



Expertise  
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Supporting Well-being of Children Under Three Years Old in  
Early Childhood Education

A Booklet on Stress Reducing Methods for Small Children: A  
Guide for Early Childhood Education Personnel

Metropolia University of Applied Sciences

Bachelor of Social Services

Degree Programme of Social Services

Thesis

9<sup>th</sup> of November 2020

Author(s) Title	Kristýna Gillová  Supporting the well-being of children under three years old in early childhood education, A booklet on stress reducing methods for small children: A guide for early childhood education personnel
Number of Pages Date	24 pages + 11 in the appendix 9 <sup>th</sup> of November 2020
Degree	Bachelor of Social Services
Degree Programme	Social Services
Specialisation option	Early Childhood Education
Instructor(s)	Satu Hakanen, Senior Lecturer Jukka Törnroos, Senior Lecturer

The aim of this functional thesis was to discuss the levels of stress children under three years old might encounter in early childhood education and to create a booklet on stress reducing methods for small children that can be implemented by early childhood education personnel in order to support children's well-being.

The main method of conducting this functional thesis was literature review and subsequently the reflection on it. The sources of collected data were various scientific articles, books and discussions with working life partner.

Thesis briefly describes Early Childhood Education and Care in Finland, its history, organization and provision. Further, it discusses the small children's mental health and psychological development and the potential stress small children encounter in early childhood education. It also offers some stress reducing methods for small children that can be taught by early childhood education personnel in order to support well-being of small children in early childhood education.

The booklet introduced in this thesis was created with the collaboration of working life partner- small private kindergarten in Helsinki area.

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Tämän toiminnallisen opinnäytetyön tarkoituksena oli pohtia alle kolmevuotiaiden lasten stressitasoja, joita he voivat kohdata varhaiskasvatuksessa, sekä luoda kirjanen pienten lasten stressin vähentämismenetelmistä. Kirjasta voidaan käyttää varhaiskasvatuksessa lasten hyvinvoinnin tukemiseksi.

Päämenetelmänä tässä toiminnallisessa opinnäytetyössä oli kirjallisuuskatsaus ja sen pohdinta. Kerätyn tiedon lähteinä olivat erilaiset tieteelliset artikkelit, kirjat ja keskustelut päiväkodin henkilöstön kanssa.

Opinnäytetyössä kuvataan suomalainen varhaiskasvatus, sen historia, organisaatio ja tarjonta. Lisäksi siinä käsitellään pienten lasten mielenterveyttä ja psykologista kehitystä, sekä potentiaalista stressiä, jota pienet lapset kohtaavat varhaiskasvatuksessa. Se tarjoaa myös pieniä lapsia koskevia stressin vähentämismenetelmiä, joita varhaiskasvatushenkilöstö voi opettaa pienten lasten hyvinvoinnin tukemiseksi varhaiskasvatuksessa.

Opinnäytetyössä esitelty kirjanen luotiin yhteistyössä pienen Helsingissä sijaitsevan yksityisen päiväkodin kanssa.

Keywords

well-being, stress, stress-reduction, early childhood education

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## 1 Introduction

In Finland, parents or custodians are primarily responsible for child's well-being. Therefore they should safeguard child's development. Child Welfare Act steers the provision of protecting children's rights to a safe growth environment, balanced and well-rounded development and to special protection (Child Welfare Act, No.417/2007). In the Child Welfare Act it is also stated, that authorities working with children and families should provide parents and custodians necessary support and assistance in their child's upbringing. When the best interest of child is being assessed, one of the crucial aspects we must take into consideration is balanced development and well-being.

According to Clinton et al. (2016), healthy development of infant depends on attachment relationship between child and caregiver. They suggest that secure, warm, responsive and predictable relationship with at least one caregiver affects the formation of neural structures in the brain that cause a positive infant well-being. Koch (1986, p.110) states, that children are easily shaped during the very early years of their life and that optimism, will and longing for being active is very much determined by environment, therefore the early years and the educational influences are very important.

Maternity allowance in Finland is paid for approximately four months. After that period, parents or custodians are entitled for parental allowance, which will end when the child is approximately nine or ten months old. Parents or custodians can stay at home with a child and receive child home care allowance until the child is three years old. In 2018, the Social Insurance Institution of Finland (Kela) has paid child home care allowance to 66 196 children, which is 43,9% of all children aged 9 months to 2 years old. Kumpulainen (2018) states, that the differences in participation in early childhood education between age groups and areas are big. However, according to Finnish institute for health and welfare, in year 2018, there were 252 216 children aged 1 to 6 years participating in early childhood education. That is about 74% of all children that age.

On that premise, a great number of children in Finland are attending early childhood education during the early years. Early childhood educators and personnel have in addition to the parents and custodians major role and responsibility in supporting children's well-being, emotional development and creating healthy environment for them to grow, play and learn.

During my previous experience in working as a kindergarten teacher with children under 3 years old, I came across many of them experiencing great amount of stress and anxiety being separated from their parents and having difficulties coping with that in the day care. The aim of this functional thesis is to discuss the level of stress that young children may encounter in early childhood education and care. Prolonged stress can affect children's well-being and development. By utilizing stress reducing methods, we can build a healthy and supporting environment for young children and their well-being. The idea is also to create a booklet for professionals in early childhood education on stress reducing methods along with the thesis.

## **2 Early Childhood Education in Finland**

According to Alasuutari (2003, p.68), Early Childhood Education and Care (ECEC) is an important part of the everyday life of Finnish families. She also mentions that roots of day care system date back to 19th century and that these services are relatively young and therefore the tradition of distributing parenting responsibilities between parents and ECEC is not long.

In Finland, the early childhood education and care falls under administration of Ministry of Education and Culture. Act on Early Childhood Education and Care (540/2018) lays down the provision of the rights for Early Childhood Education and Care, its organisation and provision and also the depot of data. According to Ministry of Education and Culture, the ECEC can be organised either as centre-based early education activities arranged in early education centres; family-based day cares which are arranged in family day care premises or as an open early childhood education and activities organised in appropriate place. ECEC is also regulated by Finnish National Agency for Education, which decided on a new National Core Curriculum for Early Childhood Education and Care in December 2018. One of the aims of the curriculum is to provide a framework for the implementation of equal ECEC through the country. The core values of the curriculum are the best interest of a child and his rights to well-being, care and protection. Curriculum also stresses the importance of equity, equality and diversity and promoting sustainability.

Ministry of Education and Culture recognises ECEC provided by local authorities or private providers. Municipalities can also make provision of an open early childhood education and care activities. The decision whether child attends ECEC or not is up to his parents or guardians. Even though participation in pre-primary education became compulsory in August 2015, almost all 6 years old have been attending pre-primary education for last 15 years (Kumpulainen, 2018). According to Ministry of Education and Culture, the fee for public ECEC depends on family size and income and also on the number of hours child participates in ECEC. The fees for private ECEC centres may vary but family can receive an allowance for the fee as well.

## 2.1 Organization of Early Childhood Education

The Union of Health and Social Health Professionals (Tehy), emphasize compliance of size and ratio of maximum 12 children younger than 3 years old in a group in ECEC with four children per one professional. There can be 24 children over 3 years old in a group with ratio 8 children per one professional, unless particular municipality has not decided on ration 7 children per one professional whereas the maximum of children per group should be 21. In family-based day cares can be 4 children per care giver and also one child attending pre-primary education part time. Or 8 children per two care givers and two children attending pre-primary education part time. If there is specific reason or circumstances, the amount of children in family-based day care can go up to 12 per 3 care givers.

Ministry of Education and Culture steers the provision of qualification requirement for ECEC personnel. Kindergarten teachers have to complete an early childhood education university degree or Bachelor's degree in social services with the qualification of early childhood education and social pedagogy, which is completed at universities of applied sciences. The kindergarten nurses or other personnel have to complete upper secondary level of education in child and health care. However, the legislation has changed recently. The qualification of kindergarten teacher will be granted to students of early childhood education at universities and only those students of Bachelor's degree in social services with the qualification of early childhood education and social pedagogy who will graduate before year 2023.

## 2.2 Participation in Early Childhood Education

According to Finnish institute for health and welfare, the differences in attending ECEC in 2018 were big between the ages. Only 1% of children under one year old were attending ECEC. 66% of two years old and 89% of five years old were participating in ECEC. Finnish institute for health and welfare also demonstrate numbers of children attending municipal and community based ECEC centers. In 2018, 300 children younger than one year old were attending full time and 46 children were attending part time. The number of children aged from one to two years old, however, was higher, with 36 824 children attending ECEC full time and 4 948 children attending part time. The number of children aged from three to five years old was 107 014 of full time attendance and 16 414 children attending part time. This statistic does not include children attending private providers of ECEC. However, as Kumpulainen (2018) states, the majority of children participate in ECEC provided by municipalities. Kumpulainen (2018) also mentions that children that are younger than one are mostly cared of at home. He notes that in 2016, just as few as 0,7% of children under one has attended ECEC, although it raises up as 28,4% of one year old and 54% of two years old has participated in ECEC.

## 2.3 Working life partner

The working life partner for this functional thesis is a small private kindergarten in Helsinki area. They focus on diverse early childhood education and care and extracurricular activities for children aged one to six years old. The children in this particular kindergarten are divided into three groups. There is a small group of 8 children under three years old, a group of three to five years old and one preschool group.

### 2.3.1 Discussion with working life partner personnel

In March 2020, I have discussed my plans regarding my thesis with one of the personnel of the group of youngest children in a kindergarten. I have acquainted her with the topic of my thesis and with the idea to create a booklet that would offer help and guidelines to an early childhood education and care personnel with utilization of stress-reducing methods. We agreed on upcoming discussion where I would ask her questions related to the well-being of small children in day care, the separation anxiety, the

methods they are already using with children in order to help them overcome possible distress and anxiety and whether there is need for improvement.

The second discussion was held in April 2020. We have discussed mostly her experience related to the questions I had emerging from the founding of the literature review. E.g. the differences between child's age, gender and personality and the way they are reacting to stress from separation; whether higher level of stress in small children occurs during particular part of day; how symptoms of anxiety and stress can be recognized and how children like to be comforted etc. We also discussed concerns of organizations of the groups. Her experience mostly correlated with the founding of literature review which is discussed in the next chapters. Her input was important because an actual experience gave a better insight on the results of the studies I have reviewed but also have formed a need for a booklet written along with this functional thesis. The booklet is meant to be used by any early childhood education and care personnel working with children under three years old. Booklet would offer brief information of my founding- possible stress levels small children might encounter in a day care and its impact on them. But furthermore, it would utilize stress reducing methods, some of which are already being used in the particular day care centre, to support small children's well-being.

### **3 Infant's and small children's mental health**

World Health Organization interpret that good mental health is related to mental and psychological well-being. U.S. Department of Health and Human Services states that promoting children's well-being stand in need of understanding and addressing child and his care giver functioning in physical, behavioral, social and cognitive areas. According to Clinton et al. (2016), children's early experience can shape their brain, influencing their behaviour, ability to learn and also making an impact on their lifelong health. They claim that very young children have exceedingly easily influenced brain by environmental stress. Young children are also believed to respond to external stress differently than children of higher age. The importance of attachment relationship between child and caregiver is recognised to be essential for healthy development of neural structures in the brain which leads to positive well-being. An attachment theory described by Bowlby, explains attachment behaviour as "any form of behaviour that re-

sults in person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world". Bowlby (1982) also endorses existence of profuse evidence that almost every child habitually prefers one person, usually the mother, to reach up to while stress occurs. However, in mother's absence, child will turn to someone else, most likely someone well known. The attachment relationships are not the only important factors crucial for children's well-being. It is also the environment child spends time at. Clinton et al. (2016), suggest that the potential that child has can elaborate through the interaction of his genetics and environment. The brain is adjusted to the child's environment.

### 3.1 Child's psychological development

Eriksson (1995 cited in Beckett & Taylor, 2016, p.35) views human ability to trust others as learnt in childhood, when infant starts to trust that his mother will return when she goes away.

"The infant's first social achievement... is his willingness to let the mother out of his sight without undue anxiety or rage, because she has become an inner certainty as well as an outer predictability."

Beckett & Taylor (2016) p.35 also mentions that evolving sense of trust is a process that involves overcoming separation. It is also to be believed fundamental for satisfactory relationships in later life. Winnicot (2005 cited Beckett & Taylor, 2016, p.35) used the analogy of mirror, to explain that all small children depend on others in order to have their basic emotional and physical needs met. When those needs are met while expressed, child feels as the other person is mirroring him. The need of the child seems to bring him a response. If the child feels the persistence in his needs being met, he can conclude that the other person, usually parent or care giver, knows who the child is, therefore he gets the sense of being in power, which allows him to make demands and being spontaneous in expressing feelings and needs. From this child develops a "true self". Winnicot (2005 cited in Beckett & Taylor, 2016, p.35). On the other hand, the child, whose needs are not met during the early stage of life, will fail to develop a sense of himself as an autonomous being. In fact, human interaction will become scary and the child will end up in denial of his own feelings and needs in order to defend himself. Winnicot (2005 cited in Beckett & Taylor, 2016, p.35). Both Eriksson and Freud has believed in psychological development happening through stages which person needs to go through and face (and solve) a conflict in order to move forward.

Eriksson has covered a whole life span of stages of development, however, for the purpose of this thesis, only the first three years of a child are relevant.

According to Eriksson (1995 cited in Beckett & Taylor, 2016, p.39), the first year of a life child goes through the stage called Trust versus Mistrust. In this stage, child needs “consistent and stable care in order to develop feelings of security”. Favourable outcome of this stage is a child, which has trust in the environment and hope for the future. Unfavourable outcome, however, is an insecure and suspicious child that is afraid of the future. In the course of second developmental stage, which occurs during child’s second and third year, child “seeks an independence from parents”. This stage is called Autonomy versus Shame and Doubt. Its favourable outcome is self- esteem and sense of autonomy. Unfavourable outcome are feelings of shame and doubt about own capacity and self-control. Eriksson (1995 cited in Beckett & Taylor, 2016, p.39). It is very important to be aware, understand and acknowledge the small children’s psychological development when organising and implementing the ECEC because the first years of the child’s life have a great impact on his overall psychological development. According to Beckett & Taylor (2016, p.38), Eriksson believed the outcome of the first stage to be crucial for the stage of Autonomy :

“Clearly if it is not possible for an infant to establish a sense of trust in the environment because it is not a secure one, it would be more difficult to achieve a sense of autonomy which is the next stage”.

According to U.S. Department of Health and Human Services, each child’s response to transitions (for example entering the day care setting) is different and it is affected by his developmental stage and personality. Because children have various temperaments, resiliency and previous experience, their transitions progress in different ways. Therefore, keeping child’s development in mind when they are facing transitions will help us understand children’s emotions and behaviours.

### 3. 2 Readiness of child for Early Childhood Education

Alasuutari (2003, p.24) states that family has been traditionally mainly responsible for child’s upbringing and his development but it is not anymore the only environment child operates in. Early childhood education and care is therefore another important aspect of child’s life. National core curriculum for early childhood education and care 2018 strongly values children’s safety and well-being. Personnel play a vital role in supporting children with managing and developing their social and emotional skills. But does

the age of enrolment of child into early childhood education and care affect his development? As mentioned earlier, the environment and the child's experience in early childhood indeed has an impact on his development and overall well-being. However, as Huizen & Plantenga (2018) state in their paper Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experience, the starting ECEC before age three does not appear to have major contribution to effectiveness. They also note that an early starting age leads to separation from the primary caregiver which can lead to stress and anxiety and cause negative effects on child's development. However, they also mention the lack of extensive literature review considering children age 0 to 2 years old, while on the other hand, for children aged three and more, the evidence is consistent that pre-school provision can be beneficial to social and educational development.

#### **4 Stress and its impact on infants and small children**

Hamoudi et al. (2015) state that while taking into consideration link between stress and development, it is important to differentiate between acute and chronic stress.

"Acute stress involves the body's stress system activating for a short period of time in response to a temporary stimulus. Although such stress can have lasting biological or behavioural effects if it is severe enough, the human stress response system is generally well-equipped to manage acute stress. In contrast, chronic stress-in which the body's stress system is activated very frequently or for a prolonged period of time or in response to persistent stimuli-may have detrimental effects on the brain and behaviour".

According to Sourander (2015 cited in Suhonen et. al 2018), each child has a different history of development when entering ECEC. Not only are children born with unique temperament and physical and psychological needs, but it is also socio-economic environment, parenting styles and parental attitudes that can affect child's developmental trajectories, even in prenatal stage. As was mentioned earlier in this thesis, the beginning of child's life is very important for his future development. Especially the first three years, during which the fundamental basics for future learning and well-being are formed (Suhonen et al. 2018). Since the brain of child is very tractable, it can be affected positively by good influence or negatively by poor quality of environment.

#### 4.1 Stress levels in early life of children

Weinstock (2005 cited in Loman & Gunnar 2009), describes stressors as threatening conditions or events or actions that are perceived as threatening for psychological equilibrium. According to Rutter et al. (2015 cited in Suhonen et al. 2018), early life environmental influences have an impact on social, emotional and cognitive development of children. As Suhonen et al. (2018) mention, the main pathway for the environment to apply this influence is via changes in stress-responsive biological systems. They also state that “stress-induced neurobiological responses guide adaptive and essential responses to environmental changes and challenges”. According to Sajaniemi et al. (2015 cited in Suhonen et al. 2018), stress reactive system is also activated when we become alert and attentive. Suhonen et al. (2018) explain stress regulation responses occurring in order to maintain a balanced activity during the preparation of brain and body to take action and “when is needed to delay immediate reactivity in striving to achieve current or future goals”. According to Loman & Gunnar (2009) during stress responses the activity in the central nervous system calls up endocrine, autonomic and behaviour system to assist the protection and adaptation to threat. Levine (2005 cited in Loman & Gunnar 2009) identifies lack or loss of parental stimulation as one of most potent stressor in early life. Loman & Gunnar (2009) argue that low parental nurturance can lead to small children’s chronic stress. They also state that over activity of stress and threat responses might have an influence on developing prefrontal regulatory systems which can lead to extended risk of attention and emotion regulatory problems. However, when the parental nurturance or child’s care improves, stress and threat systems can re-organise in order to become modulated and less active. Loman & Gunnar (2009) suggest that this particular re-organisation can be only possible if the child experience safety. Hence, child during the early development needs to have secure relationship with consistently responsive and caring adult.

#### 4.2 Stress in Early Childhood Education

Multiple studies have tried to measure the level of stress small children may be experiencing during the particular parts of the day in order to establish whether stress levels in day care rise compare to stress levels at home setting. (Suhonen et al. 2018; Vermeer & IJzendoorn 2006; Watamura et al. 2004) they tried to find some correlation

between stress and child's temperament, gender or socio economic background (Suhonen et al. 2018; Vermeer & IJzendoorn 2006). And they also tried to assess the level of stress very young children may encounter in a day care and the attributor behind that. As Vermeer & IJzendoorn (2006) point out, measuring the stress in ECEC cannot be done by only observation, because the results of it cannot be precise. Therefore, multiple studies have used more accurate examination of saliva or urine samples taken from children and measuring the cortisol levels. Vermeer & IJzendoorn (2006) propose the definition of cortisol as:

“Cortisol is primary hormonal product of the hypothalamic-pituitary-adrenocortical (HPA) axis, which is involved in complex biological processes implicated in the regulation of stress and emotions”.

As Vermeer & IJzendoorn (2006) also state the important factor that can affect the results of cortisol levels is the time of the testing. It is believed that cortisol levels follow a circadian rhythm. National Institute of General Medical Sciences describes circadian rhythm as changes that follow a daily rhythm. They can be physical, mental or behavioural and they can be found in most living things including plants and animals. Night sleeping and being awake during the day is one of the examples of circadian rhythm which is light related. However, Vermeer & IJzendoorn (2006) acknowledge that it is unsure how different contexts and child's gender, age or temperament can impact this rhythm. Kirshbaum & Hellhammer (1989 cited in Vermeer & IJzendoorn 2006) propose that majority of adults have highest cortisol levels approximately 30 minutes after wake up and that during the period of two hours after waking up, there is a sharp decrease happening which is followed by moderate decline over the rest of the day time and evening hours. Vermeer & IJzendoorn (2006) support the view that the same diurnal pattern can be found in children as Gunnar and Dozella (2002 cited in Vermeer & IJzendoorn 2006) state that a daily rhythm of cortisol with highest levels in the morning and lowest in the evening was apparent at the earliest age tested, which was two months to the eldest age, which was three years. However, Suhonen et al. (2016) negate this view by stating that diurnal pattern is under progression as infants are born without a diurnal cortisol rhythm and that it emerges during first 18 months.

Ahnert et al. (2004, mentioned in Vermeer & IJzendoorn 2006) studied cortisol responses of 15 months old toddlers in transition to day care. They found out that children had higher cortisol levels in day care settings even with a presence of mother than at home. They state that first hour following mother's departure cortisol levels rose to

be 75-100% higher than at home. They also mention, that even though the children seemed to adapt to the day care during the period of 5 months, their cortisol levels were still higher in day care. However, they state that children who were securely attached have lower cortisol levels than the children that were attached insecurely. Vermeer & IJzendoorn (2006) support the view that “day care children display a significantly different cortisol excretion pattern at day care compared to the home setting”. Levels of cortisol are being higher at day care than at home during similar times of evaluation.

Another possible relation on cortisol levels studied were child’s characteristics including age, gender and temperament. Vermeer & IJzendoorn (2006) indicate that increased cortisol levels due to the day care attendance were especially notable in children younger than 36 months. According to Boyce & Ellis (2005 cited in Suhonen et al. 2016) some children can be prone to vulnerability to early life experiences due to their temperament. As Suhonen et al. (2016) mention, reactive temperament in children can be one of those factors influencing the sensitivity to both positive and negative qualities of environment. Fox & Reeb-Sutreland (2010 cited in Suhonen et al. 2016) oppose that

“behaviourally inhibited, reactive children display a heightened orientation to threat, enhanced novelty detection and greater error monitoring; they are also more likely to develop anxiety disorders”.

Vermeer & IJzendoorn (2006) state that poor self-control; social fearfulness and aggression can contribute to higher cortisol levels. They also state that correlation between inhibited behaviours such as shyness and cortisol were apparent for boys only. According to Suhonen et al. (2016) girls and boys have differences in their cognitive and language abilities, when girls were found to have better cognitive and language abilities while entering the kindergarten. This can be linked to sociocultural traditions such as family culture which might create conditions favourable to girls. Suhonen et al. (2016) propose that some children might be more at risk than others because of their weak cognitive and language development. Suhonen et al. (2016) stress the importance of intervention of professionals and high-quality of early childhood education because sensitive professionals have the potential to affect child’s development positively regardless child’s background or biological givens.

## 5 Supporting well-being and stress reducing methods

In early childhood education and care, it is crucial that the child receives the support he needs. All children are supported in their development and learning by proper organisation of daily activities in the ECEC. The organisation of support is based on individual child's strengths and needs related to development and learning. National core curriculum for early childhood education and care 2018 state that "encouraging children and providing them with opportunities for experiencing success support the development of the child's positive self-image". It is essential that each child feels accepted as he is and that he is accepted into a group. Personnel with accordance to their education, job description and duties, is responsible for observing the child and his potential need for support. However, the cooperation between child, his parents or guardians, ECEC teachers, ECEC special needs teacher and other ECEC personnel is important for identifying child's need for support and for planning, evaluating and implementing support measures (National core curriculum for early childhood education and care 2018). Also Alasuutari (2003, p.90) supports the view of good cooperation. She endorses the cooperation and interaction between parents and professionals in education as essential. If cross-sectoral collaboration is needed, for example in cases such a need of extra support for a child with disabilities, it should be implemented with child's parents or guardian's consent.

Possible difficulties in early childhood education and care are prevented by pedagogical arrangements and various working approaches. This should consist of versatile activities, flexibility in changing groups and shaping and re-shaping learning environment. However, the daily routines and rhythm of daily activities should remain clear because it offers children a support (National core curriculum for early childhood education and care 2018).

In National core curriculum for early childhood education and care 2018 is also stated that the working methods and learning environments should be amended in accordance to child's individual needs. The support might include pedagogical, structural and other arrangements supporting well-being. National core curriculum for early childhood education and care 2018 only mentions few examples of such arrangements, for instance additional help of special teacher or guidance, interpretation or assistant services, usage of sign or visual aids to support language and communication or reducing number of children in a groups or number or structure of the personnel. In order to

support children's development, learning and well-being, constant observation, documentation and evaluation is essential. Strengthening the competence of personnel is also mentioned in National core curriculum for early childhood education and care 2018.

“The child needs help in acting in the group, functional differentiation and time for learning basic skills. In this case, the support might require strengthening the special pedagogical or nursing competence of the personnel or cross-sectoral cooperation with social and health care professionals”.

There are various ways how to manage stress and multiple existing stress-reducing methods. In the following part I am going to introduce and discuss three different stress-reducing methods that can support children's well-being. Chosen stress-reducing methods had to correspond with children's age-taking into account their development. Also, they should be consistent with the founding of the literature review. As the aim of the thesis is supporting well-being of children that are younger than three years by reducing stress and utilizing stress reducing methods, the methods need to be regulated by early childhood education personnel as very young children often lack the capacity to affect their experience due to their physical and mental development. However, stress reducing methods can be taught. As children grow, they should be able to learn to practice some of the stress reducing methods themselves.

### 5.1 Self-regulation skills

According to U.S. Department of Health & Human Services self-regulation is the act of managing thoughts and feelings to allow goal-directed actions. Self-regulation skills are important because they have a fundamental role in promoting well-being across the lifespan. Self-regulation skills can help with physical, emotional, social and economic health and educational achievement. Murray et al. (2015) demonstrate that self-regulation can be defined from applied perspective as the act of managing cognition and emotion and it can set up a starting point for lifelong functioning-including mental health, well-being, academic achievement, physical health and socioeconomic success. Self-regulation can also be reinforced and taught and it can develop over period from birth to youth. According to Murray et al. (2015) both external and internal factors have an impact on self-regulation. Those factors might be for example biology, skills or motivation and they interact with one another. Murray et al. (2015) also state that long term stress and trauma can disrupt self-regulation.

Murray et al. (2015) also recognise self-regulation as cognitive, emotional and behavioural. They propose that cognitive self-regulation involve focused attention, cognitive flexibility and mental shifting, goal-setting, self-monitoring etc. Emotional self-regulation can enable us manage strong and unpleasant feelings and as a result of that, we are able to function in emotionally arousing situations. Murray et al. (2015) also mention that not only can cognitive and emotional self-regulation integrate; it is crucial part of cognitive regulation. They propose that integration can allow attachment and compassion to have a positive impact on behaviour and goal setting and it also allows cognitive regulation skills sufficiently manage emotions. One of the examples could be effortful coping, when small child “remembers rules and anticipate consequences so as to make positive behaviour choices when experiencing frustration or anger”. Behavioural self-regulation includes skills such as following rules, persistence, impulse control or process of passing of active strategies. Those strategies can be for example deep breathing or seeking support.

#### 5.1.1 Self-regulation during early childhood

According to U.S. Department of Health and Human Services, self-regulation capacity and skills can significantly change during the first five years of a child, depending of his cognitive and motor skill development. However, during the very early years of children’s lives, parents, guardians or care givers are the ones that are very important for their development and children are depended upon them. Therefore parents, guardians or caregivers can provide children with the necessary support that can lay foundation to self-regulatory skills (U.S. Department of Health and Human Services). This process is called co-regulation. U.S. Department of Health and Human Services also opposes three broad categories of support that parents, guardians or care givers can offer. First, provision of warm and responsive relationship, where children feels loved, respected, comforted and supported when they are stressed. Positive relationship can help children gain confidence so they feel secure enough to practice new skills. Secondly, structure of the environment can help to make self-regulation attainable and to minimize environmental stressor. Preferable environment is one that is safe for children to play, learn and explore with accordance to their development. Regular and predictable routines also help children to feel secured by providing clear aims for behavioral regulation. Lastly, to teach and coach self-regulation skills that parents, guardian or care givers can do by being role models, through instructions and created opportunities or through reinforcement of successive approximations (U.S. Department of Health

and Human Services). According to Murray et al. (2015) parents, guardian and care givers can moderate the impact of possible stressors in the environment. Moreover, they can keep children's emotional arousal in balance with their cognitive regulation skills. That way children can cope with the stressor themselves. However, in order for parents, guardians and caregivers to be able to successfully co-regulate, they have to have the abilities to self-regulate themselves. Therefore they should focus on improving their own skills to cope with the stress and to work on how to calm themselves down. The ability of own self-regulation can lead to parents, guardians or care givers providing children with calming influence (U.S. Department of Health and Human Services).

Self-regulation skills that children might be ready for are determined by their developmental age group. During infancy, the regulatory needs of babies are predominantly managed by adults. Things such as feeding, temperature control or managing the environment will make babies react physically because they lack the capacity to change their experience (U.S. Department of Health and Human Services). Therefore parents, guardians and care givers should be sensitive to their signals; they should respond to their needs and offer comfort when the babies feel distress. According to Murray et al. (2015), infants have almost entirely reactive emotional regulation which is marked by "a quick stimulus-driven response with physiological effect". One of the examples is when baby starts to cry as a result of occurred loud noise. Even though crying would not be normally considered as an ability of self-regulation, there are early indicators of self-regulation, for example ability of baby to shift the attention away from the stressor by looking at mother's face and by doing so, modulating the impact of sensory-motor stress (Murray et al., 2015). Murray et al. (2015) also mention that when babies are 9 months to 18 months old, their capacity of focusing attention, which lays foundation for cognitive self-regulation, becomes more voluntary. Babies can use this self-regulation skill by looking at their attachment figure for indication to respond for new or uncertain situation. However, co-regulation is necessary because parents, guardians or care givers must respond accordingly, for example by offering regulation by calming the baby down or reassuring the baby while upset. The other self-regulating ability infants have, as mentioned in Murray et al. (2015) is self-soothing behaviour such as sucking thumb which may support emotion regulation because it can reduce distress and frustration.

During the period of children's second and third year, the capacity to practice self-regulation skills is growing, because children increase the ability to adjust their behav-

jour to goal achievement (Murray et al., 2015). In this period, children are already aware of what is expected of them in terms of their behaviour. According to Murray et al. 2015, children demonstrate the ability to delay gratification. Murray et al. (2015) imply that by pointing out results by laboratory activities, such as Marshmallow test, when children are promised to get two marshmallows instead of one if they wait, or during gift-delay task, when children are asked not to peek. During this part of toddlerhood, children increase their sense of self and they understand the connection between goal and action. According to Murray et al. (2015), this comes across as being contribution to self-regulation. However, as U.S. Department of Health and Human Services mention, children at this age have strong emotions that prevail over those newly gained skills and they need parents, guardians or care givers to structure their environment and providing comfort and reassurance. Parents, guardians and care givers can teach children skills such as waiting and patience and use simple words to communicate feelings and needs.

## 5.2 Music and its impact on children's well-being and development

According to Labbé et al. (2007), music can be used as medium to help reduce negative emotions. Listening to music is also known to have beneficial impact on health because it has stress-reducing effects. According to Bruscia (2012), when music is used as a part of therapy, it can be beneficial to individuals of all ages with different conditions, such as psychiatric disorders, medical problems, sensory impairments, substance abuse etc. Bruscia (2012) also mentions music therapy used for self-development intentions can help improve learning, building self-esteem, reducing stress, supporting physical exercise and benefit other health-related activities. Music therapy usually involves listening to, recreating, improvising and composing music, when each of the activity can help client with different responses. Therefore therapist uses the approaches according to the client's needs. Bruscia (2012) states that in therapy session that involves listening, client might respond through activities such as relaxation and meditation, structured or free movement, perceptual task, free association, storytelling, imagining, drawing etc. In National Core Curriculum for Early Childhood Education and Care 2018 is mentioned that concentrated exploration, spontaneous creative expression and active play have important part in supporting children's well-being. It is also stated that nursery rhymes along with wordplay, songs and playfulness can strengthen positive atmosphere which can positively support learning and well-being.

One of the goals of early childhood education and care is the support of linguistic skills and capacity of children. National Core Curriculum for Early Childhood Education and Care 2018 propose that not only is supporting linguistic development connected to maturing multiliteracy, it can also be linked to transversal competences associated with children's cultural skills and interaction. According to Tierney & Kraus (2013) musical training can enhance language abilities. Musical training can be also used as an effective developmental strategy for children. Fritz et al. (2018), also suggest that semantic enhancement by music during learning new world can help the novel world acquisition. As it is mentioned in Murray et al. (2015), children can learn strategies and knowledge through the language exchange in social interaction, which leads to self-regulation development. They also state the importance of ability of children to label their emotions, because it can help them articulate them more effectively and therefore react in adaptive ways. As it was mentioned earlier in this thesis, some children might be more at risk because of their weak cognitive and language development (Suhonen et al., 2016). On that premise, music in various forms, including listening to, singing, playing and using as a tool for different relaxation techniques should be incorporated into daily routines and pedagogical planning in early childhood education and care as it has benefits on children's well-being and development.

### 5.3 Physical activity as a stress reduction

According to Martikainen et al. (2013), children who engage in more physical activity have apart from more optimal health also better mental health. Martikainen et al. (2013) suggest that higher level of physical activity in children can contribute to adjustment of responses to psychological stress as their study shows that children with highest level of daily physical activity were reported to have no or only small cortisol levels in response to stress. Martikainen et al. (2013) also claim that in stressful day-to day experience, physical activity might contribute as a protective factor. Higher level of physical activity is linked with better psychological well-being in children and youth (Martikainen et al., 2013). According to Korczak et al. (2017), increased physical activity in children was also found to be associated with decreased depressive symptoms.

One of the goals of ECEC, according to National Core Curriculum for Early Childhood Education and Care 2018, is to build the base for children's way of living which promotes physical activity and values well-being and overall health. Early childhood education and care should encourage children to be physically active and to enjoy physical

activity. National Core Curriculum for Early Childhood Education and Care 2018 also stresses the importance of outdoor play during any season. Besides supervised and guided exercises, children should have independent and free physical activity both outdoors and indoors. According to National Core Curriculum for Early Childhood Education and Care 2018, it is important to viewpoint the physical activity as a natural part of children's day because physical activity is crucial for their development, healthy growth, learning and well-being. National Core Curriculum for Early Childhood Education and Care also 2018 also propose the idea of regular physical activity and supervised exercise as a key role in children's holistic development and motor skills. Therefore it is important that personnel observe children's motor skills systematically and plan the daily structure, indoor and outdoor environments and content of the activities with accordance to that.

There are various ways how to program physical activity of small children and target the reduction of stress at the same time. Studies support the view that physical activity can benefit to overall health of children and have a positive impact on responses to psychological stress. According to The Pennsylvania State University, reactions of children to stress can vary with their age and development and therefore it is necessary for early childhood education personnel to be able to identify it. They also mention that earlier intervention with stress-relief strategies can be used as prevention of problems with stress. The Pennsylvania State University suggest couple of stress reducing strategies. Apart from exercise, some of the other stress-reducing methods are muscle relaxation, sensory activities when children can play, squeeze, pound and manipulate play dough or stress ball, or play with sand and water.

## 6 Ethics

According to Gray (2010) social workers aim to maximize the good and minimize the harm. This core ethical principle is the original thought behind the idea of this thesis, to help professionals in ECEC to support well-being of small children by reducing their possible distress.

In Finland, the Ministry of Education and Culture appointed a board The Finnish Advisory Board on Research Integrity (TENK), which is responsible for the guiding the re-

sponsible conduct of research. As the thesis is functional, the literature review process had taken into account the work and achievements of other researches by respecting their work and citing their publications adequately.

No personal information of children was obtained during writing the thesis and confidentiality was established by keeping the name and place of kindergarten private.

## **7 Procedure of literature review**

During the process of the literature review, I have searched for published peer-reviewed studies from the databases as CINAHL, PubMed and MEDLINE. The search terms were “early childhood education”; “stress”; “stress in young children”, “well-being of small children”, “infant’s development”, “self-regulation”

I have collected books from library related to child’s psychology and early childhood education.

I have also searched for related references to early childhood education, early childhood education in Finland, stress and self-regulation on the internet.

I have used English, Finnish and Czech literature from relevant academic disciplines. I haven’t established particular time frame for literature review from two main reasons. Firstly, the literature covering well-being and potential stress in early childhood education for children under three years old is limited. Secondly, the literature regarding child’s psychological development, for example Bowlby’s attachment theory or Erikson’s stages of psychological development, is rather old but still relevant. However, I needed recent material covering current Finnish legislation and the newest National core curriculum for early childhood education and care 2018.

After analysing collected material, I have excluded literature that was relevant to adults or children significantly older and also the literature specific to certain circumstances including children’s stress due to terminal illness, abuse and maltreatment.

## 8 Implementation plan

During the early June 2020, we have agreed with working life partner on meeting and discussing the thesis and provided booklet. At first, the idea was to use the booklet only for the personnel of groups with children aged to three years old. However, as we discussed the content of the booklet, the person working with the youngest children suggested that all personnel in the day care will read it. Even though it targets the youngest children, older children can benefit from some of the methods such as music lessons and games.

I have explained the content of the booklet and showed how the different methods are divided. We agreed that after everyone will read it, they will try the methods for couple of remaining weeks before holidays and give me feedback at the end of June 2020. We also agreed that if the methods are found useful, they might try them when the new school year starts after summer as then they will take new children into the day care. The beginning of starting day care can be more hectic and stressful so implementation plan taking place at that period would have been probably more beneficial.

For my personal learning, an observation at the kindergarten while implementing the methods would have been more useful. Unfortunately due to pandemic and restrictions during the writing of the thesis I was not allowed to participate on that. However, the difficulties occurring during the time of writing the thesis just required more flexibility and did not cause any obstacle in implementing the thesis.

The stress reducing methods being mentioned in upcoming chapter are all included and described in the booklet.

## 9 Evaluation

As it was mentioned earlier in this thesis, we have agreed with the working life partner staff member that each of the personnel will read the booklet and share their insight on it. I have received their feedback at the end of June 2020.

The personnel agree with the finding that children respond strongly to stress during the morning. Therefore it is very important that educators react calmly and that they follow the same routines every morning in order to offer comfort to a child and making him feel safe in the environment.

From the stress reducing methods listed, they are already using most of them. And according to them, they work almost all the time.

Calming and reassuring child when stressed, teaching rules and showing instructions kindly, calmly and firmly and removing the child from the situation that caused the stress (always accompanied by an educator) is being used at the particular day care with children aged one to five years.

Physical contact such as hugging, taking child on the lap, speaking softly, singing calm songs, using comforting objects such as pacifier, soft toy or blanket is being used with children aged one to two years old.

Open interactions with the educator (1:1), talking with the child, identifying, naming and validating different emotions, using self-calming strategies (e.g. letting the child go to his favourite place: book corner, favourite chair or hugging his soft toy) is used mostly with children aged three to five years old.

Music as a sensory experience and calming strategy is used daily during quiet time for both sleeping and non-sleeping groups and musical drawing is used time to time with children aged three to five years old. Children aged two to three years old love to sing and dance and songs and rhymes during transitions and routines are used especially with the younger children.

According to the working life partner personnel, physical activity is being used as a stress-reducing method especially with children older than two years old as they tend to be more in need of physical activity when bored, unhappy or overwhelmed. Outdoor time and extra physical education activities are being used whenever the personnel feel the need for children to release the energy. They mentioned that listed games as physical activities were a good idea that they will use.

The additional insight they have offered was that clearly some children feel stressed and overwhelmed in big groups or within a small space. Since the working life partner unit is a small place, they need to put a lot of emphasis on working with small groups and organising the routines so each group can use certain space for a period of time without mixing with others.

## 10 Conclusion

The original idea behind this thesis was to find whether the early start in early childhood education and care can have negative impact on children's well-being due to the elevated stress levels and whether there are existing or possible ways and methods to help children overcome this rather difficult experience of transition from a parental/home care to a hectic everyday life of day care while supporting their well-being.

As a result of literature review: It is rather complicated to establish clearly whether the start of early childhood education under the age of three can have negative impact on child's well-being due to elevated stress levels. Even though most of the studies found correlation between elevated cortisol levels at day care and the age of a child, there are multiple factors affecting the pattern of cortisol levels such as day and time of the testing, environment, child's temperament etc. The literature and studies focusing on levels of cortisol of children under three years old in day care is rather limited and there is a need for more additional literature and research to be able to establish clearly correlation between effect on day care and small children's stress. However, studies have shown differences between cortisol levels measured at home and cortisol levels measured at day care which were significantly higher.

Research supports the view that prolonged stress can have negative impact on mental development of small children. The beginning of child's life is very important for his future development. Especially the first three years, during which the fundamental basics for future learning and well-being are formed. Therefore it is very important for early childhood education professionals to do their best to build a safe environment and initiate connection with small children in order to minimize their distress and to support their well-being. Also, it is crucial to keep in mind the psychological development of small children when implementing, planning and evaluating pedagogical activities in

ECEC. Outcome of literature review also supports the theory of secure attachment between child and care giver having a positive impact on his well-being.

As an impact of working life partner: The experience of personnel reflects on the founding of elevated cortisol levels among small children when entering the day care in the morning. They stress the importance of having clear and calm routines in order for children to deal better with the separation anxiety they might have while being brought to the day care by their parents or guardians in the morning. Very small children need calm environment and warm approach; they often need to be held for some time by day care personnel and be reassured that their parents or guardians will later come back and pick them up. Clear and regular routines help children to orient better during the day as they do not have the clear sense of time yet. One of the challenges of this particular day care is space and resources. They are a small unit so the space is limited and they are not always able to divide the groups or use different rooms. In order to be able to do so, they need enough time for planning and coordination with other groups. On the other hand, small day care with fewer children can be calmer and better option for the youngest attendants, offering appropriate environment and individual and calm approach by the personnel. Personnel have enough time and opportunities to give the smallest children attention they need.

As an input of my personal experience and learning process: I have always wondered whether there is a scientific proof behind opinion that I have formed during working in different day cares with infants and very small children, which was that starting early childhood education is rather stressful for them. And foremost, whether there are ways to reduce the stress they encounter while starting and being in the day care. Literature review has shown some correlation between age of a child and his higher cortisol levels, however, there are many other factors affecting the ways child might react by starting day care such as his personality trait, development and temperament, attachment to the parents or guardians and many others. Even though we cannot establish clearly whether starting early childhood education before age three is beneficial to a child or not, we, early childhood educators and personnel, can have a positive impact on his transition from being taken care of at home to starting early childhood education. By offering good quality care and supporting children's well-being by managing and reducing potential stress, we can create a nice, safe and nourishing environment for children to grow, play and learn.

The collaboration with working life partner was successful and the aims of the thesis were met. The booklet has offered a brief summary of the literature review and gave insight on the increased cortisol levels of small children. It utilised some stress-reducing methods for early childhood education personnel to use in order to support the well-being of small children.

## References

- Alasuutari, M. (2003) *Kuka lasta kasvattaa*, GAUDEAMUS, p.24, p.68, p. 90
- Beckett, C. & Taylor, H. (2016) *Human Growth and Development*, SAGE, p. 35, p.38, p.39
- Bowlby, J. (1982) *Attachment and loss: Retrospect and Prospect*, American Orthopsychiatric Association, Inc.
- Bruscia, K., E. (2012) *Case examples of music therapy for children with emotional or behavioral problems*, e-book, available at: <https://ebookcentral.proquest.com/lib/metropolia-ebooks/reader.action?docID=3117660> [accessed: 10<sup>th</sup> of June 2020]
- Clinton, J., Feller, A.F., & Williams, R.C. (2016) *The importance of infant mental health*, available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4933050/> [accessed: 3<sup>rd</sup> of March 2020]
- Finnish Institute for Health and Welfare (2019) *Tilastoraportti, Varhaiskasvatus 2018*, available at: [http://www.julkari.fi/bitstream/handle/10024/138571/Tr32\\_19\\_vuositilasto.pdf?sequence=5&isAllowed=y](http://www.julkari.fi/bitstream/handle/10024/138571/Tr32_19_vuositilasto.pdf?sequence=5&isAllowed=y) [accessed: 8<sup>th</sup> of March 2020]
- Finnish National Agency for Education, *National Core Curriculum for Early Childhood Education and Care 2018*,
- Fritz, T., H., Schütte, F., Steixner, A., Contier, O., Obrig, H. & Villringer, A. (2018) *Musical meaning modulates word acquisition*, available at: <https://www.sciencedirect.com/science/article/abs/pii/S0093934X18300038?via%3Dihub> [accessed: 18<sup>th</sup> of June 2020]
- Gray, M. (2010) *Moral Sources and Emergent Ethical Theories in Social Work*, British Journal of Social Work
- Hamoudi, A., Murray, D.,W., Sorensen, L. & Fontaine, A. (2015) *Self-regulation and Toxic Stress: A Review of Ecological, Biological and Developmental Studies of Self-Regulation and Stress*, available at:

[https://www.acf.hhs.gov/sites/default/files/opre/acf\\_report\\_2\\_rev\\_022415\\_final\\_508.pdf](https://www.acf.hhs.gov/sites/default/files/opre/acf_report_2_rev_022415_final_508.pdf) [accessed: 1<sup>st</sup> of June 2020]

Huizen van T., & Plantenga, J. (2018) *Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experience*, available at: Science Direct database [accessed: 9<sup>th</sup> of March 2020]

Koch, J. (1986) *Výchova kojence v rodině*, AVICENUM, p. 110

Korczak, D., J., Madigan, S. & Colasanto, M. (2017) *Children's Physical Activity and Depression: A Meta-analysis*, available at: <https://pediatrics.aappublications.org/content/139/4/e20162266> [accessed: 24<sup>th</sup> of June 2020]

Kumpulainen, T. (2018) *Key figures on early childhood and basic education in Finland*, available at: <https://www.oph.fi/sites/default/files/documents/key-figures-on-early-childhood-and-basic-education-in-finland.pdf> [accessed: 3<sup>rd</sup> of March 2020]

Labbé, E. (2007) *Coping with Stress: The Effectiveness of Different Types of Music*, available at: [https://www.researchgate.net/publication/5880055\\_Coping\\_with\\_Stress\\_The\\_Effectiveness\\_of\\_Different\\_Types\\_of\\_Music](https://www.researchgate.net/publication/5880055_Coping_with_Stress_The_Effectiveness_of_Different_Types_of_Music) [accessed: 9<sup>th</sup> of June 2020]

Loman, M.,M. & Gunnar, R., M (2009) *Early Experience and the Development of Stress Reactivity and Regulation in Children*, available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2848877/> [accessed: 3<sup>rd</sup> of April 2020]

Martikainen, S., Pesonen, A.-K., Lahti, J., Heinonen, K., Feldt, K., Pyhälä, R., Tamminen, T., Kajantie, E., Eriksson, J., G., Strandberg, T. & Räikkönen, K. (2013) *Higher Levels of Physical Activity Are Associated With Lower Hypothalamic-Pituitary-Adrenocortical-Axis Reactivity to Psychological Stress in Children*, available at: <https://academic.oup.com/jcem/article/98/4/E619/2537095> [accessed: 9<sup>th</sup> of June 2020]

Ministry of Education and Culture, Finland, *Act on Early Childhood Education and Care*, available at: <https://www.finlex.fi/en/laki/kaannokset/2018/en20180540.pdf> [accessed: 8<sup>th</sup> of March 2020]

Ministry of Social Affairs and Health, Finland, *Child Welfare Act*, available at: [https://www.finlex.fi/en/laki/kaannokset/2007/en20070417\\_20131292.pdf](https://www.finlex.fi/en/laki/kaannokset/2007/en20070417_20131292.pdf) [accessed: 8<sup>th</sup> of March 2020]

Murray, D. W., Rosanbalm, K., Christopoulos, C. & Hamoudi, A. (2015) *Self-Regulation and Toxic Stress: Foundations for Understanding Self-Regulation from Applied Developmental Perspective*, available at: [https://www.acf.hhs.gov/sites/default/files/opre/report\\_1\\_foundations\\_paper\\_final\\_012715\\_submitted\\_508.pdf](https://www.acf.hhs.gov/sites/default/files/opre/report_1_foundations_paper_final_012715_submitted_508.pdf) [accessed: 2<sup>nd</sup> of June 2020]

National Institute of General Medical Sciences, *Circadian Rhythms*, available at: <https://www.nigms.nih.gov/education/fact-sheets/Pages/circadian-rhythms.aspx> [accessed: 2<sup>nd</sup> of June 2020]

Suhonen, E., Sajaniemi, N. K., Alijoki, A. & Nislin, M. A. (2018) *Children's biological givens, stress responses, language and cognitive abilities and family background after entering kindergarten in toddlerhood*, Early Child Development and Care

The Pennsylvania State University (2013) *Stress busting activities for small children*, available at: <http://bkc-od-media.vhost.psu.edu/documents/Activities1504.pdf> [accessed: 24<sup>th</sup> of June 2020]

The Union of Health and Social Health Professionals (Tehy), available at: <https://www.tehy.fi/fi/apua/tyosuojelu/henkilostomitoitus-varhaiskasvatuksessa> [accessed: 8<sup>th</sup> of March 2020]

Tierney, A. & Kraus, N. (2013) *Chapter 8- Music Training for the Development of Reading Skills*, available at: <https://www.sciencedirect.com/science/article/pii/B9780444633279000084?via%3Dihub> [accessed: 18<sup>th</sup> of June 2020]

U.S. Department of Health and Human Services, *Promoting child and family well-being*, available at: <https://www.childwelfare.gov/topics/preventing/promoting/> [accessed: 9<sup>th</sup> of March 2020]

Vermeer, H. J. & IJzendoorn (2006) *Children's elevated cortisol levels at day care: A review and meta-analysis*, available at: <http://library.allanschore.com/docs/ChildcareCortisolVermeer06.pdf> [accessed: 3<sup>rd</sup> of April 2020]

World Health Organisation, *Mental Health*, available at: [https://www.who.int/mental\\_health/en/](https://www.who.int/mental_health/en/) [accessed: 9<sup>th</sup> of March 2020]

**BOOKLET**

**SUPPORTING WELL-BEING OF CHILDREN UNDER THREE  
YEARS OLD IN EARLY CHILDHOOD EDUCATION**

**A BOOKLET ON STRESS REDUCING METHODS FOR SMALL  
CHILDREN: A GUIDE FOR EARLY CHILDHOOD EDUCATION  
PERSONNEL**

## **CONTENT**

- 1) INTRODUCTION**
- 2) STRESS AND ITS IMPACT ON SMALL CHILDREN**
- 3) STRESS REDUCING METHODS**
- 4) CONCLUSION**
- 5) REFERENCES**

## **INTRODUCTION**

The purpose of this booklet which comes along with my thesis- Supporting Well-Being of Children under Three Years Old in Early Childhood Education and Care, A Booklet on Stress Reducing Methods for Small Children: A guide for Early Childhood Education Personnel, is to offer a guideline to any personnel working in early childhood education and care, but especially to those working with very small children under three years old. The booklet should serve as a tool on understanding the stress that small children might encounter in early childhood education and care and its impact on their well-being, but furthermost, to utilize stress reducing methods. Because very small children are not completely capable of regulating distress themselves, some of the stress reducing methods needs to be co-regulated by early childhood education and care personnel.

## **STRESS AND ITS IMPACT ON SMALL CHILDREN**

World Health Organization mentions that good mental health is related to psychological well-being. According to Clinton et al. (2016), healthy psychological development of infant depends on attachment relationship between child and caregiver. They suggest that secure, warm, responsive and predictable relationship with at least one caregiver affects the formation of neural structures in the brain that cause a positive infant well-being. Children are easily shaped during the very early years of their life. Optimism, will and longing for being active is very much determined by environment, therefore the early years and the educational influences are very important (Koch, 1986). According to Finnish institute for health and welfare, in year 2018, there were 252 216 children aged 1 to 6 years participating in early childhood education. That is about 74% of all children that age. On that premise, a great number of children in Finland are attending

early childhood education during the early years. Early childhood educators and personnel have in addition to the parents and custodians major role and responsibility in supporting children's well-being, emotional development and creating healthy environment for them to grow, play and learn.

Very small children, however, can often feel stressed in early childhood education and care. Stress is our body's way of responding to threat. Hamoudi et al. (2015) propose that it is important to differentiate between acute and chronic stress. Acute stress is when body's stress system is activating for a short time as a reaction to temporary stimulus. Even though this type of stress can have lasting biological or behavioural effects if it is severe enough, the body usually manages acute stress. Chronic stress, on the other hand, has body's stress system activating frequently or for long period of time and may have harmful effects on brain and behaviour.

According to Rutter et al. (2015 mentioned in Suhonen et al. 2018), early life environmental influences have an impact on social, emotional and cognitive development of children. Studies also show that over activity of stress and threat responses might have an influence on developing prefrontal regulatory systems which can lead to extended risk of attention and emotion regulatory problems. Vermeer & IJzendoorn (2006) state, that social threat in every day situation can have an impact on children's stress levels. They mention that socially threatening context that involves rejection can affect increase of cortisol levels. Vermeer & IJzendoorn (2006) propose the definition of cortisol as:

“Cortisol is primary hormonal product of the hypothalamic-pituitary-adrenocortical (HPA) axis, which is involved in complex biological processes implicated in the regulation of stress and emotions”.

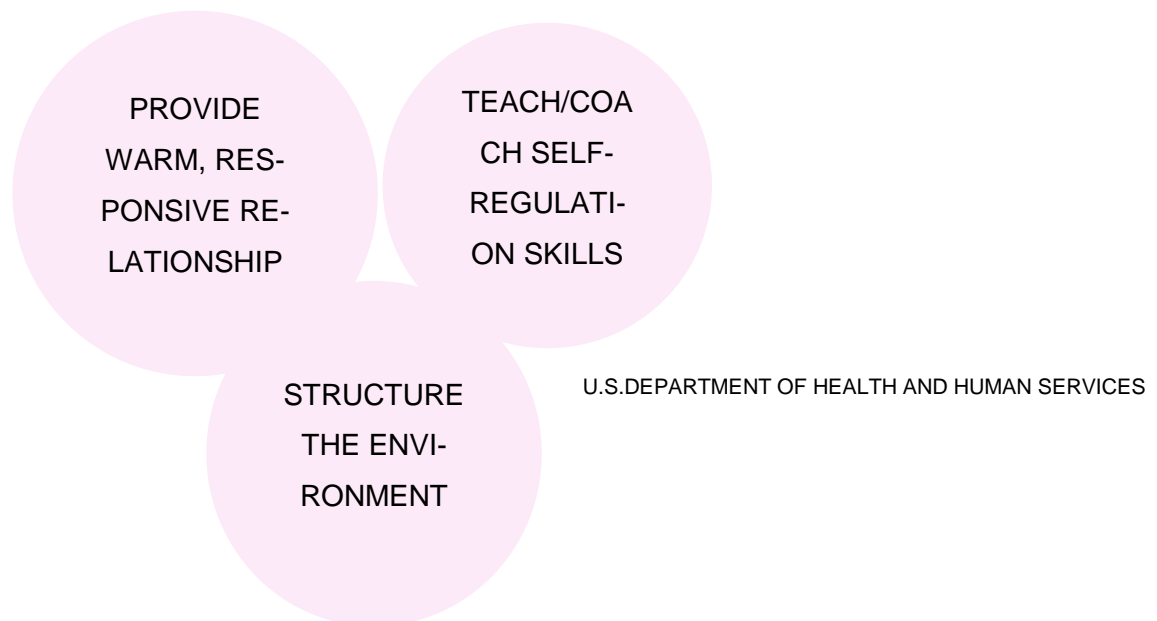
However, cortisol levels can be influenced by multiple factors. Some of the children's characteristics such as temperament, gender or age can affect cortisol reactivity. The

environment and context in which cortisol levels are measured can show different results and foremost, the time of the testing has impact on the outcome too. Vermeer & IJzendoorn (2006) state, that cortisol levels follow circadian rhythm. National Institute of General Medical Sciences describes circadian rhythm as changes that follow a daily rhythm. They can be physical, mental or behavioural and they can be found in most living things including plants and animals. Night sleeping and being awake during the day is one of the examples of circadian rhythm which is light related. According to Vermeer & IJzendoorn (2006), “a daily rhythm in cortisol with high levels early in the morning and lowest levels in the evening was apparent from the earliest age tested (2 months) to the eldest age (36 months)”. That suggests that when children are entering day care in the morning, their cortisol levels are already high due to the physical pattern. Vermeer & IJzendoorn (2006) also interpret that the main finding of their study is that day care children display higher cortisol levels compared to home settings. However, it is difficult to establish clearly what exactly cause increased cortisol level as there are multiple factors having impact on the cortisol reactivity.

## **STRESS REDUCING METHODS**

There are multiple ways to manage stress in one's life. In this booklet, three methods are presented: self-regulation, music and physical activity. When stress occurs, infants and very small children are dependent on adults to regulate their environment because they have limited capacities to affect their experience. One of the ways of managing thoughts and feelings to allow goal-directed actions is self-regulation. Self-regulation skills are important because they have a fundamental role in promoting well-being across the lifespan. Self-regulation skills can help with physical, emotional, social and economic health and educational achievement. Self-regulation can also be reinforced and taught and it can develop over period from birth to youth. According to U.S. Department of Health and Human Services, self-regulation capacity and skills can significantly change

during the first five years of a child, depending of his cognitive and motor skill development. On the other hand, even babies already show some abilities of dealing with stress. For examples when baby starts to cry and looks at the mother's face when sudden loud noise occurs, shifting the attention away from stresor and modulating the impact od sensory-motor stress (Murray at al., 2015). During the very early years of children's lives, parents, guardians or care givers are the ones that are very important for their development and children are depended upon them. Therefore they can provide children with the necessary support that can lay foundation to self-regulatory skills by co-regulating.



U.S. Department of Health and Human services has established a table of Self-Regulation and Co-Regulation Supports Across Development

**Infancy (birth to 1 year old)****Characteristics of Self- Regulation:**

- can shift attention away from the stressor
- use of self-soothing behaviour such as thumb sucking

**Caregiver Co-Regulation Support:**

- interact in warm and responsive ways
- anticipate and respond quickly to child's needs
- modify environment to decrease stress
- provide psychical and emotional comfort when child is distressed

**1 to 2 years old****Characteristics of Self-Regulation:**

- attentional control by selecting and shifting attention
- adjust behaviour to achieve simple goals
- delay gratification and inhibit responses for short periods when there is structure and support
- emotions stronger than cognitive regulations

**Caregiver Co-Regulation Support:**

- reassure and calm child when upset by removing him from situation or speaking calmly and giving affection
- model self-calming strategies
- teach rules and use consequences to regulate behaviour

### 3 to 5 years old

#### Characteristics of Self-Regulation:

- focused attention increase
- begin to use rules, strategies and planning to guide behaviour appropriate to situation
- delay gratification and inhibit responses for longer periods
- perspective taking and empathy emerge
- language begins to control emotional responses
- tolerate distress apart from care giver

#### Caregiver Co-Regulation Support:

- model, prompt and coach self-calming strategies when child is upset
- instruct and coach use of words to express emotions and identify solutions to simple problems
- coach rule-following and task completion
- provide external consequences to support emerging self-regulation skills

TABLE WAS MADE BY U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

One of the other stress reducing methods is music. According to Labbé et al. (2007), music can be used as medium to help reduce negative emotions. Listening to music is also known to have beneficial impact on health because it has stress-reducing effects. According to Bruscia (2012), when music is used as a part of therapy, it can be beneficial to individuals of all ages with different conditions, such as psychiatric disorders, medical problems, sensory impairments, substance abuse etc. Bruscia (2012) also mentions music therapy used for self-development intentions can help improve learning, building self-esteem, reducing stress, supporting physical exercise and benefit other health-related activities. Music therapy usually involves listening to, recreating, improvising and composing music, when each of the activity can help client with different responses. Therefore therapist uses the approaches according to the client's needs. Bruscia (2012) states that in therapy session that involves listening, client might

respond through activities such as relaxation and meditation, structured or free movement, perceptual task, free association, storytelling, imagining, drawing etc. Listening music can be therefore implemented into the routines and help small children cope with a stress.

#### IDEAS FOR USING MUSIC WITH CHILDREN AS A STRESS REDUCING METHOD:

- organise structured music lessons and provide children with rhythm instruments such as castanets, claves, cymbals, triangles, tambourines etc. Children can also use other instruments such as xylophone or flute or even handmade instruments using beans, stones, beads etc.
- use relaxing music before nap time
- relaxing music can be also used along with short meditation exercise when children are taught calming strategies such as deep breathing. Strategies can advance with children's age, including simple yoga positions, guided relaxation with closed eyes and following storytelling.
- use particular songs before routines. Singing same song together before lunch time or going to the park or playing a song as a signal for children when it is time to tidy up toys before transitions, will help small children to orient in time and understand better upcoming activities.
- use music as a background for art craft activities
- implement exercises where children are guided to draw lines with closed eyes while listening to music as a soothing and relaxing strategy

Studies also show that physical activity can help reduce stress and help to improve self-esteem. According to Martikainen et al. (2013), children who engage in more physical activity have apart from more optimal health also better mental health. Their study shows that children with highest level of daily physical activity reported to have no or only small cortisol levels in response to stress. Physical activity and spending time outdoors is one of the goals of National core curriculum for early childhood education and care 2018. In the curriculum is mentioned that physical activity in the group develops children's social skills, such as interaction and self-regulation skills. Playful and fun activities can help small children to gain confidence and deal with the stress.

#### GAMES AND ACTIVITIES IDEAS:

- **STATUES:** children are moving or running while the music is played. When music stops, children have to “freeze” and stay still until the music is played again
- **STORK:** adult and children are walking with opening and closing straight arms (as a stork's beak), saying a nursery rhyme “Mr. Stork has lost his hat, the hat was colour xxxxx“. When adult says the colour, children have to find it in their environment and point a finger on it
- **CARS:** children are walking/ running holding a ring (steering wheel) and adult showing flags/rings in green and red colours. When the green colour is showed, children can move freely; when the red colour is showed, children have to stop
- **EVERYBODY HOME:** children are walking in marked place. When adult says “everybody home”, children run in the agreed place-home

## CONCLUSION

There are multiple ways and methods early childhood education personnel can use to help small children reduce the amount of stress children might encounter in a day care. Many of those methods are already implemented in National core curriculum in early childhood education and care 2018 and widely used in day cares, or they are part of regulations, for example ratios and recommended size of groups. Results of studies and literature review show that there is correlation between age of the child and increased stress he might experience in a day care. Younger the child is, most likely he will suffer separation anxiety and some level of stress when entering and being in a day care. Early childhood education personnel have a great amount of responsibility in creating nice, safe and appropriate environment from small children. Abilities of children to annex stress reducing methods such as self-regulation grow with their age and development. Infants and very small children, however, need a great amount of help from their caregivers. Early childhood education personnel need to be empathetic and offer warm and secure relationship. Physical closeness as touch, hugging or holding should be offered when needed, and furthermore, early childhood education need to practice self-regulation themselves in order to be efficient and being able to navigate children correctly.



