways to help children cope with stress and find the calmness in anxious situations. One of these approaches that can help in children's stress regulation is mindfulness, which according to research can be beneficial when dealing with, not only stress, but different hardships, such as depression, anxiety and even in the treatment of chronic pain (Silverton, 2013, 7). In the human organism, there is an evident connection between the body and the mind. In addition to functioning together, they also reflect one another. Traditional medicine recognizes this symbiosis and believes the physical wellbeing being directly related to mental wellbeing and vice versa, since the body is described to have also mental and emotional energies in addition to physical energy. (Goode et al. 2006.)

Mindfulness and mindful mediation have been practiced for over 2500 years (Silverton, 2013, 12). The concept stems from Eastern traditions and philosophy, but it has also become a mainstream, non-religious Western method that is applied for healthcare, social work, education and business. (Silverton, 2013, 12.) Mindfulness' roots are deep in the Buddhist religion and this method has been said to be the core of Buddhist meditation. However, mindfulness is not tied to, nor is it in contradiction, with any religion or tradition. (Kabat-Zinn. 2011, 21-24.) Sundqvist (2008) describes mindfulness as a method to calm oneself down and concentrate, connecting the eastern wisdom of breathing and mind activity and western research in emotions and brain functions.

According to Williams and colleagues (2011) mindfulness is consciousness, that can be reached by paying attention to the present moment as it is without any judgement to how things are. Attention is paid to everything, especially to the aspects of life we often take for granted or even ignore, such as breathing and simply being. (Williams, Teasdale, Segal & Kabat-Zinn, 2011, 67.) It is observing oneself and one's surrounding without critique, evaluation, filtering or desire to make changes to the present moment. However, mindfulness is an ever-evolving ability that needs to be systematically practiced in order to enjoy the full benefits. Mindfulness cherishes compassion towards one's self, others and the surrounding world. (Raevuori, 2016.) It emphasizes receptivity and openness, allowing acknowledgment and acceptance of thoughts, sensations and feelings as they arise (Volanen et al. 2016; Brown, Creswell & Ryan, 2014).

Fredrickson's (2011) broaden-and-built theory supports mindfulness-methods in a way, that it emphasizes the separation between positive and negative emotions and, in addition, sees the abolishing effect positive emotions can have to negative emotions. Positive emotions, for their part, increase more positive emotions and experiences. Furthermore, motivation and the need to fulfill psychological needs, increases a person's own will to improve physical and mental health for example with the help of mindfulness methods. (Kabat-Zinn 2007, 312 - 313.)

The broaden-and-built theory posits that when experiencing stress, a person's negative emotions narrow momentarily the reaction repertoire, and this usually leads to acting in a particular, learned way, for example to escape when frightened. On the contrary, positive emotions broaden people's momentary reaction repertoire and widen the repertoire of thoughts and actions that come to mind, for example to create and play when experiencing happiness and joyful emotions. (Barret and Salovey, 2002)

According to Ivtzan and Lomas (2016) it is possible to approach mindfulness also in a way that it aligns with the theory of positive psychology. Positive psychology is a psychological orientation that studies methods which can be beneficial for enhancing people's overall well-being and happiness. Mindfulness appreciates both hedonic and eudaimonic wellbeing (Brown et al. 2014), which are both at the heart of positive psychology research and application. In addition, people that practice mindfulness desire to improve positive psychological experiences, such as compassion, joy and awareness (Ivtzan and Lomas, 2016). PMP (Positive Mindfulness Program) is an 8-week program conducted by Ivtzan and colleagues (2016) that combines positive psychology interventions and mindfulness practice, in order to increase wellbeing. The results of this program have been positive, as the participants have applied deep attention to their internal experiences with and accepting attitude. (Ivtzan, Young, Lee, Lomas, Daukantaitė & Kjell, 2016.)

In the last 30 years mindfulness has become a popular object for scientific research. In Finland, the research is at quite a fundamental state and research for example in the United States is far more along, as the methods have been studied already in the 1970's (Kortelainen, Saari & Väänänen, 2014). However, taking a close look at mindfulness literature in Finland, one can find a small book by Yrjö Kallinen, written in 1944. This booklet, called "*Zen – Message from the East About Enlightenment*" (free translation of the original book title: *Zen – idän sanoma valaistuksesta*, 1944) already talked about the fundamentals of mindfulness. There-

fore, Kallinen is considered to be one of Finland's pioneers in mindfulness research. (Kortelainen et al. 2014.)

The amount of published scientific articles about mindfulness increased from 1 to 477 between the years of 1982 and 2012 (Rechtschaffen, 2014). This indicates directly that research amongst mindfulness is in a constant rise and the benefits of mindfulness are studied constantly. According to Hölzel and colleagues (2011) the benefits of mindfulness can be attributed to two distinct but complementary components: 1) a regulation of attention focused on instant experience and 2) approaching the new experiences with openness curiosity and acceptance. Hölzel and colleagues (2011) also suggest that mindfulness reduces anxiety, due to reduction in the gray matter density in the brain and more precisely, the amygdala. Amygdala is a key stress-responding region in the brain and plays an important role in anxious situations. (Hölzel, Lazar, Gard, Schuman-Olivier, Vago & Ott, 2011.)

The realm of the brain that stress affects is called the frontal lobes and according to research this is the area of our brain, where we develop, achieve and evaluate our goals. In addition, the frontal lobes oversee our needs and the choices we make in our everyday life. They are the primary coordinators of our brain and through them we recognize another state of being which serves as the basis for empathy. Stress overloads this realm of the brain, causing us to for example fail to make good decisions while stressed. Overburdening the frontal lobes can also cause difficulty in knowing what we need and even being aware of our mental state. (Rotne & Rotne, 2013.) In addition, being under stress, may harmfully interfere with our capability to learn new things, memorize, plan and organize efficiently (Hawn, 2011).

According to research, mindfulness has been proven to have beneficial effects in strengthening the frontal lobes. This leads to an increased ability to make complex decisions and empathize with other human beings. In addition, practicing mindfulness can strengthen our restoration function, which refers to the time we spend getting back to our normal state after experiencing stressful emotions. (Goleman, 2004.) Studies have highlighted the importance of critical thinking, listening, teamwork and goal setting. Thus, there has been a decline in children in many of these cognitive and emotional competencies. (Rechtschaffen, 2014.) According to Lantieri (2008) these skills can indeed be improved through mindfulness practice. Research is also showing that mindfulness is effective in reducing high blood pressure and pain (Rechtschaffen, 2014). Also, findings of Tang and colleagues (2007) suggest that mindfulness

can improve reacting to setbacks and promotes optimal decision making. (Tang, Ma, Wang, Fan, Feng, Lu, Yu, Sui, Rothbart, Fan & Posner, 2007)

Mindfulness, as in any branch of philosophy, has also faced some criticism and doubt amongst researchers. Regardless the beneficial aspects of mindfulness, that cannot be ignored, some researchers question the ideology of mindfulness from a societal aspect (Kortelainen et al. 2014). According to Farias and Wikholm (2016), there are two major concerns when it comes to attempts to study mindfulness. First, they suggest, that the literature about mindfulness often fails to recognize the individual differences within the experience, and second, they question the fact that in many cases mindfulness treatments haven't been sufficiently examined by trained professionals. Farias and Wikholm (2016) also question the technique to be somewhat a commercial product, where enthusiasm seems to be ahead of evidence. However, even the opponents cannot argue with the fact that mindfulness truly is proven to be help in many health-related problems.

Mindfulness teaches a calming way to observe emotions, accept any feelings and regulate our minds and stress (Sundqvist, 2008). Various studies have been conducted exploring the relationship between mindfulness and emotional intelligence, as well as how people connect with each other (Charoensukmongkol, 2014). Emotional Intelligence is a term, familiarized by Daniel Goleman. (2004) The appreciation for emotional intelligence has grown tremendously in the recent years and having better social and emotional skills is proven to be directly related to doing better in life (Hawn, 2016). Emotional intelligence, according to Zeidner, Roberts & Matthews (2009) is simply a generic competence in perceiving emotions in ourselves and in others. It is a helpful competence that supports us in regulating emotions and coping adequately in different emotive situations. Sundqvist (2008, 11), for his part, describes emotional intelligence as a competent use of feelings and their control.

Emotional intelligence can be divided into five different competencies: *self-awareness*; knowing one's own thoughts and realizing how those thoughts affect decision making and actions, *self-management*; learning to handle challenging emotions so that they will not interfere life in the long run, *responsible decision making*; being able to understand consequences for one's actions, *social awareness*; understanding the thoughts of others and developing empathy skills and finally *relationship skills*; feeling connected to other people, but knowing how to object negative peer pressure. (Hawn, 2016.) As mindfulness affects attention, behavior and

emotion, it supports these five competencies to naturally arise, by linking the separated functional areas of the brain (Rechtschaffen, 2014).

Peerayuth Charoensukmongkol (2014) argues that individuals who regularly practice mindfulness will report a higher level of emotional intelligence. He classifies three different ways in which mindfulness can benefit a person's emotional intelligence growth and development. First, according to Charoensukmongkol (2014), practicing mindfulness regularly can enhance the understanding of one's own emotions and feelings. Second, he argues that regular mindfulness practice can help the person to detect and understand the feelings of others and enhance empathy skills and third, he states that being actively mindful helps a person to regulate and cope with different emotions in stressful situations.

Other researchers have found similar results. Feldman and colleagues (2007) found that people who practiced mindfulness frequently tended to recover more quickly from emotional distress compared to those who did not practice mindfulness (Feldman, Hayes, Kumar, Greeson & Laurenceau, 2007.) In addition, Brown and Ryan (2003) studied the effect of mindfulness to emotion awareness by assessing participant's emotional stage using a self-report and the Implicit Association Test (IAT). Results showed that people high in mindfulness showed positive correlations between self-reported and implicitly measured emotional states. By the outcomes of this study Brown and Ryan (2003) suggested that being mindful improves the understanding and awareness of one's background emotional states.

Research indicates that children who are introduced to and practice instructed mindfulness benefit from this in many areas of their lives. Mindfulness can for example help them concentrate better, sharpen their senses and improve their memory. (Rotne & Rotne, 2013, 12, 90.) In addition, mindfulness can be beneficial for a social aspect; such as, decrease in self-doubt, improvement in relationship skills and increased feeling of calmness (Fowelin, 2011, 19). As Mindfulness cultivates inner experiences of happiness and safety, it can be very beneficial when dealing with children's trauma. Trauma disassociates and distances a person from the present moment. With the help of mindfulness, a safe space can be created, where for example a child can return in his or her mind, when becoming too afraid. (Rechtschaffen, 2014.)

Often, adults misinterpret children's uncontrollable stress as only inappropriate behavior that needs to stop. Children are punished by parents and teachers, as if they purposefully misbehave, when in fact often these behaviors simply rise as symptoms to untreated stress. This creates a vicious cycle, to which both adults and children are caught up in. (Lantieri, 2008).

According to Zeidner et al. (2009) emotional intelligence may contribute to a successful regulation of emotions and coping with stress amongst children. Literature indicates that people are not usually aware of their actual level of emotional intelligence, however belief in one's own emotional intelligence has been clearly associated with overall psychological well-being, higher quality relationships and better coping skills. in contrast with those who do not believe to have a high intelligence in the area of emotions. (Barret and Salovey, 2002.) This is again, where mindfulness methods can come in useful, since like mentioned before, practicing mindfulness can improve a person's emotional understanding.

4 Children's Stress Regulation with the Help of Mindfulness

Mindfulness-methods have been in successful use amongst adults for over 40 years in reducing and regulating stress and even pain. Now, for 10-15 years collective research has been conducted for applying these methods with children and young adults. Clearly, research on the effects on children is not yet as extensive as with adults, however the results of research that has been conducted already has been similar compared to adults proven as beneficial, which suggests that mindfulness for children is well worth applying. (Sundqvist, 2008; Weare, 2012.)

Children learn mindfulness most successfully through a mindful adult, who himself is familiar with, and preferably practices, mindfulness. For children's benefit, it is essential for the adult to be an example, rather than teaching with words only. (Tompuri, 2016, 79.) As mentioned earlier, often relaxation for children happens in front of a mobile device or the TV and seldom there is a silent moment during a day to gather one's thoughts and simply quiet down and relax, from which children could really benefit from.

Mindfulness methods can be divided into two different categories for their purpose (Brown et al. 2014). Sundqvist (2008) names them as *focused attention* and *open monitoring*, while Brown and colleagues (2014) rather talk about *interest taking* and *mindful awareness*. Focused attention *or* interest taking both describe techniques where concentration is focused on one single target, such as breathing, bodily feelings and sounds. Focusing on one thing at a time helps in concentrating and returning to concentrate even after the mind starts wandering. (Sundqvist, 2018; Brown et al. 2014.) Open monitoring *or* mindful awareness on the contrary mean sharing the concentration with anything that appears to the consciousness. This not only develops the ability to make circumspect decisions, but also the ability to recognize the feelings of others and our own. (Brown et al. 2014; Sundqvist, 2018.) Some examples of specific well-known mindfulness methods for children, that I will go through a bit more thoroughly, are *anchor breath*, *body scan* and *yoga*.

Breathing is a simple and an efficient tool of mindfulness and a key factor in many mindfulness methods. As a person's feelings and emotions change, so does the rhythm of the breathing. Fortunately, breathing comes effortlessly and oxygenates the blood at all times. However,

breathing that is too intense, as when hyperventilating, causes the organism to lose carbon dioxide excessively which may result in unpleasant byproducts, such as vertigo. (Kirsta, 1992.)

Learning how to observe and control the breathing in some situations, helps for example in reducing pressure in stressful situations (Fowelin, 2011). *Anchor breath* is method, in which the core idea is to help children become aware of their breath, for however it is (Rechtschaffen, 2014). The idea in anchor breath is to simply quiet down, and observe one's breathing and bodily sensations in an accepting matter. When the mind starts to wonder, as it always does, the key element is to shift the awareness back to breathing, as if it was an anchor that holds the thoughts steady. (Kirsta, 1992; Fowelin, 2011.)

The body and the mind are proven to be in symbiosis (Goode et al. 2016). Bodily messages are not always clear and easy to interpret, so methods have been created to help ease this process (Fowelin, 2011). During a *body scan*, which is a classic mindfulness technique, awareness is passed from head to toe lying- or sitting down (Rechtschaffen, 2014). In this instructed, and extremely child friendly activity, each part of the body is given attention in their turn through step by step guidance. It is an efficient way to relax and get to know one's own bodily feelings and sensations. (Fowelin, 2011.)

Yoga is a philosophy of life (Kirsta, 1992). According to Boggenpoel (2017), yoga is a physical exercise that in addition to strengthening the body, aims to relax the mind as well. It stems from India and is been practiced by adults for over 5000 years. However, yoga is becoming more and more popular amongst children. (Gibbs, 2003.) Yoga aims to connect spiritual awareness, deep relaxation, balance of the mind, concentration, clarity and physical strength (Kirsta, 1992). For children, yoga teaches the joy of being still and quiet down in a fun way. It helps children understand the power of relaxation and the importance of physical activity to stay healthy. Evidence shows, that yoga not only increases the children's physical strength and posture but can also increase their self-confidence. (Gibbs, 2003.)

Amy Saltzman (2014), the author of "*A Still Quiet Place: A Mindfulness Program for Teaching Children and Adolescents to Ease Stress and Difficult Emotions*", argues that children need mindfulness in their lives, because often their need for kindness-, reflection- and skillful action capacities are unnurtured and not paid attention to enough. According to Napoli and colleagues (2008) children that learn to purposefully concentrate through mindfulness, can

increase the quality of their learning by improved focus skills as well as improvement in dealing with stressful events.

Although, being mindful in a moment is considered to be somewhat a natural trait, often people's minds wander and are either dwelling in the past or planning for the future. In the modern world, the two most acknowledged mindfulness-based interventions to help ease the mind are: *Mindfulness Based Stress Reduction (MBSR)* and *Mindfulness Based Cognitive Therapy (MBCT)*.

Mindfulness-Based Stress Reduction was developed in 1979 at the University of Massachusetts Medical Center in Worcester, MA, by Jon Kabat Zinn (2007). Since the very beginning, MBSR has been, and stayed as, an 8-week group formed intervention, in which the core element is the participants own individual mindfulness practice (Raevuori, 2016). It was created for two main purposes: First, to introduce and train individuals in the practices of yoga and meditation for health improving purposes, and second, to be used as a model in a variety of health care contexts. (Brantley, 2005.)

Saltzman (2014), for one, studied the effects of mindfulness training with children and their parents, using a curriculum based on MBSR. Findings showed that both parents and children demonstrated increased ability to direct their consciousness in the presence of distracters, post MBSR. Parents also showed convincing reductions in depression symptoms from pre- to post-MBSR.

Mindfulness-Based Cognitive Therapy is closely based on MBSR and adopts the combination of mindfulness and cognitive-behavioral strategies. It was developed for the prevention of recurrence and relapse of depression. (Kazantzis, Reinecke & Freeman, 2009.) MBCT aims to teach skills that enables a person to become aware of his or her thoughts without judgement. It emphasizes positive thoughts and views negative thoughts as passing mental events. (Williams et al. 2008.)

Mindfulness-based interventions are in the rise in schools around the world. According to Weare (2012, 2), mindfulness interventions, when well conducted, can improve the psychological, physical and social wellbeing of children who take part. Napoli and colleagues (2008) reported the outcomes of integrated mindfulness and relaxation work with 225 children aged 5-8 with high anxiety. These children took part in an "attention academy program" in a school setting which included 12 sessions of 45 minutes of mindfulness practice each. Children tak-

ing part showed considerable decrease in ADHD behaviors as well as an increase in the ability to pay attention. (Weare, 2012.) Likewise, Semple, Reid & Miller (2010) have assessed the impact of a mindfulness program for children. In this group program, based on Mindfulness Based Cognitive Therapy (MBCT), children between ages 9-13 took part on a 12-week trial. Improvements were found on measures of focus and attention, as well as reductions in anxiety and behavioral problems.

5 Discussion

The purpose of this research was to examine the phenomena of childhood stress and mindfulness and my aim was to find relevant literature to support the idea of mindfulness as a beneficial tool to help children in regulating stress and even to prevent stress from occurring. The research questions I was focusing on in this thesis were: 1) What causes childhood stress? and 2) How can the use of mindfulness be beneficial in children's stress regulation? Intention was to construct a coherent research with the help of these questions, using different publications, both in Finnish and in English.

To understand the purpose of this research one must acknowledge that stress is an inevitable part of life and it is our way to react to any challenge or stimulus. For the survival of our species it is proven to be a dynamic strength that gives us the needed push that turns thoughts into actions. However, the challenges of today exceed the pre-historic human's challenges in a way, that simply hunting and providing are just an ancient memory. Today's stressors are more complex and multidimensional than ever before, and stress has become a societal disease that leads to many disadvantageous byproducts, such as insomnia, depression, anxiety, pain and other health problems. Thereupon, finding ways to ease stress has become an important branch for research today.

Stress experienced by adults reflects directly to children today and, in addition to getting burdened from being around stressed adults, children face also more stressors of their own than ever before. The presence of information technology and constant pressure to perform well are just a few stressors to mention for the 21'st century child. Despite the fact, that multiple studies have been conducted to examine childhood stress, there is no evidence of any decrease in terms of the phenomenon's occurrence. In fact, according to Humphrey (2014), children's stress levels are in a constant rise. Nevertheless, since regulating feelings and emotions is not easy even for adults – how can we assume children being able to do it without help, guidance and practice? (Sundqvist 2008, 11.) In this study I mention, that children's stress reaction matures approximately until the age of 25, which means that a child, or even a young adult cannot be expected to similarly act in a stressful situation as expected from people over the age of 25. This finding personally leads to a bit of amusement, since I myself am now 25 years old. Are my stress reactions now officially matured?

Having looked at this topic through multiple studies and publications, I believe it is safe to say that mindfulness is, indeed, one of the methods, to help children cope with stress. Practicing mindfulness has proven to be beneficial from multiple aspects and the modifications of mindfulness studies with children have turned out to be mostly of success. I believe, that practicing mindfulness cannot be of harm to anyone, since who would not benefit of a moment of relaxing and calming one's thoughts. However, not taking into consideration the individual differences enough is one thing that mindfulness' ideology has received some criticism about. I do agree, that not everybody benefits from mindfulness methods the same, and in that sense individual differences for sure do occur. However, I strongly believe that this sort of criticism could be targeted towards any ideology, since as human being we are all individuals. Also, for some, worry stems from mindfulness being a fairly new philosophy. This, again, I agree with. Yet, the benefits of mindfulness for mental health are too visible for any researcher to deny. It is true, that the literature and research are mostly new, and the phenomenon is not thoroughly studied yet. However, the existing studies show that mindfulness can indeed be extremely beneficial for multiple purposes and is one way to help cope with stress.

When I began the process for this research, I was a bit sceptic about whether I would find enough trustworthy material to construct a reliable study. I was, in fact, quite surprised of the number of scientific articles and books I found of the topic of mindfulness. As I went on composing this study, I realized that the topic of mindfulness as well as the topic of stress are both mainstream phenomenon's and arouse interest in researchers today. In addition to purely academic material, I intentionally chose to look at a few self-help books as reference, in order to create a picture of how mindfulness and stress are talked about in this sort of literature, which are in a constant rise today. Using my own judgement, I referred to these books in a very general matter and believe that for that reason the use of these books was justified.

Perhaps the most concrete finding of my research is that mindfulness is worth applying with children and as well as adults, children can benefit from mindfulness in many aspects of their lives. In terms of further research, I believe that there is so much more to study in this field, since battling stress is most definitely not the only thing mindfulness can be helpful with, as established in this thesis as well. As a teacher student, I am especially interested in mindfulness in the school context and would be curious to find more concrete mindfulness-methods that could be implemented in a mainstream classroom by regular teachers. I believe that children would really benefit from daily relaxing and breathing exercises conducted in school, where they spend most of their days at. As far as my own interest goes, it would be extremely

satisfying to see these methods in use and hear for myself how children feel about these activities. Therefore, this thesis will most likely work as a stepping stone for my further master's research, since I am eager to dive even deeper into these phenomenon's.

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