

University of Tartu
Department of Psychology

Airiin Õim

**Teachers' knowledge and misconceptions concerning attention-
deficit/hyperactivity disorder, learning disabilities and
childhood depression:
A comparative study between Estonia and Norway**

Master's thesis

Supervisor: Prof. Eve Kikas
Running head: Teachers' knowledge

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Abstract

The aim of the present study was threefold: (1) to study Estonian teachers' knowledge about attention-deficit/hyperactivity disorder (ADHD), learning disabilities (LD) and childhood depression, (2) to compare Estonian and Norwegian teachers' knowledge to find out the differences and consider future directions for Estonian teacher education, (3) to study Estonian and Norwegian teachers evaluations of how they can help pupils with ADHD, LD and childhood depression.

259 Estonian and 117 Norwegian teachers completed a questionnaire, which was designed to measure specific areas of knowledge about the above-mentioned disorders (identification, causes, treatment, prognosis and consequences). Questionnaire contained 66 true-false statements and a Likert-type evaluation scale. Results indicated that Estonian teachers' scores on each subscale were significantly lower than scores of Norwegian teachers. Estonian teachers' weakest sides were identification and prognosis of disorders. Teachers from both countries had the highest knowledge about LD. Estonian teachers had the poorest knowledge about ADHD and Norwegian teachers about childhood depression. The structure of evaluations about how to help SEN children in school was similar in the case of all three disorders. School location, the number of students in school, prior experience and availability of special help in school influenced teachers' knowledge.

Kokkuvõte

Käesoleva töö eesmärgiks oli (1) uurida Eesti õpetajate teadmisi aktiivsuse- ja tähelepanuhäirest (ADHD), õpivilumuste spetsiifilistest häiretest (LD) ja laste depressioonist, (2) võrrelda Eesti ja Norra õpetajate teadmisi, et välja tuua erinevused ja Eesti õpetajakoolituse vajalikud täiendamissuunad tulevikus, (3) uurida Eesti ja Norra õpetajate hinnanguid ADHD, LD ja depressioonis laste abistamisvõimalustele koolis.

259 Eesti ja 117 Norra õpetajat täitsid küsimustiku, mis koostati mõõtmaks teadmisi ADHD'st, LD'st ja laste depressioonist mitmel erineval alaskaalal (häire äratundmine, põhjused, ravi, prognoos ja tagajärjed). Küsimustikus esitati 66 väidet õige-vale skaalal ja 10-väiteline Likerti tüüpi hinnanguskaala. Tulemused näitasid, et Eesti õpetajate teadmised olid igal alaskaalal oluliselt madalamal tasemel Norra õpetajate teadmistest. Eesti õpetajate teadmiste nõrgimateks valdkondadeks osutusid häirete äratundmine ja prognoos. Kõige kõrgemad skoorid olid nii Eesti kui ka Norra õpetajatel õpivilumuste spetsiifiliste häirete skaalal. Kõige väiksemad skoorid ilmsesid Eesti valimil ADHD ja Norra valimil laste depressiooni skaalal. Erivajadustega laste abistamisvõimaluste struktuur oli õpetajate hinnangute põhjal sarnane kõigi kolme häire korral. Kooli asukoht, õpilaste arv koolis, varasem kogemus ja eriabi kättesaadavus koolis mõjutasid õpetajate teadmisi.

Major changes in educational philosophy have led to increased numbers of children with various disabilities being educated in mainstream classes. Attention-Deficit/ Hyperactivity Disorder (ADHD) and learning disabilities (LD) are the most common diagnoses educators have to face in regular schools (Turkington & Harris, 2003; Taylor & Hudson, 1998). Teachers play a major role in the identification and assessment of children's academic and behavioural problems and make primary decision how to help them (Cooper & Bilron, 2002). Teachers find aggressive behaviour to be of a more serious nature than withdrawn behaviour and that is why children with emotional disturbances (such as childhood depression) are often ignored at school (Cooper & Bilron, 2002; Stuart, 1994). Snider, Busch & Arrowood (2003) claim that teachers are involved in making the initial referral in 40%-60% of the time and thus it is of critical importance that teachers are knowledgeable and objective if they are to play a role in the diagnosis of childhood psychological problems.

Majority of teachers in Estonia have received their education during the Soviet times when teacher training was mostly teacher- and subject-centred. Teachers were best prepared for a monologue on the subject and far less for a dialogue with pupils (Niistö, Kukemelle & Kemppinene, 2002). After regaining independence in 1991, the issues related to teachers and their training became essential in the movement for school modernisation. School reforms in Estonia have also laid special emphasis on children with special needs and educational discussions point out teachers' importance in identifying and helping such children (Jõks, 2002). From 1995 to 1998 a new structure was developed for training of SEN teachers in Estonia. It included several psychological topics concerning pedagogical psychology, developmental psychology and teaching children with different disabilities (Kikas, Toomela, Allik et al 1998). However, Estonian Mental Health Report (2002) says that children's mental health problems are increasing and they are not identified as easily as in the case of adults.

Though Norwegian teacher education program includes only few subjects concerning childhood psychological problems, Norwegian educational system has been focused on children with special needs for decades. In 1976, the Special Education Act was repealed and a new one established which was more pupil-centred and emphasised the pupils' right to receive education in accordance with their abilities and aptitudes (Hansen & Simonsen, 2001). Inclusion is also a widely studied topic in Norwegian educational research (Thygesen, 2000). Special systems have been

developed for assessing, helping and integrating those children have been developed and teachers are used to having children with severe diagnoses in their classrooms. Pedagogical Centres provide additional training to teachers in different topics throughout the year (Hansen & Simonsen, 2001). Still, also in Norway the parents of children with hyperkinetic disorders often criticise the help system and claim that problems are identified too late (Hundevadt, 2000).

After becoming a member of the European Union Estonian schools have to take into consideration the mental health politics and educational systems that are applied in more developed countries. One of the most difficult issues will be integrating children with disabilities into mainstream classes. Teachers play a major role in the success of those transactions. They must have high knowledge about symptoms, prognosis and helping possibilities of different disorders. Concerning the above mentioned, it is important to examine what Estonian general education teachers know about childhood psychological problems and to compare it with results from a country with more developed education system. Identifying teachers' knowledge can provide data on the types of information teachers are lacking so that training and helping programs could be re-evaluated. Analysing such results in an international context gives a better perspective of the situation in Estonia and provides us with an opportunity for more explicit future directions. This paper analyses Estonian and Norwegian teachers' knowledge of ADHD, LD and childhood depression and outlines teachers' knowledge and misconceptions about these disorders. In the theoretical part of the paper we will give overviews of the disorders discussed and review the latest research on teachers' knowledge and misconceptions.

Attention-deficit/hyperactivity disorder (ADHD)

ADHD is a disorder defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM) that is characterised by inattention, hyperactivity and impulsivity (American Psychiatric Association, 2000). ADHD is one of the most commonly diagnosed psychiatric childhood disorder and international studies reveal that it affects about 3-10% of kindergarten and school children (Cooper & Bilon, 2000; Turkington & Harris, 2003; Taylor & Larsson, 1998). It has been found that early hyperactivity is associated with continuing school difficulties, problems with attention and poor reading in adolescence (McGee, Prior, Williams et al 2002). Research into the causes of ADHD has focused primarily on the search for

neurological dysfunction. Some theories suggest that characteristic problems of ADHD (e.g. lack of impulse control, chronic inattentiveness and hyperactivity) have their roots in a disorder located in the frontal lobes of the brain. Research studies have found particularly low levels of activity in the neurotransmitters in this part of the brain among ADHD sufferers (Cooper & Bilon, 2002). Some scientists claim that in 70% of cases the neurological dysfunction is inherited, the remaining 30% of cases are caused either by brain disease, brain injury or toxin exposure (Cooper & Bilon, 2002). Barkley (1998) on the other hand argues that ADHD is a bio-psycho-social problem, which has a biological element to it but this interacts with psycho-social factors in the individual's social, cultural and physical environment.

To identify and assess the disorder, multiple informants are used: parents, teachers, doctors and others who interact consistently with the child (Taylor & Larson 1998). According to diagnostic criteria children have to display several symptoms in more than one setting and over a six-month period. The symptoms must have been present before the age of seven and must severely affect children's social or academic functioning (DSM III-R).

Treatment of ADHD is often problematic, as it is comorbid with other disorders. Kadesjo & Gillberg (2001) found that most common comorbidities were oppositional defiant disorder and developmental co-ordination disorder. Cooper & Bilon (2002) claim that 60% of children with ADHD display oppositional defiant behaviour, 45% display conduct disorder and about 20% display learning disabilities. Numerous interventions are used in treatment of ADHD involving parent training, child training and classroom interventions but most studies reveal that in most cases the results are modest. Stimulant medication in combination with behavioural and educational interventions has given the best results (McGoey, Eckert & DuPaul, 2002). Three major types of medication used are: methylphenidate (Ritalin), amphetamines and dextroamphetamines (Dexedrine and Adderall) and magnesium pemoline (Cylert) (Cratty & Goldman, 1996). Turkington & Harris (2003) claim that 80% of the students with ADHD respond to the medication (mostly Ritalin). But because of possible side effects (e.g. weight loss, appetite loss, sleeping problems, tics) discussions and criticism about the effectiveness and wholesomeness of using those drugs are common among researchers and mothers of children with ADHD (Haber, 2000).

In the 1960s and 1970s, scientists hypothesised that hyperactivity was an age-

limited disorder but later studies have lead to a conclusion that ADHD symptoms are very persistent over time and contrary to what was once believed, ADHD children do not outgrow the disorder in puberty (Cratty & Goldman, 1996). High rates of divorce, depression, alcoholism, drug abuse, occupational failure, social isolation and criminality appear to overlap with ADHD over a lifetime (Cooper & Bilon, 2002).

Learning disabilities (LD)

LD are also referred to as academic skills disorders (DSM III-R) and they include several subdisorders. People with developmental speech and language disorders have trouble producing speech sounds, using spoken language to communicate, or understanding what other people say. Students with learning disabilities often lag far behind their classmates in developing reading, writing or arithmetic skills (Turkington & Harris, 2003). Dyslexia (developmental reading disorder) is the most common diagnosis among LD affecting 2-8 % of elementary school children (Neuwirth, 1993). The overall prevalence of learning disabilities range from 5-10 % of school-age population (Culatta & Tompkins, 1999).

Speculations of the causes of learning disabilities are numerous but the general assumption of researchers is that LD are caused by neurological factors (Koehler & Kravets, 1999). Lazar & Frank (1998) claim that children with LD express considerable frontal systems dysfunction. Literature also points out heredity, developmental retardation, prenatal damage, toxins, chemotherapy and injuries in early childhood, as causes of LD (Neuwirth, 1993; Turkington & Harris, 2003). ADHD often appears to be an associated comorbidity to LD. However, researchers believe that children with ADHD/LD possibly have a different underlying neurocognitive pattern than their peers with learning disabilities only (Tirosh, Berger, Cohen-Ophir et al 1998).

Multidisciplinary evaluation team including teachers, school psychologist and clinical professionals are used to assess LD. Teachers are usually the first to notice child's persistent difficulties in reading, writing and mathematics and teachers' continuous and direct measurements of achievement are critical to identification procedures (Neuwirth, 1993). Diagnosis of LD is made using standardised tests that compare the child's level of ability to what is considered normal development for a person of that age and intelligence (Macintyre & Deponio, 2003).

Therapy for speech and language disorders focuses on providing a stimulating

but structured environment for creating and practising language patterns. Also some computer programs have been developed to teach children to process spoken sounds more quickly (Neuwirth, 1993). Treatment programs include special educational programs, special types of school-tasks, study skills training and social skills training. At the present there is no medication for speech, language or academic disabilities. (Culatta & Tompkins, 1999).

Learning disabilities persist into adulthood but people can learn to compensate for and overcome some areas of weakness (Neuwirth, 1993).

Childhood depression (CD)

Depression is a psychiatric disorder in children and adolescents but for many years it was not recognised as one. Prevalence of depression among children has been underestimated for years because until the late 1970s the term childhood depression did not exist in the field of psychiatry (Cytryn, 2003). Nowadays researchers claim that approximately 2-3% of children suffer from a current episode of clinical depression (Carlson, 2000; Cytryn & McKnew, 1996). Two key symptoms of mood disorders are difficulties in concentrating / an inability to make decisions and loss of interest and motivation in enjoyable activities (Carlson, 2000). Recent studies have shown that children and adolescents present a different spectrum of symptoms than adults with depression. Carlson (2000) found that physical problems, higher rates of hallucinatory behaviour, lower self-esteem and suicidal and disruptive behaviour are the most common symptoms of childhood and adolescent depression. Donnelly (1994) presented a pattern of sex differences of depression in early adolescence and claims that males express symptoms that might be described as behavioural or as acting-out in nature, whereas females display features of depression associated with negative self-concept. The main impact depression has on young people is their school performance (Cytryn & McKnew, 1996).

The descriptions of causes of CD vary widely and only a few firm conclusions can be made. Rice, Harold & Thapar (2002) analysed different results concerning genetic aetiology of CD and write that there is consistent evidence that the major depressive disorder in children and adolescents is familial. Some studies have led to the suggestion that early-onset depression may be more strongly genetically influenced than adult-onset depression (Wickramaratne, Warner & Weismann, 2000). Beardslee & Gladstone (2001) studied prevention of CD and found that future

depression was associated with the following variables: conflict with parents, dissatisfaction with grades, hostile behaviour, poor health development, death of a parent and current other diagnoses. CD is mostly comorbid with anxiety and conduct disorders (Rice, Harold & Thapar, 2002).

Assessment of CD includes clinical/developmental interviews, structured interviews and self- and observer-rating scales (Calrson, 2000)

Different kinds of therapies are used to help depressed children and adolescents. Graig & Dobson (1995) point out 4 main types of therapies used: behavioural programs, social skills programs, cognitive therapy and self-management therapy. Most authors name cognitive-behaviour therapy as yielding the best results (Calrson, 2000; Beardslee & Gladstone, 2001; Rice, Harold & Thapar, 2002). Despite the efficacy of the tricyclic antidepressants for treatment of adults with depression, there is no support for their success in the treatment of children (Hazzell, O'Connell, Heathcote et al 1995).

Depression in childhood is strongly connected to major depression in adulthood and is also a strong predictor of attempted suicide in adulthood (Harrington, 1994).

Teachers' knowledge regarding ADHD, LD and childhood depression

Teachers' knowledge has not been a widespread interest for researchers. Most studies in this field have investigated knowledge regarding ADHD and/or LD and most studies reveal that teachers have a limited knowledge of ADHD and LD (Brook, Watemberg & Geva, 2000; Scuitto, Terjesen & Frank, 2000; Snider, Busch & Arrowood 2003). There is a lack of information about teachers' knowledge regarding childhood depression. However, some earlier studies have found that insufficient knowledge is also expressed regarding this topic (Stark, 1990). Overview of educators' prevalent misconceptions about ADHD, LD and CD follows.

The knowledge about ADHD has been studied most widely in this domain. Scuitto, Terjesen & Frank, (2000) have found that teachers are most knowledgeable about the primary symptoms of ADHD; their knowledge about its nature, causes and treatment is significantly lower. Many teachers hold misconceptions regarding the effect of a special diet as a treatment of ADHD and believe that ADHD can be cured by age (Jerome, Washington, Laine et al, 1999; Scuitto, Terjesen & Frank, 2000). Jerome points out that 30% of the teachers believed that ADHD is not a real disorder,

but an excuse for bad behaviour or poor parenting which is also misconception among public (Jaksa, 1999). Intellectual abilities of problematic children are also a confusing topic for teachers. Brook, Watemberg & Geva (2000) found that one third of teachers believe that the ADHD students' IQ is not similar to that of their non-ADHD classmates. Lately several studies have focused on teachers knowledge regarding the medical treatment of ADHD. A remarkable amount of teachers have not heard of medication for ADHD (Brook, Watemberg & Geva, 2000; Snider, Busch & Arrowood 2003). Snider, Busch & Arrowood (2003) write that teachers are uninformed about the risks of stimulant medication. Most were unaware of the possible side effects of stimulant medication, specially the possibility of a decreased growth rate and an increased risk of tics. Unawareness of possible side-effects of Ritalin is brought out also in the results of a study of Brook, Watemberg & Geva, (2000).

In Estonia there have been only a few superficial studies about teachers' knowledge. For example Kaldma (2003) investigated pre-school teachers knowledge about ADHD in Estonia and found that only 19% of participants claimed that they had some knowledge about the ADHD. Only 3 % knew the meaning of the term "ADHD".

Brook, Watemberg & Geva's (2000) study showed that the level of knowledge of ADHD and LD among teachers is similar. Different studies reveal the prevalence of the teachers' misconception that a learning disability is a consequence of parental spoiling and that LD pupils are just lazy (Koehler & Kravets, 1998; Brook, Watemberg & Geva, 2000). Teachers' lack of knowledge has been brought out also regarding the prognosis of LD. In Brook, Watemberg & Geva's study, 60% of the teachers believed that LD disappears with age. Culatta & Tompkins (1999) write that teachers are often faced with a confusion over the definition of LD, they do not understand the difference between slow learners and children with LD. Some abovementioned points are also confirmed by Turkington & Harris (2003) who claim that in their experience teachers often need to be explained that LD are not the same as mental retardation, autism, deafness, blindness or behavioural disorders. Nor do poverty, environmental factors or cultural differences cause learning disabilities.

As I have mentioned earlier there, has not been much research investigating teachers' knowledge of depression. 30 years ago scientists believed that the immature personality of a child is not capable of producing a state of depression such as seen in

adults and prior to the late 1970s childhood depression was not considered a valid clinical entity by psychiatrists (Cytryn, 2003). Externalising behaviours have been in the “mainstream interest” for researchers for several years possibly because such behaviours cause more problems for teachers and public and there is a greater interest and demand for the results of such studies. Though, unrecognised and untreated, internalised problems in childhood can result in drastic consequences (Beardslee & Gladstone, 2001). There are few existing major misconceptions about childhood depression. One comes from the lack of understanding about clinical depression and precludes the existence of depression as a serious problem during childhood. (Cytryn, 2003; Stark, 1990). Childhood is believed to be a carefree and trouble-free period of our lives. Another misconception comes from the belief that childhood depression is always a result of or a reaction to some traumatic event. If there has been no tragedy, there is no depression (Beardslee & Gladstone, 2001; Stark, 1990). Teachers can overlook depressive symptoms also because of the belief that children are often moody and go through difficult phases which will pass by themselves (Rutter, Izard & Read, 1986; Stark, 1990).

Factors influencing teachers' knowledge

Teachers' knowledge can be influenced by several factors, such as experience, quality of teacher education, special training, interests, child's gender etc. Teachers' experience is one of the most frequently mentioned factors influencing their knowledge but some studies also reveal different results. Scuitto, Terjesen & Frank (2000) found that overall knowledge of ADHD was related to the teachers' past experiences with ADHD children. Teachers who reported having taught a child diagnosed with ADHD scored significantly higher than teachers who had no prior teaching experience with an ADHD child. Years of teaching experience were also positively related to ADHD knowledge. At the same time Brook, Watemberg & Geva (2000) found that the length of teachers' experience did not influence their level of knowledge on ADHD/LD.

A child's gender can influence teachers' identification of a childhood psychiatric disorder. Such a statement has been proven true by MacLeod, McName, Boyle et al (1999). They found that teachers' assessment of conduct disorders is associated with male sex. Boys were more easily labelled as having a conduct disorder.

Cultural factors have also been under scope by many researchers and their attempts to find effects of culture on teachers' assessment of student behaviour have been supported most of the times. Chang & Sue's (2003) study results did not reveal a racial bias towards African American students but showed that teachers' assessment of student behaviour was influenced by the specific stereotypes teachers held towards Asian Americans, particularly regarding expectations of overcontrolled traits. Zimmermann, Khoury, Vega et al (1995) also focused their study on cultural factors of teachers' perceptions and found that white teachers rated African American students as having significantly more problematic behaviour than African American teachers did.

Daniels & Shomow's (2003) came out with a more philosophical concept of this domain. They point out that teachers' views about child development influence their knowledge and formation of specific misconceptions about problematic children. He claims that the way teachers see child's inner intelligence and his/hers natural capacity to develop, could change their strategies of how to teach them.

Directions of education politics and educational system have also a significant impact on teachers' knowledge (Davies & Garner, 1997). Historical traditions of teacher training have impact on teachers' frame of mind, attitudes and practical outcomes. Differences in the educational systems can be observed also in the case of Estonia and Norway. In Norway the educational programs have been directed towards integration of such children, in Estonia the segregation of problematic children has been prevalent throughout the latest history (Niistö, Kekemelle & Kemppinen, 2002). As a result of such an approach, teachers training programs in Estonia have also been more focused on teaching the subject rather than on teaching and understanding the child. The main trends in the educational system and teacher training can influence teachers' perception and knowledge of such children. The present study, which compares Estonian and Norwegian teachers' knowledge, is based on such an assumption.

Aims of the study

The aim of the present study was threefold:

1. to study Estonian teachers' knowledge about ADHD, LD and childhood depression and give an overview of the most common misconceptions,
2. to compare Estonian teachers knowledge with Norwegian teachers' knowledge to

find out the differences and consider future directions for Estonian teacher education

3. to compare Estonian and Norwegian teachers evaluations of how they can help pupils with ADHD, LD and childhood depression

It is hypothesised that Estonian teachers' knowledge is insufficient concerning aspects, which are important in order to integrate disabled children in mainstream classes (like identification and treatment of disorders). In line with previous studies (Brook, Watemberg & Geva, 2000) we hypothesise that more misconceptions may be expressed concerning externalised problematic behaviour (ADHD). As in Norwegian schools the integration of disabled students has been in practice for years we hypothesise that they know more about ADHD, LD and childhood depression than Estonian teachers.

Method

Sample

Two groups of teachers were studied: 259 Estonian and 116 Norwegian primary and basic school teachers. Teachers came from different parts of both countries including big towns (30% of Estonian sample and 39.3% of Norwegian sample), smaller towns (45% of Estonian sample and 58.1% of Norwegian sample) and rural areas (25% of Estonian sample and 2.7% of Norwegian sample). In the Estonian sample, 92% of teachers were women and 8% were men, in the Norwegian sample, 66% of teachers were women and 34% of teachers were men. Other characteristics of teachers are given in Table 2. Characteristics of schools are presented in Table 1 and characteristics of the teachers' prior experience with SEN (children with special needs) children are presented in Table 3.

Table 1.

Characteristics of schools

	Estonia	Norway
	per cent	
<i>Amount of pupils</i>		
<300	38	46
301-600	37	26
>600	26	28
<i>Availability of special help</i>		
None	23	5
Psychologist	44	16
Speech therapist	65	28
Special pedagogue	18	89

Table 2.

Characteristics of teachers.

	Estonia	Norway
	per cent	
<i>Length of experience</i>		
1-10 years	30	43
11-20 years	32	22
>20 years	37	35
<i>Education</i>		
Secondary	4	1
Vocational	21	0
Not completed higher	8	0
Higher	67	99
<i>Additional training</i>		
None	61	60
Courses about SEN children	39	40
<i>Teaches in (School level)</i>		
Primary school	41	78
Basic school	60	21

Table 3.

Teachers' prior experience with SEN children.

	Estonia		Norway	
Disorder	per cent			
	Heard of	Taught	Heard of	Taught
ADHD	86	78	97	84
LD	89	82	99	97
Childhood depression	97	73	97	45

Questionnaire

A questionnaire with two different rating scales was designed to measure the teachers' knowledge.

In the first part of the questionnaire, the teachers were asked to provide information about their school and some personal information (gender, length of teaching experience, type and location of the school, etc.). Participants also indicated whether they had heard of the terms attention-deficit/ hyperactivity disorder (ADHD), learning disabilities (LD) or childhood depression before and whether they had taught a child who had been diagnosed with the above-mentioned disorder.

The second part of the questionnaire measured the teachers' knowledge of ADHD, LD and childhood depression. A 66-item rating scale was designed for the

measurement. Each item was presented as a statement about a disorder and a true-false scale was used for answering. The rating scale measured teachers' knowledge in five specific areas of these disorders: identification, causes, developmental course, treatment and consequences. These subscales were based on Goldman's theory of 5 dimensions of illnesses (Goldman, 1991).

Statements describing each disorder were chosen on the basis of ICD-10 (Classification of Mental and Behavioural Disorders, 1992), information from the latest research results concerning teachers' knowledge, and misconceptions (Brook, Watemberg & Geva, 2000; Carlson, 2000; Cytryn, 2003; Sciutto, Terjesen & Frank, 2000) and information from the latest books about ADHD, LD and childhood depression (Barkley, 1998; Cooper & Bilon, 2002; Koehler & Kravets, 1998; Macintyre & Deponino, 2003; Tarylor & Larson, 1998). Some statements were taken from questionnaires which have been developed and used by other authors (Brook, Watemberg & Geva, 2000; Jerome, Washington, Laine et al 1999; Sciutto, Terjesen & Frank, 2000). The main differences in our questionnaire were (1) earlier studies have used only a few subscales for each disorder, (2) childhood depression has not been included before. Experts of child psychology and psychiatry evaluated the chosen items. An item was considered a part of a subscale as a result of experts' agreement. Twenty-two statements were presented in the case of each disorder. The overall scores of disorders and subscales were calculated by adding up the mean scores of answers and subdividing them with the number of these answers. The resulting coefficient alpha for the rating scale was .69. Coefficient alpha for the ADHD scale was .56, for the LD scale .63 and for the depression scale .62. Coefficient alpha for each subscale was $> .60$, only the treatment subscale showed Cronbach alpha .48. Statements used on the true-false scale are given in Appendix 1.

The third part of the questionnaire contained ten statements of how teachers can help such a student at school. This scale was added to assess the teachers' understanding of how *they* can help SEN children in school. Ten most likely school-centred helping possibilities were chosen with the help of experts of this field. Some of them were very important in the case of ADHD, some of them in the case of LD and some of them in the case of depression. The same statements were proposed in the case of each disorder and teachers were asked to evaluate the importance of each helping possibility (the least important, of average importance and the most important). Statements used on the evaluation scale are given in Appendix 2.

The Norwegian version of the questionnaire was translated by Rangøy-Mølder and Øim and corrected with the help of experts from Norway.

Procedure

Participants completed the questionnaire, which was composed for use in this study by Øim and Kikas.

In Estonia the data was collected in spring 2003, in Norway the research was carried out in autumn 2003. Questionnaires were given to school directors who allotted them to teachers at their school. In some schools a short explanatory lecture about the background, goals and perspectives of the study was given to teachers. The same procedure was used in both countries. About 70% of distributed questionnaires were returned.

Results

Teachers' knowledge about ADHD, LD and childhood depression

The mean scores of all answers to each disorder and to each aspect of each disorder were calculated. Means, standard deviations and the results of one-way ANOVA (analysis of variance) are presented in Table 4. The results show that Norwegian teachers' knowledge was significantly better concerning each disorder studied. Estonian and Norwegian teachers' knowledge about childhood depression showed most resemblance. Teachers from both countries had best knowledge about learning disabilities. Estonian teachers knew the least about ADHD and Norwegian teachers about childhood depression. Concerning ADHD, Estonian teachers were more knowledgeable about treatment of ADHD than Norwegian teachers. The Norwegian teachers had significantly higher knowledge than Estonian teachers about the identification, causes, prognosis and consequences of ADHD. Norwegian teachers were also more knowledgeable than Estonian teachers about identification, causes, treatment and prognosis of learning disabilities. Estonian teachers had higher score than Norwegian teachers only concerning the consequences of LD. The greatest similarities were observed between Estonian and Norwegian teachers' knowledge of depression. In the case of ADHD and LD Estonian and Norwegian teachers' knowledge about each aspect of the disorder was statistically significantly different. In the case of childhood depression statistically significant differences appeared only

in the case of three aspects: Estonian teachers knew less than Norwegian teachers about the identification, causes and treatment of childhood depression.

Table 4.

Differences between participants' knowledge about ADHD, LD and CD

Disorder and subscales	Estonian teachers		Norwegian teachers		F
	M	SD	M	SD	
Attention-deficit/Hyperactivity disorder (total score)	0.65	0.13	0.79	0.08	85.3***
Identification of ADHD	0.66	0.22	0.74	0.17	8.9*
Causes of ADHD	0.59	0.24	0.88	0.18	119***
Treatment of ADHD	0.66	0.21	0.53	0.18	29.8***
Prognosis of ADHD	0.59	0.27	0.88	0.19	94.5***
Consequences of ADHD	0.76	0.19	0.93	0.13	71.4***
Learning disabilities (total score)	0.71	0.13	0.80	0.09	37.1***
Identification of LD	0.53	0.20	0.77	0.17	105.8***
Causes of LD	0.82	0.20	0.87	0.16	4.9*
Treatment of LD	0.75	0.17	0.82	0.16	10.9**
Prognosis of LD	0.68	0.25	0.89	0.17	63.8***
Consequences of LD	0.82	0.20	0.65	0.20	47.4***
Childhood depression (total score)	0.69	0.11	0.76	0.08	25.1***
Identification of CD	0.67	0.19	0.72	0.18	5.9*
Causes of CD	0.79	0.18	0.87	0.17	14.6**
Treatment of CD	0.66	0.18	0.81	0.17	46.5***
Prognosis of CD	0.56	0.21	0.60	0.20	2.1
Consequences of CD	0.76	0.19	0.79	0.17	1.2

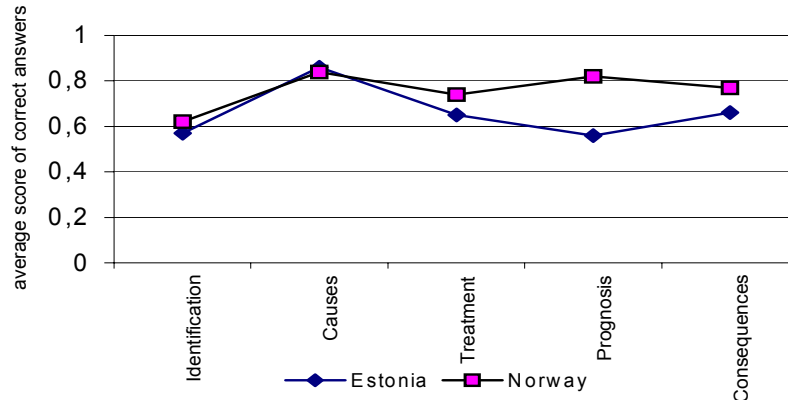
Note. $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$

Means and standard deviations are calculated using scale where 1 was coded as correct and 0 as an incorrect answer.

Abbreviations: M-mean, SD-standard deviation, ET-Estonian teachers, NT-Norwegian teachers, CD- childhood depression

To analyse teachers overall knowledge about different aspects of disorders (identification, causes, treatment, prognosis, and consequences) total mean scores of the aspects were calculated. Figure 1 shows that both Estonian and Norwegian teachers were most knowledgeable about the causes of the disorders and the least knowledgeable about the identification of disorders. Biggest differences between Estonian and Norwegian teachers appear on the prognosis and treatment subscale. Norwegian teachers showed better knowledge than Estonian teachers concerning the prognosis of the disorders ($F(1,277)=67.5$, $p < .000$) and also concerning the treatment of the disorders ($F(1,135)=13.9$, $p < .000$).

To analyse each subscale of each disorder separately T-test for dependent samples was used. Results show that Estonian teachers' knowledge was inconsistent concerning each subscale of each disorder. Norwegian teachers' knowledge was more



Note. On the Y-scale 1 = correct answer and 0 = incorrect answer

Figure 1. Teachers' knowledge about different aspects of disorder

homogeneous. *The subscale of identification:* Estonian teachers knew the best how to identify ADHD and depression. Knowledge about the identification of LD was significantly lower than about ADHD ($t(1,196)=6.9$, $p<.001$) or childhood depression ($t(1,191)=6.3$, $p<.001$). Norwegian teachers' knowledge of identification of each disorder did not show statistically significant differences. *The subscale of causes:* Estonian teachers' knowledge about the causes of learning disabilities was higher than about ADHD ($t(1,171)=12.8$, $p<.001$) or childhood depression ($t(1,194)=12.9$, $p=.01$). Norwegian teachers' knowledge about the causes of disorders was homogeneously high ($m>0.8$). *The subscale of treatment:* Estonian teachers knew more about the treatment of learning disabilities than about the treatment of ADHD ($t(1,197)=4.8$, $p<.001$) or childhood depression ($t(1,203)=5.4$, $p<.001$). Norwegian teachers' knowledge about the treatment of ADHD was significantly lower than about LD ($t(1,87)=10.5$, $p<.001$) or childhood depression ($t(1,84)=9.6$, $p<.001$). *The subscale of prognosis:* Estonian teachers' knowledge about the prognosis of LD was higher than about ADHD ($t(1,178)=3.1$, $p=.01$) or childhood depression ($t(1,170)=4.6$, $p<.001$). Norwegian teachers' knowledge about the prognosis of childhood depression was significantly lower than about ADHD ($t(1,84)=9.5$, $p<.001$) or LD ($t(1,83)=9.5$, $p<.001$). *The subscale of consequences:* Estonian teachers knew more about the consequences of LD than about ADHD ($t(1,197)=2.5$, $p=.01$) or childhood depression ($t(1,195)=3.2$, $p=.01$). Norwegian teachers knew significantly more about the

consequences of ADHD than about LD ($t(1,99)=12.1$, $p<.001$) or childhood depression ($t(1,92)=7.1$, $p<.001$). Norwegian teachers' knowledge about the consequences of depression was also higher than about LD ($t(1,89)=5.2$, $p<.001$).

Teachers' misconceptions about ADHD, LD and childhood depression

An item-based analysis was carried out to see which statements were answered most correctly and what exactly are teachers' biggest misconceptions. An overview of correct answers to each statement is given in Appendix 3.

In the case of ADHD teachers are very well knowledgeable that ADHD is a behavioural disorder which expresses itself in more than one environment. Such pupils can not concentrate and to treat them a stable discipline must be created.

In the case of LD teachers are very well aware of the causes and treatment of LD. They are knowledgeable that pupils with LD can not organise their thoughts and actions. Teachers know well that LD is caused by dysfunctions in cognitive processes, emotional and psychological problems may be associated with their problems and that early childhood injuries may also bring about LD. They know that medication is not available to treat such children, at school they are mostly helped by special pedagogues and specific curricula is used in treatment processes.

In the case of childhood depression teachers are very knowledgeable about all associative factors of childhood depression (e.g. appetite problems, antisocial behaviour, anger, changes in school performance etc.), they are well aware that long-term therapies and parents are included in the treatment process and depression tends to recur.

Item-based analysis revealed that teachers hold several misconceptions about each disorder studied. We classified a statement as a considerable misconception if more than 50% of teachers gave an incorrect answer.

Misconceptions concerning ADHD: Estonian teachers held the biggest number of misconceptions regarding ADHD. However, the most striking misconception was pronounced by Norwegian teachers: 97% of Norwegian teachers believed that ADHD can be treated with tranquillisers. Causes of ADHD were also an aspect of ADHD, which was not very well understood by teachers. 81 % of Estonian teachers believed that ADHD is caused by emotional misbalance and 51% of Estonian teachers believed that ADHD is a result of bad parenting. Misconceptions regarding the prognosis of ADHD were also considerable: 73% of the Estonian teachers believed that children

can outgrow ADHD and 52.8 % of Estonian teachers believed that ADHD may begin in adulthood. The prevalent misconception on the identification subscale was that ADHD is a personality disorder: it was believed by more than 60% of both Estonian and Norwegian teachers.

Misconceptions concerning learning disabilities (LD): The most prevalent misconception was expressed about the nature of LD: 79.8% of teachers did not believe that a child who has academic skill problems only in one domain (e.g. mathematics) can be diagnosed with LD. The second biggest misunderstanding, as far as the identification of LD is concerned was Norwegian teachers' belief that LD is not a chronic disorder with neurological origin (67.6%). Estonian teachers overestimated help from psychotherapist in the case of learning disabilities: 73.5% of teachers believed that psychotherapy helps a child diagnosed with LD. Estonian teachers expressed a misconception also about the prognosis of LD: 52.9% of Estonian teachers believed that learning disabilities may begin in adulthood.

Misconceptions regarding childhood depression: Teachers had problems understanding the seriousness of childhood depression as 82% of Estonian and 87% of Norwegian teachers did not believe that children's depression usually lasts for 6 to 7 months. The same misconception was underlined by 64% of Norwegian teachers who believed that before it is possible to diagnose a depression its symptoms must have been expressed three months and by 51% of Estonian teachers who believed that children's depression lasts less than adult depression. Considerably prevalent (75.4%) was also Estonian teachers' belief that childhood depression can only be caused by a traumatic event. Teachers tended to see a depressed child as having first of all problems with self-assertment as 85.8% of Estonian and 51% of Norwegian teachers believed that to help a child with depression teaching self-asserting is the most important treatment.

Factors influencing teachers' knowledge

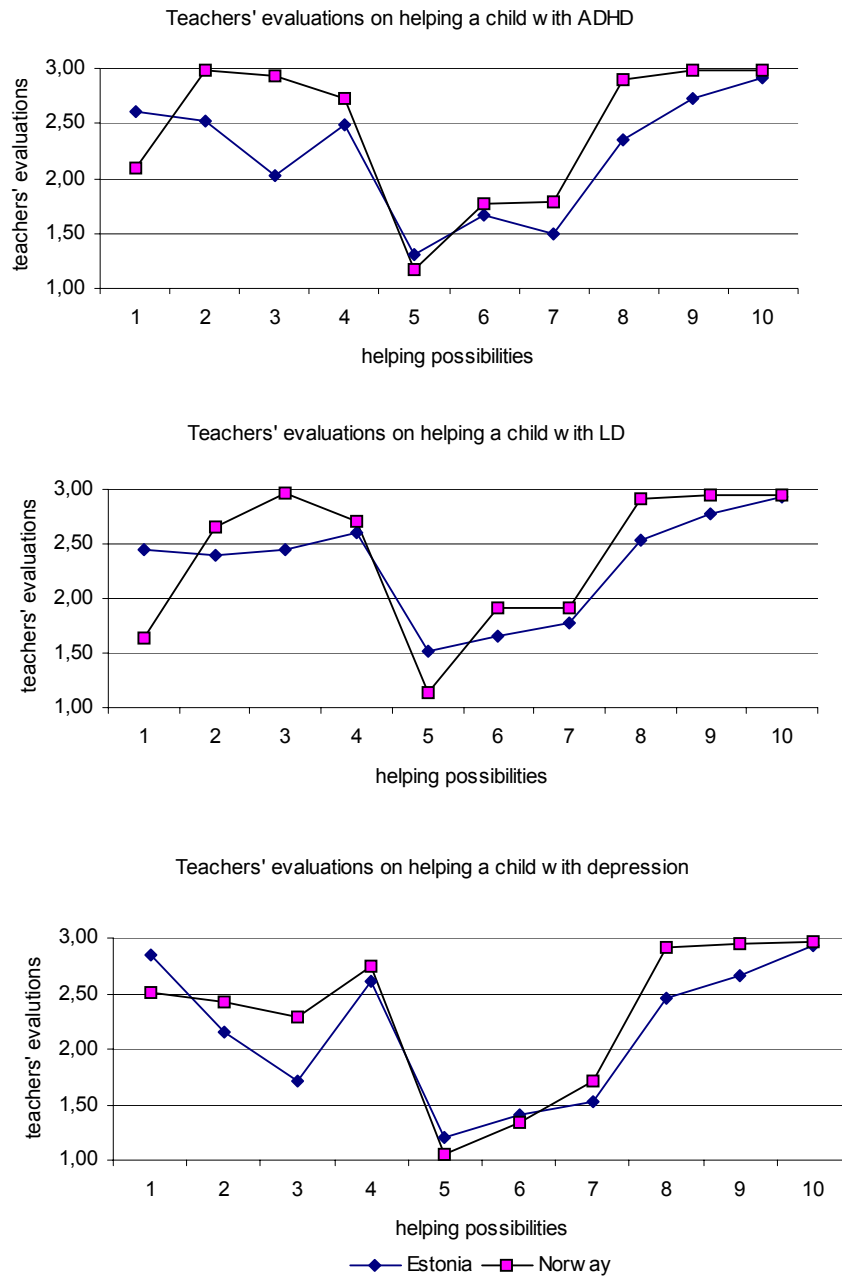
One-way ANOVA was carried out to indicate the differences between various groups of teachers. Post hoc analysis was carried out with Scheffe test, only the statistically significant differences ($p < .05$) will be reported. *School location* influenced Estonian teachers' knowledge but did not influence Norwegian teachers' knowledge. In Estonia teachers from bigger towns were more knowledgeable about ADHD ($p = .04$) and childhood depression ($p < .001$) than teachers from small cities and

rural areas. Teachers from Estonian big towns were also more knowledgeable about the prognosis of disorders ($p=.01$). As in Norwegian sample 34% of teachers were men we could carry out the analysis of the *impact of gender* on teachers' knowledge. We found that women have better knowledge about ADHD than men ($p=.01$). *The number of students in school* influenced Estonian and did not influence Norwegian teachers' knowledge. Estonian teachers who worked at schools with more than 600 students had higher knowledge about LD ($p=.04$) and about childhood depression ($p=.01$) than teachers from schools with less number of students. Estonian teachers from bigger schools showed higher level of knowledge regarding treatment of disorders than teachers from smaller schools ($p=.03$). Schéffe test (post hoc comparisons of means) showed the tendency that the smaller number of students in the school the less Estonian teachers knew about all disorders studied. *Length of experience* influenced Estonian teachers' knowledge. Teachers who have been working at school more than 20 years had better knowledge about the identification of disorders than teachers who had less working experience ($p=.01$). Data also revealed that *teachers who had taught such a child before* influenced teachers' knowledge. The Estonian teachers who have taught a child with learning disabilities had also higher knowledge about LD ($p=.04$). In the Norwegian sample teachers who had taught a child with LD were more knowledgeable about ADHD ($p=.03$) and teachers who had taught a child with depression showed also higher overall knowledge about it ($p=.01$). *Availability of special help in school* (psychologist, speech therapist or special pedagogue) had impact on teachers' knowledge in both groups studied. The Estonian teachers who worked in schools where specialists help was available, showed higher knowledge about childhood depression comparing to teachers who did not have a specialist working in their school ($p=.01$). Especially availability of co-operation with a special pedagogue increased Estonian teachers' overall knowledge of each disorder. If a special pedagogue worked at school teachers' know more about ADHD ($p=.01$), LD ($p=.03$) and about childhood depression ($p=.01$) than teachers who had psychologist or speech therapist working at school. The Norwegian teachers who had specialists working in their school were more competent regarding ADHD ($p=.01$) and childhood depression ($p=.02$) than teachers who did not have a specialist available in school. *Participating in additional courses about SEN children* influenced teachers' knowledge considering some subscales. The Estonian teachers who had taken additional courses were more knowledgeable about the identification

of ADHD ($p=.04$) and the consequences of childhood depression ($p=.01$). The Norwegian teachers who had participated in additional training knew more about the causes of learning disabilities ($p=.02$) than teachers who had not participated in any courses.

Teachers' evaluations on helping ADHD, LD and depressed children

Teachers' average evaluations of helping possibilities are shown in Figure 2. Data indicates that teachers' evaluations on helping possibilities display similar structure for helping a child with ADHD, LD and depression. Teachers valued mostly structured day schedule, specific curricula, supportive atmosphere, constant praising, go-ordinate actions and involving parents as the best helping possibilities. Sending to special school, oral examination and less tests and exams were evaluated to be the least important in helping a child with ADHD, LD or childhood depression. *In the case of ADHD*, the biggest difference between Estonian and Norwegian teachers concerned implementing the specific curricula. Norwegian teachers found specific curricula to be more important than Estonian teachers ($F(1,375)=168.7$, $p<.001$), help from a psychologist was evaluated more important by Estonian teachers compared to Norwegian ones ($F(1,372)=50.8$, $p<.001$). Norwegian teachers found also structured day schedule ($F(1,381)=68.2$, $p<.001$), and constant praising ($F(1,381)=76.7$, $p<.001$) to be significantly more important helping possibilities than Estonian teachers did. Teachers' visions of how to help a child with LD and ADHD were very similar. *In the case of LD* the biggest differences between Norwegian and Estonian teachers appeared in the evaluations of sending a child to a psychologist and implementing a specific curricula. Estonian teachers considered referring a child with LD to a psychologist more important than the Norwegian teachers did ($F(1,370)=106.4$, $p<.001$). Norwegian teachers valued implementing a specific curricula more than Estonian teachers did ($F(1,379)=66.1$, $p<.001$). *In the case of a depressed child* teachers emphasised more help from a psychologist and found a specific curricula to be less of importance than in the case of ADHD and LD. Estonian teachers evaluated help from a psychologist more relevant than the Norwegian teachers ($F(1,372)=29.2$, $p<.001$) and implementing a specific curricula less relevant than Norwegian teachers in the case of childhood depression ($F(1,370)=46.1$, $p<.001$).



Note. Evaluation: 1- the least important, 2- of average importance, 3- the most important
 Helping possibilities: 1-psychologist, 2- structured day routine, 3- specific curricula, 4-supportive atmosphere, 5-special school, 6- oral examinations, 7-less tests and exams, 8- constant praising, 9- co-ordinate actions, 10- involving parents

Figure 2. Teachers' average evaluations of helping possibilities

Discussion

This study was designed to examine Estonian teachers' knowledge about the identification, causes, treatment, prognosis and consequences of ADHD, LD and childhood depression and to compare the results with the Norwegian teachers' knowledge.

Estonian teachers' overall knowledge of disorders was above the average, however, the Norwegian teachers' knowledge was significantly better concerning each disorder studied. This result is not surprising, as Norwegian educational system has paid importance on SEN children for decades and integration of disabled students in mainstream schools has been practised for years. Still, in a way such a high level of knowledge was unexpected even for Norwegian teachers, as the questionnaire's level of difficulty was above the average for teachers. Such results might refer to the success of a well-developed integration program and support system for disabled children, which have been used in Norway for years (Hansen & Simonsen, 1998). Norwegian teachers have better training and more positive experiences with SEN children. Use of a true-false scale also gave the teachers an opportunity to show good results; open-ended questions would probably have given different results.

Results showed that teachers from both countries were most knowledgeable about learning disabilities (percentage of correct answers was 71 for Estonia and 80 for Norway). Such a result can be easily explained as the prevalence of LD is the highest and teachers are faced with learning disabilities more than with other disorders. Estonian teachers had the poorest knowledge about ADHD (65%), Norwegian teachers knowledge level of ADHD was 79%. Brook, Watemberg, & Geva's study (2000) also showed a high level of knowledge (71%) for ADHD. The understanding that disturbing and disobedient behaviour might be a disorder is quite a new approach for Estonian teachers. Most of the teachers working in Estonian schools nowadays have received their education during the Soviet time where educational system was mostly "teacher and subject centred" or in the beginning of the 1990-s when the changes in the educational system had just started. In their experience, such children were regarded as disobedient, malicious or retarded and were segregated from other children if required (Niistö, Kukemelle & Kemppinen, 2002)

A very telling result was that although the Norwegian teachers showed a high overall level of knowledge about ADHD (79%), their understanding of the treatment

of ADHD was limited (53%). This brings us to several questions - how are the results best interpreted and what can be considered as a sufficient knowledge for teachers? Whether the above-average knowledge level can be considered sufficient, depends on the particular knowledge. As many researchers (e.g. Cooper & Bilon, 2002) claim, teachers are the first ones to identify SEN children in school and they should be aware of the symptoms and signs to look for. Early identification of problems and getting the best help are essential in the case of disabled children. On the basis of the above-mentioned facts, teachers should first of all express a good knowledge base concerning the identification and treatment subscales of disorders. As teachers are often faced with consequences of disorders in classroom, a good knowledge of this subscale is also important. The causes and a prognosis of disorders can be considered to belong mostly to the area of expertise of psychologists and psychiatrists.

An important finding is that both Estonian and Norwegian teachers were the least knowledgeable about the items on the identification subscale. Such a result is different from the Sciutto, Terjesen & Frank's study (2000) who found the teachers to be most knowledgeable about the symptoms and diagnosis of ADHD. Estonian teachers had also a very low level of knowledge about the treatment and consequences subscale. According to such results it can be said that Estonian teachers knowledge base for managing the integration of disabled students into mainstream education is clearly insufficient.

While analysing the results within different subscales it was shown that Estonian teachers knew best how to identify ADHD and depression but were not knowledgeable about the treatment of those disorders. Estonian teachers knew the least of how to identify learning disabilities but were knowledgeable about the treatment of learning disabilities. Such results reveal that Estonian teachers' knowledge base is very much inconsistent also within disorders and the results reflect the weakness of the educational system provided for SEN children in Estonia.

One important innovation in our study was including childhood depression (CD) in the questionnaire. Estonian teachers expressed surprisingly good overall knowledge about CD. They were most knowledgeable about the causes and consequences of depression and least knowledgeable about the prognosis. Such results can be derived from the fact that depression is a better known problem than ADHD and LD and some teachers might have experienced depression themselves. Taking a closer look at the answers of to each statement, it can be seen that teachers

underestimated the seriousness of childhood depression. They did not believe that anything else than a traumatic event can cause depression in children and they believed that depression in children lasts less than adult depression. Such results give us the right to suggest that the specific characteristics of childhood depression demand closer explanation in teacher training programs.

Similarly to Jerome, Washington, Laine & Segal's study (1999), Estonian teachers expressed several misconceptions regarding the persistence of symptoms of ADHD and LD in adolescence. It was believed that ADHD and LD may begin in adolescence and it is possible to outgrow the disorder. The same was also found by Sciutto, Terjesen & Frank (2000) – in their study one of the five most common misperceptions describe was the belief that the symptoms must not be present before the age of 7, for the child to be diagnosed with ADHD. Brook, Watemberg and Geva (2000) claim also that most of the teachers in their study thought that LD disappears with age. An interesting finding was that more than 60% of Estonian and Norwegian teachers believe that ADHD is a personality disorder which may be associated with the teachers' beliefs that ADHD is not a real disorder, just a type of problematic personality. It was surprising to find out that some very simple false statements were believed by a considerable amount of Estonian teachers. For example, 51 % of Estonian teachers believed that ADHD is a result of bad parenting, 40% of Estonian teachers believed that depressed children do not need special help, 21% of teachers believed that ADHD children are malicious and 13% of Estonian teachers believed that children with LD are lazy and spoiled. Such beliefs show big problems concerning the level of teachers' knowledge and the atmosphere where SEN children study in Estonia. Almost none of the Norwegian teachers held such misconceptions about the above-mentioned aspects. Here lies the biggest difference between Estonian and Norwegian teachers' knowledge. The Estonian teachers' knowledge shows big variance while the Norwegian teachers might not show a very high level of knowledge in some aspects of disorders but they never fail with the elementary facts.

The teachers' evaluations on how to help SEN children at school showed the same structure for all disorders. This indicates that teachers do not have a well-established idea of how to help pupils with different problems at school. Evaluations were the least accurate concerning help to children with learning disabilities. Estonian teachers' evaluated the help from psychologists more important compared to Norwegian teachers in the case of each disorder. They overestimated the help from

psychologists especially in the case of LD. Contrary to Brook, Watemberg and Geva's study (2000) all teachers in our study underestimated the help of re-organising school assessments (e.g. changing the type of exams or having less of them) which are especially important in the case of LD. It is important that Estonian teachers did not think highly of sending SEN children to a special school and this can be considered as a step forward in the teachers' education. Not a long time ago, in 1998, Saliste suggested in his article that special schools are the only possibility to teach SEN children.

Both, school characteristics (location of the school, number of students in school, availability of special help) and personal characteristics (length of experience, prior experience with disabled children and additional training) influenced the teachers' knowledge. Such outcomes are similar to Sciutto, Terjesen & Frank's results that also indicated that the length of teaching experience and prior experience with ADHD children was related to the overall knowledge of ADHD. Miranda, Presentacion and Soriano (2002) also came to the conclusion that the teachers' knowledge of and capability to help ADHD children increased significantly after multicomponent training programs.

Simola (1998) discussed the importance of "psychologization" of educational sciences in his article and claimed that the Finnish pedagogical tradition has a very strong connection with psychology. The same can not be said about the Estonian teacher education program and our results are good indicators of that. Results of this study reveal that Estonian teachers' knowledge is not sufficient enough to face the requirements that the EU brings to educational system for SEN children. The close relation of didactics to psychology should be emphasised and according to our results, future educational programs should focus more on different signs and treatment possibilities of disorders so that teachers would be more knowledgeable about identification and helping possibilities of children who need special help.

The limitations of the present study are mostly connected with the questionnaire. Error-choice method may be considered too limited to get a clear picture of teachers' knowledge. The weakness of true-false scale is possible random choices, which may lead to inaccurate estimates of the teachers' knowledge. Improving the scale and including a sample of professional psychologists as a control group should be one part of future implementations on research in this field.

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Appendix 1

Statements used on the true-false scale in the questionnaire

The Estonian version

1. Aktiivsus ja tähelepanuhäire (ATH) on käitumises väljenduv probleem
2. ATH diagnoosimiseks peavad esinema nii üliaktiivsus kui tähelepanematus
3. ATH on isiksusehäire
4. ATH võib avalduda vaid ühes keskkonnas
5. ATH võib tekkida noorukieas
6. Õpivõimuste spetsiifilise häirega (ÕSH) lapsel on vaimne alaareng
7. ÕSH on neuroloogilise tekkepõhjusega krooniline probleem
8. ÕSH diagnoosiga lastel võivad esineda raskused ainult matemaatikas
9. ÕSH on seotud nägemise, kuulmise –ja motoorsete puuetega
10. ÕSH võib tekkida noorukieas
11. Lastel avaldub depressioon erinevalt kui täiskasvanutel
12. Laste depressiooni defineeritakse kui vastust traumeerivale sündmusele
13. Laste depressiooniga võivad kaasneda viha ja agressiivsus
14. Depressioon võib alata noorukieas
15. Depressiooni diagnoosimiseks peab see olema avaldunud vähemalt kolm kuud
16. Aktiivsus- ja tähelepanuhäire (ATH) on neurobioloogiline häire
17. ATH tuleneb eelkõige halvast kasvatuses ja eluraskustest (probleemid perekonnas, stress, vanemate lahusus jms)
18. ATH on põhjustatud emotsionaalsest tasakaalutusest
19. ATH on kromosoomhaigus
20. Õpivõimuste spetsiifilise häirega (ÕSH) lapsed on laisad ja ärahellitatud
21. ÕSH on tingitud halvast kasvatuses ja eluraskustest
22. ÕSH põhjuseks on kognitiivsete protsesside häired
23. ÕSH-i võivad põhjustada vigastused/kahjustused varases lapseas (nt alatoitumus, peavigastused, lapse kuritarvitamine)
24. Depressioon on geneetiline haigus
25. Laste depressiooni põhjuseks on alati konkreetne traumaatiline sündmus
26. Madal enesehinnang ja kalduvus negativismi on depressiooni soodustavad tegurid
27. Õpitud abitus võib põhjustada depressiooni
28. Aktiivsus- ja tähelepanuhäiret (ATH) saab ravida psühhostimulantidega
29. ATH raviks kasutatakse käitumisteraapiat, mis keskendub sõnakuulelikkuse õpetamisele
30. ATH ravis kasutatakse sotsiaalsete oskuste treeningut ja kindla distsipliini loomist kodus ja koolis
31. ATHd saab ravida rahustitega
32. Õpivõimuse spetsiifilise häirega (ÕSH) lapsele tuleks koostada individuaalne õppekava ja arvestada tema eripäraga kooliülesannete andmisel
33. ÕSHd aitab ravida psühhoteeraapia
34. ÕSHd ravitakse eelkõige ravimitega

35. ÕSHga lapsi aitab koolis eelkõige eripedagoog
36. Depressiooni ravitakse pikaajalise individuaal- või pereteraapiaga
37. Laste depressioon kindlalt ravi ei vaja, aitab ka õpetajate, eakaaslaste ja lapsevanemate toetav suhtumine
38. Depressiooni ravis on olulisel kohal enesekehtestamise õpetamine
39. Depressioonis laste ravimise protsessi tuleb kindlasti kaasata lapsevanemad
40. Aktiivsus- ja tähelepanuhäirest (ATH) on võimalik "välja kasvada"
41. ATHga õpilasel on risk tulevikus saada kurjategijaks või alkoholisõltlaseks
42. ATHga õpilasel on risk tulevikus kalduda depressiooni
43. ATHga õpilane käitub ebastabiilselt ning on tähelepanematu ka täiskasvanueas
44. Õpiraskuste spetsiifiline häire (ÕSH) möödub kooli lõppedes
45. ÕSH on eluaegne probleem
46. ÕSHga inimene ei saa täiskasvanuna oma eluga ise hakkama ja vajab kaasinimeste toetust
47. ÕSHga õpilastel pole mingit lootust kõrgkooli pääseda
48. Lastel kestab depressioon keskmiselt 6-7 kuud
49. Lastel kestab depressioon vähem kui täiskasvanutel
50. Depressioon on normaalne murdeea osa
51. Depressiooni läbielanud lastel on kalduvus depressioonile ka hiljem
52. Aktiivsus- ja tähelepanuhäirega (ATH) kaasnevad hallutsinatsioonid
53. ATHga õpilastel on raskusi eakaaslastega suhtlemisel ja neil on madal enesehinnang
54. ATHga õpilased ei suuda keskenduda ning oma käitumist kontrollida
55. ATHga lapse võimekus (IQ) on madalam kui eakaaslastel
56. ATHga lapsed on pahatahtlikud
57. Õpivilumuste spetsiifilise häirega (ÕSH) lastel on tihti emotsionaalseid ja psühholoogilisi probleemide (nt ärevus ja depressioon)
58. ÕSHga inimese nägemine ja kuulmine võivad olla suurepäraseks, kuid siiski näevad nad ebakorrektselt ja kuulevad valesti
59. ÕSHga lapsed võivad ajada tähed sõnas segamini (nt elevant-evalant)
60. ÕSHga õpilased on raskustes oma mõtete ja tegevuste organiseerimisega
61. ÕSHga laps küsib pidevalt küsimusi, kuid ei ole vastustest huvitatud
62. Lastel avaldub depressioon peamiselt tujukusena
63. Depressioonis lapsed võivad tunni ajal magama jääda
64. Lastel võib depressiooniga kaasneda antisotsiaalne käitumine (nt valetamine või varastamine)
65. Depressiooniga võib kaasneda järsk muutus õppe edukuses
66. Lastel võivad depressiooniga kaasneda söögiisu muutus ja kehalised vaevused

Appendix 1:2
Statements used on true-false scale in the questionnaire
The Norwegian version

1. AD/HD er et problem som kommer til uttrykk i barnets adferd
2. For å stille diagnosen AD/HD må barnet lide av både hyperaktivitet og oppmerksomhetssvikt
3. AD/HD er en personlighetsforstyrrelse
4. AD/HD blir synlig bare i ett bestemt miljø
5. AD/HD kan oppstå i ungdomsårene
6. Barn med spesifikke lærevansker har svekkede sjelsevner
7. Spesifikke lærevansker er et kronisk problem med nevrologiske årsaker
8. Det hender at barn med spesifikke lærevansker bare har problemer med matematikk
9. Spesifikke lærevansker er forbundet med svekkelser i syn, hørsel og motorikk.
10. Spesifikke lærevansker kan oppstå i ungdomsårene
11. Depresjon hos barn kommer til uttrykk på en annen måte enn depresjon hos voksne
12. Depresjon hos barn defineres som en reaksjon på traumatiske hendelser
13. Sinne og aggressivitet kan følge depresjon hos barn
14. Depresjon kan oppstå i ungdomsårene
15. Før man stiller diagnosen depresjon skal barnet ha hatt symptomene i minst tre måneder
16. AD/HD er en nevrobiologisk forstyrrelse
17. AD/HD oppstår på grunn av dårlig oppdragelse og vanskelig livssituasjon (familieproblemer, stress, foreldres skilsmisse osv.)
18. AD/HD skyldes emosjonell ubalanse
19. AD/HD er en kromosomsykdom
20. Barn med spesifikke lærevansker er late og bortskjemte
21. Spesifikke lærevansker skyldes dårlig oppdragelse og vanskelig livssituasjon
22. Spesifikke lærevansker skyldes kognitive forstyrrelser
23. Spesifikke lærevansker kan skyldes skader i tidlig barndom (underernæring, hodeskader, misbruk av barnet)
24. Depresjon er en genetisk lidelse
25. Depresjon hos barn skyldes alltid en konkret traumatisk hendelse
26. Lavt selvbilde og (tilbøyelighet til) en negativ holdning kan lett føre til depresjon
27. Tillært hjelpeløshet kan skape depresjon
28. AD/HD kan behandles med psykostimulanter
29. AD/HD kan behandles med hjelp av atferdsterapi som fokuserer på å lære barnet lydighet
30. AD/HD behandles med sosial trening og ved å skape disiplin både hjemme og på skolen
31. AD/HD kan behandles med beroligende midler
32. Det skal utarbeides en individuelt tilrettelagt læreplan for barn med spesifikke lærevansker og man må ta hensyn til barnets spesielle læreforutsetninger
33. Spesifikke lærevansker kan behandles med hjelp av psykoterapi
34. Spesifikke lærevansker behandles først og fremst med medisiner

35. Det er framfor alt spesialpedagogen som hjelper barn med spesifikke lærevansker på skolen
36. Depresjon behandles med langvarig individual- eller familierapi
37. Depresjon hos barn krever ikke behandling, det holder med støtte fra lærere, jevnaldrende venner og foreldre
38. I behandling av depresjon er det særlig viktig å lære barnet å hevde seg
39. I behandling av depresjon hos barn er det helt nødvendig å involvere foreldrene
40. Det er mulighet for at barnet "vokser av seg" AD/HD
41. Det er en risiko for at barn med AD/HD ender oppdragelse som kriminelle eller alkoholikere
42. Det er en risiko for at barn med AD/HD kan komme til å utvikle depresjon
43. Elever med AD/HD har en ustabil atferd og de kommer også til å ha oppmerksomhetsvansker som voksne
44. Spesifikke lærevansker går over når skolegangen slutter
45. Spesifikke lærevansker er et livsvarig problem
46. Personer med spesifikke lærevansker klarer seg ikke på egen hånd og trenger støtte fra andre
47. Elever med spesifikke lærevansker har ingen sjanse til å komme inn på høyskoler
48. Depresjon hos barn varer gjennomsnittlig 6-7. måneder
49. Depresjon hos barn varer kortere enn hos voksne
50. Depresjon er en vanlig fase i puberteten
51. Barn som har hatt depresjon kan også komme til å utvikle depresjon i framtiden
52. AD/HD innebærer hallusinasjoner
53. Barn med AD/HD har dårlig selvilde og vanskeligheter med å omgås jevnaldrende barn
54. Elever med AD/HD har konsentrasjons- og adferdsvansker
55. Barn med AD/HD har lavere IQ enn andre jevnaldrende
56. Barn med AD/HD er uvennlige
57. Barn med spesifikke lærevansker har ofte emosjonelle og psykologiske problemer (f. eks anspenthet og depresjon)
58. Personer med spesifikke lærevansker kan ha perfekt syn og hørsel, men de ser og hører likevel feil
59. Barn med spesifikke lærevansker kan omklassere bokstaver i ord (f.eks elefant – efelant)
60. Barn med spesifikke lærevansker har vanskeligheter med å organisere tanker og aktiviteter
61. Barn med spesifikke lærevansker stiller hele tiden spørsmål, men er ikke interesserte i svar
62. Depresjon hos barn kommer først og fremst til uttrykk som humørsyke
63. Deprimerte barn kan sovne i timen
64. Deprimerte barn kan utvikle antisosial atferd (f.eks lyve og stjele)
65. Depresjon kan medføre plutselige endringer i læringsresultatene
66. Depresjon hos barn kan medføre endret matlyst og kroppslige plager

Appendix 2

Evaluation scale of helping possibilities used in the questionnaire

The Estonian version

1. Aktiivsus- ja tähelepanuhäirega (ATH) lapse peab saatma psühhoterapeudi juurde
2. ATHga lapse päevakava peab olema täpselt struktureeritud
3. ATHga lapsele tuleb koostada individuaalne õppekava
4. ATHga lapsele peab tagama vaba ja toetava õhkkonna klassis
5. ATHga lapse peab saatma eriinternaatkooli
6. ATHga lapsi peaks küsitلهma suuliselt
7. ATHga lapsed peavad tegema vähem kontrolltöid ja eksameid kui teised lapsed
8. ATHga lapsi tuleb pidevalt kiita
9. ATHga last õpetavad õpetajad peavad oma tegevused omavahel kooskõlastama
10. ATHga lapse abistamisse tuleb kaasata lapse vanemad

1. Õpivilumuse spetsiifilise häirega (ÕSH) lapse peab saatma psühhoterapeudi juurde
2. ÕSHga lapse päevakava peab olema täpselt struktureeritud
3. ÕSHga lapsele tuleb koostada individuaalne õppekava
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10. ÕSHga lapse abistamisse tuleb kaasata lapse vanemad

1. Depressioonis lapse peab saatma psühhoterapeudi juurde
2. Depressioonis lapse päevakava peab olema täpselt struktureeritud
3. Depressioonis lapsele tuleb koostada individuaalne õppekava
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10. Depressioonis lapse abistamisse tuleb kaasata lapse vanemad

Appendix 2:2

Evaluation scale of helping possibilities used in the questionnaire

The Norwegian version

1. Barn med AD/HD må sendes til psykoterapeut
 2. Barn med AD/HD skal ha et strukturert dagsprogram
 3. Barn med AD/HD skal ha individuelt tilrettelagt læreplan
 4. Barn med AD/HD må garanteres en fri og støttende atmosfære i klassen
 5. Barn med AD/HD må sendes til spesialskole
 6. Barn med AD/HD bør bare ha muntlige prøver
 7. Barn med AD/HD skal ha færre prøver og eksamener enn andre barn
 8. Barn med AD/HD må få mye ros
 9. Lærere som underviser barn med AD/HD skal drøfte og bli enige seg imellom om framgangsmåter
 10. Foreldrene til barn med AD/HD skal involveres i behandlingen av problemene
-
1. Barn med spesifikke lærevansker må sendes til psykoterapeut
 2. Barn med spesifikke lærevansker skal ha et strukturert dagsprogram
 3. Barn med spesifikke lærevansker skal ha individuelt tilrettelagt læreplan
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1. Barn med depresjon må sendes til psykoterapeut
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 9. Lærere som underviser barn med depresjon skal drøfte og bli enige seg imellom om framgangsmåter
 10. Foreldrene til barn med depresjon skal involveres i behandlingen av problemene

Appendix 3

Percentage of correct answers concerning each item

Statement	Per cent of correct answers	
	Estonia	Norway
ADHD manifests itself as a behavioural disorder	94.7	99.2
In order to put the diagnose ADHD both hyperactivity and inattentiveness must be present	66.7	58.3
ADHD is a personality disorder	37.8	39.6
ADHD may express itself only in one environment	82.5	91.3
ADHD may begin in adolescence	47.2	77.0
ADHD is a neurobiological disorder	81.2	88.8
Above all ADHD is a result of bad upbringing and difficulties in everyday life (problems in family, stress etc)	49.0	94.8
ADHD derives from emotional misbalance	18.9	72.0
ADHD is a chromosome disease	80.2	93.6
ADHD can be treated with psychostimulants	65.0	58.0
A therapy which focuses on obedience is used in treatment of ADHD	50.2	77.8
Training of social competencies and creating a stable discipline both in school and at home is used in the treatment of ADHD	92.5	75.6
ADHD can be treated with tranquilisers	62.7	7.83
It is possible to outgrow ADHD	26.7	67.3
A pupil with ADHD is likely to become a criminal or alcohol addict in the future	61.8	94.6
A pupil with ADHD is likely to have depression in the future	79.8	96.3
Behaviour of a pupil with ADHD is unstable and he expresses inattentiveness also in adulthood	62.8	90.9
Hallucinations are associated with ADHD	84.5	94.5
A pupil with ADHD has difficulties communicating with peers and they have low self-esteem	68.0	82.7
Pupils with ADHD can not concentrate and control their behaviour	99.3	99.2
A pupil with ADHD has lower IQ than his peers	59.6	98.2
Children with ADHD are malicious	79.1	90.3
A child with specific learning disabilities (LD) is mentally retarded	73.6	98.3
LD is a chronic disorder with a neurological origin	64.2	32.4
It is possible that a pupil with LD may have difficulties only in mathematics	20.5	87.0
LD are connected with in vision, auditory and motor impairment	58.8	91.4
LD may begin in adolescence	47.1	75.6
Children with LD are lazy and spoiled	87.3	100
LD are caused by bad upbringing and difficulties in everyday life	68.8	98.3
LD are caused by dysfunctions in cognitive processes	85.4	74.5
LD can be caused by injuries and damages from early childhood (like malnutrition, head injuries, abuse)	90.0	74.3
In the case of LD a specific curricula should be created and child's special need should be taken in consideration in preparing their assignments	92.2	99.2
Psychotherapy helps children with learning disabilities	26.5	75.5
Learning disabilities are mostly treated with medication	88.3	98.3
At school pupils with LD are helped most by special pedagogues	92.3	57.1
Learning disabilities disappear after finishing school	80.8	98.3

Statement	Per cent of correct answers	
	Estonia	Norway
Learning disabilities are a life-long problem	54.2	83.2
Person with LD can not manage his life in adulthood and needs support from others	75.5	79.1
A pupil with learning disabilities has no hope of getting in to university	67.2	94.7
Children with learning disabilities have emotional and psychological problems (f ex anxiety and depression)	88.5	68.8
LD persons may have perfect vision and hearing but never the less they can see or hear things inaccurately	71.4	80.4
Pupils with LD can mix up letters in a word	87.1	98.3
A child with LD has difficulties organising his thoughts and actions	92.3	66.1
A child with LD often asks questions but is not interested in the answers	65.3	10.8
Depression in children manifests itself differently than adult depression	81.7	74.8
Childhood depression is defined as a reaction to some traumatic event	24.6	55.6
Depressed child can express anger and aggressiveness	94.3	92.8
Depression may begin in adolescence	75.9	97.4
Symptoms must be present at least for 3 months to diagnose depression	59.5	36.0
Depression is a genetically determined disorder	81.5	83.5
Childhood depression is always triggered by a specific traumatic event	49.0	92.8
Low self-esteem and disposition to pessimism are factors contributing to depression	97.2	92.1
Learned helplessness can cause depression	89.7	77.4
Depression is treated in the course of long-term individual- or family therapy	91.4	86.6
Childhood depression does not require specific help; teachers, peers and parents support should be sufficient	60.4	92.7
The most important part of helping a child with depression is teaching self-assertiveness	14.2	49.0
Parents should be included in the process of helping a depressed child	97.2	95.6
Childhood depression lasts approximately 6-7 months	18.1	12.4
Childhood depression lasts less than adult depression	49.0	72.2
Depression is a usual part of adolescence	70.3	64.1
Children who went through depression in childhood tend to suffer from it also later in life	87.1	89.4
Depression in children manifests itself mainly in mood changes	42.8	76.7
Depressed children can fall asleep during classes	59.4	46.5
Antisocial behaviour may be associated with children's depression	86.9	72.2
Childhood depression may bring about drastic changes in school performance	97.2	99.1
Appetite change and physical complaints may be associated with childhood depression	92.6	99.2