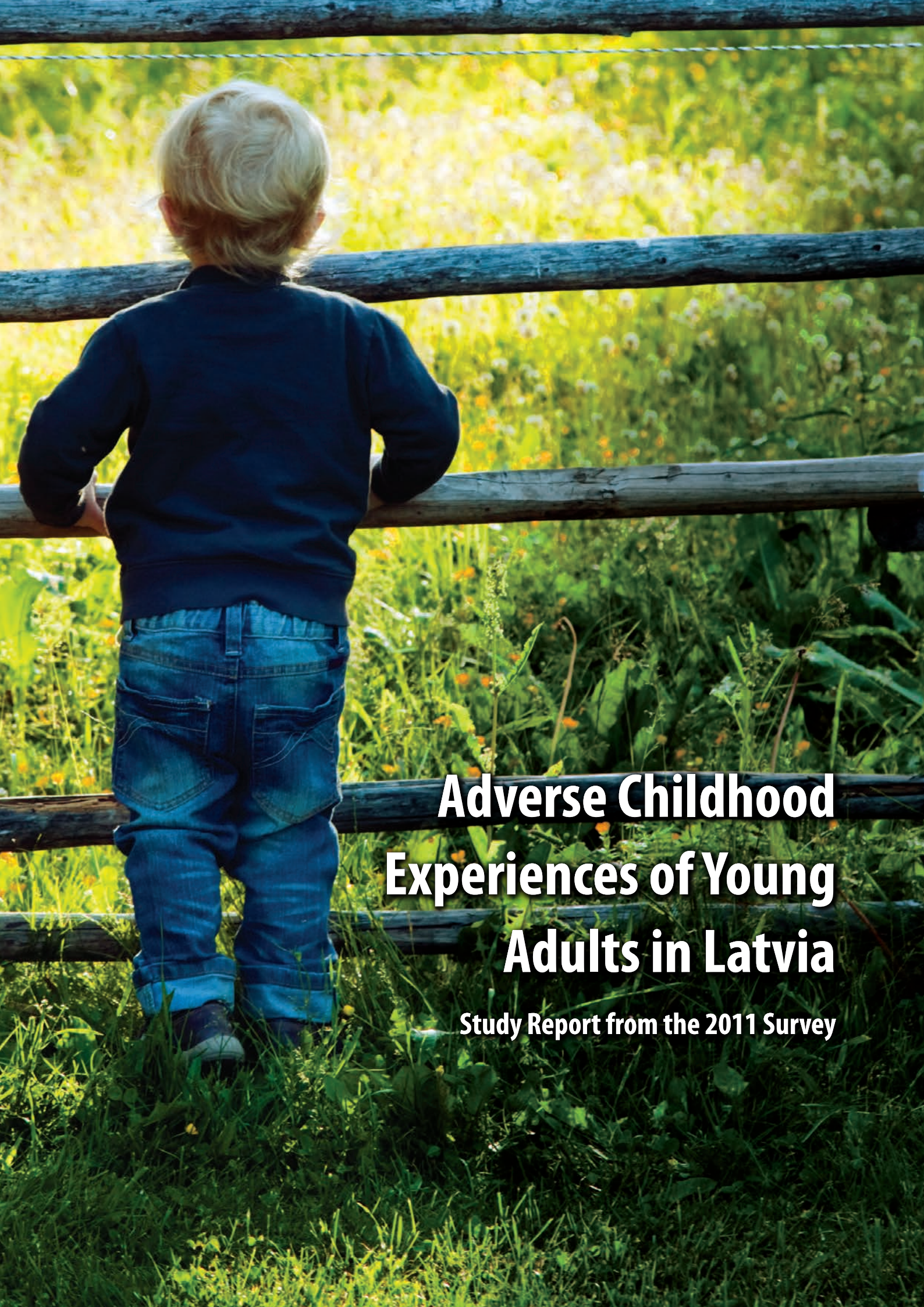

Adverse Childhood Experiences of Young Adults in Latvia

Study Report from the 2011 Survey

MINISTRY OF HEALTH
OF THE REPUBLIC OF LATVIA

THE MINISTRY OF HEALTH OF THE REPUBLIC OF LATVIA
CENTRE FOR DISEASE PREVENTION AND CONTROL OF LATVIA

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Nordic Council of Ministers'
Office in Latvia

Adverse Childhood Experiences of Young Adults in Latvia

Study Report from the 2011 Survey

Riga, 2012

Adverse Childhood Experiences of Young Adults in Latvia: Study report, 2011

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FOREWORD

Child maltreatment and other adverse experiences in childhood are a growing concern globally and in Europe. Countries that have undertaken surveys in Europe in order to understand the scale of the problem have shown a strikingly high prevalence. It is shocking to encounter such high prevalence, as our humanity, ethics and sense of social justice argues against such cruelty and injustice being inflicted on the most vulnerable members of households and society. Further international research has shown that the consequences of child maltreatment are grave and far reaching, affecting the propensity to be a victim or perpetrator of violence, and developing health risk behaviours which lead to mental ill health and noncommunicable disease in later life.

With this survey and the publication of this report *Adverse childhood experiences of young adults in Latvia*, my country has joined those few countries in Europe where adverse childhood experiences have been studied scientifically, and where a voice has been given to this social and public health malady. Like elsewhere the prevalence of child maltreatment, whether this is physical or mental abuse or neglect is unacceptably high. The survey has also found that the consequences of such adversity in childhood have already manifested as health damaging behaviours and self reported ill health as young adults.

Ownership of the problem of child maltreatment prevention is across government and it is a shared problem that cuts across the activity areas of many sectors. Responses from the different sectors need good coordination and governance mechanisms are needed to ensure this. There is evidence that organized responses by society can prevent child maltreatment. However, this requires sustained commitment across all levels of government and society, like permanent involvement of social workers' services and their closer cooperation with family doctors' team. It is important to continue putting our efforts in promoting health education as a separate programme in schools thus also raising awareness within the society of the problem and its ability to detect the problem when the first warning signals appear.

In order to improve maternal and child health indicators, the Ministry of Health of Latvia has developed Maternal and Child Health Action Plan (2012-2014). The objective is to focus on reduction of maternal and child mortality by providing better care and improved health services for mothers and children. The plan activities shall be directed towards increased knowledge and behaviour change of risk families on maternal and child care issues, including domestic violence.

I hope that this report will provide policy makers, practitioners and activists with the facts needed to develop evidence based policy and programmes for the prevention of child maltreatment both within and outside the health sector.

Ingrida Circene
Minister of Health of Latvia

FOREWORD

Child maltreatment is one of the hidden forms of violence and evidence shows that the prevalence is unacceptably high in the European Region. The World report on violence and health defines child maltreatment as physical, sexual or emotional abuse, and or deprivation and neglect. Child abuse if severe can lead to homicide, and although these appear relatively low at about 1500 deaths each year in children under 15 years of age, many child deaths are not investigated and the numbers may be much higher. Child maltreatment is one of the more serious forms of adverse childhood experiences though other adversity may also present itself. The consequences of adversity in childhood may lead to risky health behaviors and manifest themselves later in life, as poor physical and mental health and violent behavior. Safe, stable, and nurturing relationships with parents and other care givers are central to a child's healthy development.

There is a strong body of research showing that evidence-based programming can prevent and control child maltreatment. Many of these interventions are in early childhood, and adopting this life-course approach would not only tackle the determinants of violence, but also non-communicable disease. Benefits would not only be gained in childhood but later in adult life too. There is a need for increased policy priority throughout Europe that focuses attention on this area and a call for coordinated action from different disciplines within health and other sectors to tackle this neglected public health issue.

This report is unique, and shows that the prevalence of child maltreatment and other adverse childhood experiences is high in Latvia, as reported in college students. It also demonstrates a link between having experienced adversity in childhood and developing risky health behaviours as young adults. These findings make an important contribution to the evidence base in Europe and the report calls for collective action to tackle this public health threat. It is hoped that this document will be used across Latvia as an advocacy tool, to highlight the magnitude of the problem and urge practitioners and policy makers to seek multisectoral solutions to ensure that violence and adversity in childhood are prevented.

Dr Dinesh Sethi
Programme Manager (a.i) Violence and Injury Prevention
WHO Regional office for Europe

FOREWORD

The Nordic Council of Ministers' (NCM) Office in Latvia is part of the Nordic Council of Ministers' Secretariat assigned to facilitate close and diverse Nordic-Baltic cooperation in areas of common interest and to foster greater cohesion in Northern European region.

The activities of the NCM Office in Latvia are regulated by the Guidelines for the Nordic Council of Minister's cooperation with Estonia, Latvia and Lithuania 2009-2013, which entails joint Nordic-Baltic efforts in strengthening democracy values, including gender equality, and working for continuous increase in welfare and life quality standards in the Baltic Sea Region. Any discrimination or marginalisation of one specific population group should thereby be actively prevented.

As agreed in a joint Nordic-Baltic dialogue between the government authorities and non-governmental organisations, zero tolerance for gender-related violence is one of the prioritised general themes for Nordic-Baltic co-operation on gender equality policy in 2011-2014.

By making available the "Adverse childhood experiences of young adults, Study Report 2011" in English the NCM Office aims to provide additional impetus for a Nordic-Baltic dialogue among public health experts and researchers of other fields.

We suggest that the study results be examined through the framework of public health, gender equality and equal opportunities. We also hope that the study findings will offer a valuable contribution to the prevention of violence and further integration of gender equality principles.

Imants Gross
Director
Nordic Council of Ministers' Office in Latvia

INTRODUCTION

Violence has existed throughout the history of mankind; however, only during recent years has it been recognized as an important problem in public health. The 49th World Health Assembly in 1996 passed a resolution declaring that violence was an important and increasing public health problem throughout the world. [1.] Each year approximately 53 000 children die from violent causes [2.], and on average, 3.3 to 10 million children live in families considered to be violent. [3.]

The WHO in 1999, in cooperation with several institutions active in the reduction of violence against children, defined that child abuse or maltreatment constituted all forms of physical and/or emotional ill-treatment, sexual abuse, neglect, negligent treatment, commercial or other exploitation, resulting in actual or potential harm to the health of the child, the survival, development or dignity in the context of a relationship of responsibility, trust or power. There are four types of violence against children: physical, sexual, emotional and negligence or maltreatment. [4.]

Physical violence against children

Violence against children started to attract increasing attention of medical professionals and of the general public in 1962, when Kempe et al. published the work on the battered child syndrome. This newly created term described the clinical manifestations of intense physical violence against a child. [4; 5; 6] The WHO's World Report on Health and Violence 2002 describes physical violence against the child in family as the actions of a caretaker who inflicts actual or potential physical harm. [4.] Clause 11 of Article 1 of the Latvian Law entitled "On the Protection of the Rights of Children" defines physical violence as the deliberate application of power during an interaction with a child that is dangerous for the health or life of the child. [7.]

The physical punishment of children has been declared illegal at both national and international level. Based on Article 37 of the Latvian Law regarding the "Convention on the Rights of Children", the State and Parties to the State shall ensure that no child shall be subjected to torture or other cruel, inhuman or degrading treatment or punishment". [8.] Clause 2 of Article 9 of Latvian Law entitled "On the Protection of the Rights of Children" defines that "no cruel treatment of children is allowed, neither is it allowed to torture or to give punishment which degrades a child's dignity." [8.]

Although ill-treatment of children is illegal, there are still countries where physical punishment is widely applied as a method of bringing up children. The UN report regarding practices of domestic disciplining of children was published in 2010. The report analysed results of 35 surveys of methods of the disciplining of children, conducted between 2005-2006 in medium to low-income countries. According to this report, approximately 50% of children had been physically punished within the previous month. The largest proportion of physical punishment incidences was observed in Yemen, where 85% of children surveyed had been physically punished during the previous month. [9.]

When children in Egypt were surveyed regarding their experiences of physical violence in the family, 37% of children reported that parents had beaten them, 26% reported that physical violence against them had resulted in injuries such as broken bones, loss of consciousness and lasting physical difficulties. [10.] A household survey in Romania showed that nearly 50% of parents punish their children "on a regular basis" and 16% reported that they beat their children using a physical object. The results of the survey showed that 4.6% of children had been subjected to severe and frequent physical violence. [11.]

Several studies have showed that boys in general have been at a higher physical risk of punishment than girls. [12; 13; 14; 15] There are also differences in respect of the ages of children related to incidences and types of physical violence. Violence that has caused the death of a child is usually directed at infants. [16; 17] Younger children are also more frequently subjected to types of physical violence that do not cause death. The authors of the Egyptian survey pointed out that physical violence is more frequently directed at younger children. [10.] Victims of severe physical violence in families in China are normally boys aged between three and six. [14.] Physical violence in India is most frequently directed at children between 6 and 11 [15.], while in USA it is at children between 6 and 12. [14.]

Sexual violence against children

Sexual violence against children is usually defined as the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent. Equally it violates the laws or social taboos of society. Children can be sexually abused by both adults and peers, who, because of their age or level of development, are superior to the victim in terms of responsibility, trust and power. [66.] The WHO's World Report on Health and Violence 2002 describes the activities of a caretaker, whereby the child is used to satisfy his/her sexual desires, as sexual violence. [4.] Clause 10 of Article 1 of the Latvian Law entitled "On the Protection of the Rights of Children" defines sexual violence as involving a child in sexual activities that child does not comprehend or to which the child cannot give conscious consent. [7.]

The UN World Report on Violence Against Children 2006 states that, according to estimates by the WHO, more than 150 million girls and 73 million boys under the age of 18 have experienced forced sexual contact or sexual violence of another physical type. The report also points out that the actual number of incidences is probably significantly larger. [2.] Sexual assaults on children contribute to approximately 0.6% of all disability-adjusted life years in the world. [18.]

Textbooks and surveys provide equivocal data on sexual violence against children in the family. The differences in data can be explained by the differences in definitions of sexual violence and the different methods of gathering data. Some surveys and studies have been made by gathering information from the children themselves, while in others, the data has been obtained from young adults or adults regarding violence experienced during childhood. In other cases the target audience of the survey were parents themselves and they were asked questions regarding possible violence that their children had experienced. [4.] Surveys show that sexual violence experienced by males in childhood varies from 1%, when sexual violence is defined as forced sexual contacts [19.], to 19%, when a wider definition of sexual violence is applied. [20.] Experience of sexual violence by women varied from 0.1%, when sexual violence has been defined as rape, [21.], to 45%, when a wider definition of sexual violence was applied. A wider definition includes not only rape and attempted rape, but also pictures of naked children, displaying an adult's genitals in front of children, caressing and kissing in a sexual manner and forcing a child to touch the genitals of an adult. [20.]

The incidence of sexual violence experienced during childhood has varied between studies conducted in different countries. According to some textbooks which provide a summary on 21 epidemiological surveys mainly conducted in medium to high income countries, at least 7% to 36% of women and at least 3% to 29% of men have admitted that they had been victims of sexual violence in childhood. According to this data of 14% to 56% of girls and for approximately 25% of boys, the sexual violence was inflicted by their parents or foster parents. [22.] According to survey data, approximately 10-20% of women and 3-10% of men in Europe have experienced sexual violence before the age of 18. [23.] In corrective meta analysis in the USA based on surveys of adults, 30-40% of women and 13% of men stated that had they been sexually abused. [24.]

Most of the studies analysed have concluded that, unlike physical violence, which is more frequently directed at boys, victims of sexual violence have been predominantly girls. [4; 2; 6; 22; 25] A study conducted in the Children Hospital in Cape Town, South Africa, concluded that traumas inflicted through physical violence were more often observed in boys, while sexual assaults caused 48% of injuries to girls. Only 3% of injuries to boys were inflicted as a result of sexual assaults. [26.]

A national study conducted in the USA, where information from law enforcement institutions was summarized, concluded that the most frequent sexual assaults were attempted on children between 12 and 17. However, the highest probability to become a victim of a sexual assault is for children of 4. Almost one in two (48.6%) assailants of children below 6 was a family member, in 48.3% cases a family acquaintance and only in 3.1% of cases a stranger. [27.]

Emotional violence against children

Emotional abuse includes the failure of a caretaker to provide an appropriate and supportive environment, and include acts that have an adverse effect on the emotional health and development of a child. Such acts include restricting a child's movements, their denigration, ridicule, threats and intimidation, discrimination, rejection and other non-physical forms of hostile treatment. [4.] Clause 12 of Article 1 of Latvian Law entitled "On the Protection of the Rights of Children" states that emotional violence against a child is an offence against a child's dignity, or influencing the child psychologically through threatening, insulting, or hampering his/her emotional development in other ways. [7.]

Studies have shown that emotional violence against a child is the most wide-spread form of child abuse. Researchers have concluded that emotional violence against a child, compared to other forms of violence, has the most devastating effect on the life of a child in the long term and as harm stays longer in the memory of the child. [28.]

Indicators showing the prevalence of emotional violence do not reflect the actual situation in most cases as in very many cases this abuse remains unnoticed by both the victim and the perpetrator as well as by institutions outside the family. This situation can continue until something happens to the child that requires the intervention of a child protection institution. [29.] When analysing and interpreting data, one should take into account the fact that emotional violence can be studied either as a separate problem or as a side-issue in the cases of other forms of violence. [30.] The studies on children who have grown up in violent families have proved that there is a direct link between emotional, physical and sexual violence against children. [31.] Although, in cases when a child is simultaneously subjected to sexual and physical violence, it is difficult to identify which of the two forms of violence has had the bigger impact on the health and development of the child. [30.]

Emotional violence is a phenomenon that is difficult to assess. [2; 4] Its prevalence and frequency are influenced by norms accepted by society and by factors of social culture. However, according to data from the World SAFE (World Studies of Abuse in the Family Environment) project, which was implemented in five countries in the world, namely Chile, Egypt, India, Philippines, and the USA, emotional violence was observed in all of these regions. The most widespread reaction of parents was shouting at children. Shouting at children during the previous six months was reported by 70%-85% of nurses in the countries mentioned. The biggest differences between the countries were observed in respect of insulting and humiliating children, from 15%-17% in Chile and the USA to 44% in Egypt. [4.]

A study in Swaziland, where 2000 children between 6 and 18 were surveyed, showed that older children reported humiliating emotional violence more frequently that younger ones. [4.] A study conducted in the USA, which analysed a country-wide database of children suffering from violence and neglect, also found that older children had a higher risk of facing emotional violence. [32.]

Although it is believed that boys and girls have an equal risk of being emotionally abused, [33.] studies and surveys regarding adults concerning their childhood experiences show that women report emotional violence in childhood more frequently than men. [34; 35.]

Neglecting children

Neglecting children can be described as passive violence against children, whereby the child suffers from negligence by his/her parents. In the WHO's World Report on Health and Violence 2002 neglect refers to the failure of a parent to provide for the development of the child – when a parent is in a position to do so – in one or more of the following areas: health, education, emotional development, nutrition, shelter or safe living conditions. [4.] Clause 11 of Article 1 of the Latvian Law "On the Protection of the Rights of Children" defines neglecting children as the failure to fulfil the duties of care and supervision of children. [7.]

According to Article 177 of the Latvian Civil Law, the care of children means being under the care of parents until the child reaches the age of majority. This implies ensuring nutrition, clothing, housing, and health care, child care, education and upbringing, thus ensuring the mental and physical development, maintaining his/

her individuality, abilities and interests where possible and preparing a child for socially useful work. [36.] Some aspects of the definition of "neglecting a child" partially overlap with the definition of "emotional violence against a child". This includes the inability of parents to ensure the comprehensive development of the child, when taking care of a child's health, education, emotional development, nutrition, shelter and safe living conditions. [4.] These definitions imply that neglecting a child or negligence towards a child means failure to fulfil parental duties towards the child, thus failing to ensure his/her comprehensive development. Emotional violence against a child, in turn, can be defined in those cases when parents, because of their non-physical actions harm, a child's psychical health. For instance, ignoring a child's basic needs for food and shelter would be considered as neglect. However, in those cases when a child is prevented from having contact with parents or receiving gifts, for example, this would be constituted as emotional violence against a child. [37.]

In several economically-developed countries neglecting children represents the largest share of reported cases of violence against children in a family. Also, several types of violence, including neglect, are often mutually related. [38; 39; 40] From all cases of violence against children reported to government institutions of the USA 61% are cases related to negligence of children. [41.]

Summarising reports conducted in several countries, it can be assumed that girls are neglected more often than boys. [2.] 8 out of 10 cases of reported neglect in the USA have been concerned with children below the age of four for both sexes. [41.]

Adverse childhood experiences

Currently, there is a significant amount of information available regarding the negative long term influence of adverse childhood experience on human health. Reviews of some text books undertaken in 1990s confirm that depression, feelings of isolation and stigmatisation, low self-esteem, low self-respect and the abuse of substances are the most commonly identified long term effects of any type of violence against children or the neglect of children. [42.] The latest findings show that, in addition to these effects, many psychopathological conditions, such as attempted suicide, panic, dissociative disorders, post-traumatic stress disorders and anti-social behaviour are also related to this particular childhood circumstances.[43; 44; 45]

Dysfunctional families can also lead to psychosocial and health related consequences among family members in the long term. [46.] When a child has lived in a family where some family members remain or have been alcoholic, drug addict, mentally impaired or has been or is serving a prison sentence, it can leave a potential negative impact on the future life of the child. For instance, children who have lived in families who have undergone substance abuse will probably have higher levels of aggression, hyperactivity, impulsiveness, anxiety and a higher risk of becoming a juvenile offender. It is likely that these children will have more difficulties in respect of self-esteem compared to children who did not undergo these experiences. [47.] Similarly, in situations when a child has lived in a violent family or when his/her parents have been divorced or do not live together currently the outcomes are more likely to be similar. Studies show that these children are more likely to be more involved in criminal activity, substance abuse, are more likely not to attend school and may have relationship problems. [47.]

Abusing and neglecting children is not usually simply individual happening; it is more likely than these children have experienced treatment of this kind repeatedly and simultaneously in different forms. [48.]

The Adverse Childhood Experiences (ACE) study is a project between the US Center for Disease Control and Prevention and the Kaiser Permanente Clinic. This is a wide epidemiological study that attempts to analyse and forecast the long-term impacts of adverse childhood experiences of respondents on their health, social issues and quality of life. Within this study an ACE Score was introduced. This relatively simple method was developed to assess how each individual was subjected to adverse childhood experiences. The score reflects the level of cumulative stress. [49.] The ACE Score is used in many scientific publications in internationally edited scientific journals and worldwide.

METHODOLOGY

The survey data on adverse childhood experiences of Latvian young adults was gathered with the support of the European Regional Office of the WHO between October 2010 and March 2011. The TNS Latvia Market, Social and Media Survey Agency was also involved in the survey.

1. The goal, tasks and target population of the survey

1.1. The goal of the survey

The goal of the survey was to identify the prevalence of adverse childhood experiences among the young adults of Latvia.

1.2. The tasks of the survey were to

1. discover the prevalence of violence against children and of adverse childhood experiences in Latvia
2. find out the differences that existed in health conditions between respondents who had had adverse childhood experiences and those who had not
3. identify the main social determinants of differences between respondents who had had adverse childhood experiences and those who had not
4. identify the risk factors which influenced the prevalence of adverse childhood experiences
5. assess the relationship between the risk factors and prevalence of adverse childhood experiences in the target population of the survey
6. analyse the data on self-evaluation of the health conditions of respondents and health complaints in relation to adverse childhood experiences.

1.3. The target population of the survey

The target population of the survey were pupils of secondary schools and students of professional schools or young Latvian adults of 18 years old and older.[1]

2. Methodology of the survey

This was a pilot study of a cross sectional population study. The method of study is a specialized enquiry (Ad hoc) in five cities of Latvia.

The method of enquiry was a printed questionnaire to be completed by the respondents themselves (PAPI). The questionnaires were collected in sealed envelopes and in designated boxes to ensure the anonymity and confidentiality.

[1] *According to the first paragraph of Article 3 of the Latvian law entitled "On the Protection of the Rights of Children", anyone who has not yet reached the age of 18 shall be regarded as a child. According to Article 1 of the Latvian law entitled "On Youth", a person between the ages of 13 and 25 shall be regarded as a youth.*

2.1. The study process

2.1.1. Preparatory work for the studies

To ensure the support of schools, the staff of the Centre of Health Economics (CHE) prepared a letter containing information regarding the planned study and asked the management of schools to support the process of data gathering. The Ministry of Health (MoH) and the Ministry of Education and Science (MoES) of the Republic of Latvia prepared letters asking education institutions to support the study.

Prior to the collection of the data study procedures were approved by the Central Commission for Medical Ethics. Protocols of study regarding adverse childhood experiences of young adults in Latvia were submitted to the Ethics Commission; as were sample questionnaires and a draft letter from the CHE directors of the chosen schools. The Central Commission for Medical Ethics passed a resolution No. 7 on 21 October 2010; this approved the study as not being in conflict with the norms of bioethics.

2.1.2 Training of interviewers

During the training seminar, interviewers were introduced to the goal and methodology of the study. Each interviewer was given an individual assignment, defining the phases and requirements of the study. Representatives of the World Health Organization, the Ministry of Health, the Centre for Health Economics as well as psychologists took part in the interviewer training seminar. Psychologists advised interviewers regarding methods of solving psychological problems.

2.2. The questionnaire

The Adverse Childhood Experiences (ACE) questionnaire was used as the basic instrument for this study. This questionnaire was developed in 1990s by US the Center for Disease Control and Prevention (CDC) in cooperation with the Kaiser Permanente's San Diego Health Appraisal Clinic in the USA.[2] This questionnaire is structured according to gender: there are different questionnaires for men and women. The questionnaire includes questions regarding being subjected to emotional and physical abuse, family violence during childhood. It also include questions from the Conflicts Tactics Scale (CTS; (Straus&Gelles, 1990)). [50.] The questions regarding sexual violence experienced during childhood are adapted from the Wyatt study (Wyatt,1985) [51.]. In order to measure emotional and physical neglect experienced during childhood, the Childhood Trauma Questionnaire ((CTQ) Bernstein et al., 1994) was used [52.]. The questionnaire also included questions regarding family problems experienced during childhood; particularly those which could have resulted in violence. This included substance abuse, mental disorders, violence against mother/step mother and the criminal record of family members. The questionnaire also includes questions regarding health habits, self-evaluation of physical health as well as questions regarding health complaints.

The questionnaire was translated from English into Latvian and Russian. The questions were adapted to the specific Latvian situation and the comparability of terminology was verified. The questions regarding health habits and problems were added to the questionnaire.[3] The questionnaires were completed anonymously.

[2] *http://www.cdc.gov/nccdphp/ace/*

[3] *http://www.hbsc.org*

2.3. Sampling

The pilot study was conducted in 5 cities of Latvia, largely because both secondary schools and professional schools are located in these cities. The following schools were sampled:

- In Riga.
- In Kurzeme (the western part of Latvia): schools in Liepaja.
- In Zemgale (the southern part of Latvia): schools in Jelgava.
- In Vidzeme (the central/northern part of Latvia): schools in Cesis.
- In Latgale (the eastern part of Latvia): schools in Daugavpils.

The targeted quotas were applied based on 4 parameters:

- Location of the school – town a city.
- Type of school – secondary or professional school.
- Language of study at school – Latvian or Russian.
- Gender of the respondent - male or female.

The planned sample was at least 2000 respondents, in order to obtain 1200 fully completed questionnaires. As a result of the process of data collection 1259 completed questionnaires were collected (paper versions). After data cleaning 1223 entries (questionnaires) were saved in an electronic format.

2.3.1. Structure of the sample

Table 1: Defined proportions of the sample according to each of the 4 parameters of the quotas

	Type of school		Study language		Gender of the respondent		Total	
	Secondary school N	Professional school N	Latvian N	Russian N	Male N	Female N	N	%
Riga	360	240	420	180	300	300	**600**	**50%**
Liepaja	90	60	105	45	75	75	**150**	**12.5%**
Jelgava	90	60	105	45	75	75	**150**	**12.5%**
Cesis	90	60	105	45	75	75	**150**	**12.5%**
Daugavpils	90	60	105	45	75	75	**150**	**12.5%**
Total (n)	**720**	**480**	**840**	**360**	**600**	**600**	**1200**	**100%**
Total (%)	**60%**	**40%**	**70%**	**30%**	**50%**	**50%**		

Table 2: Achieved structure of the sample according to each of the 4 quota parameters

	Type of school		Study language		Gender of the respondent		Total	
	Secondary school N	Professional school N	Latvian N	Russian N	Male N	Female N	N	(%)
Riga	355	257	411	201	317	295	**612**	**50.0%**
Liepaja	113	37	109	41	74	76	**150**	**12.3%**
Jelgava	90	70	131	29	63	97	**160**	**13.1%**
Cesis	87	68	155		95	60	**155**	**12.7%**
Daugavpils	80	66	53	93	66	80	**146**	**11.9%**
Total (n)	**725**	**498**	**859**	**364**	**615**	**608**	**1223**	**100%**
Total (%)	**59.3%**	**40.7%**	**70.2%**	**29.8%**	**50.3%**	**49.7%**		

2.4. Collection of data

The study data was collected by 14 interviewers specifically trained for this purpose.

According to the planned structure of sample and to the adjusted statistics of students/pupils, the recruitment of schools was conducted between 9 November and 1 December 2010. Interviewers conducted enquiries from14 December 2010 until 11 February 2011.

According to their action plan, interviewers contacted management of the schools sampled, informed them of the study and agreed on a time for visits to schools for interviews to take place. When they arrived at schools they had letters from the MoH, the MoES and the CHE. They delivered these to the principal and discussed the process of their enquiries in the classes sampled with the heads of the school and class teachers. When they went into the classroom, the interviewers informed participants of the process to take place, the nature of the study, the goals, the confidentiality of the information obtained and the rights of individuals to refuse to participate. Then participants were given the questionnaires and envelopes. Each participant completed the questionnaire, sealed it, put it into a box or gave it to the interviewer.

After the questions in the classroom were completed, the interviewer put all the completed questionnaires into a box and sealed it. The interviewer then filled in a class form stating the total number of students in the class and the number of students who responded. At the end of the process the interviewer thanked participants for their co-operation.

2.5. Data entry, processing and the preparation of data files

All questionnaires were registered following the quota parameters: how the actual sample corresponded to the planned one, the quality of completion was also verified. Questionnaires completed to an acceptable level of quality were transferred for data entry.

Questionnaires were entered into a specifically developed entry program, running in the FoxPro 2.6a environment. During the process of data entry a secondary verification of the completion quality was conducted. Control of the data entered was carried out and 10% of questionnaires were entered repeatedly and the data entered compared. After the entry data was exported to SPSS and the data files were prepared, including variable names and the creation of new variables.

2.5.1 Data cleaning

Data cleaning was conducted in the following way:

- Each respondent was verified on his/her correspondence to the target group.
- The logic of answers to formulated questions and instructions was verified, including filtered questions.
- The logic of answers on mutually related questions was checked.
- Where necessary, paper questionnaires were checked repeatedly. In cases of discrepancies in the quality of completion, cleaning procedures were conducted for the respective data.

2.5.2 Quality control

Quality control was conducted at all stages of the study. The specific stages of the monitoring elements of the study were: control of interviewers, quality control procedures for questionnaire completion and data control.

- Monitoring of the work of interviewers, including monitoring over how the work assignment was fulfilled, including the verification of information included in the questionnaires collected, completion of school/ class forms and other documents.
- Multiple, sometimes double or triple control of how questionnaires were completed.
- Data entry control -10% of questionnaires were entered twice and the data was compared.
- Verification of data files, including data cleaning and control.
- ESOMAR market and social survey codes and standards were observed during the study.

2.6 The Adverse Childhood Experience Score

In order to assess the adverse childhood experiences of each respondent, the Adverse Childhood Experience Score – the ACE Score - was applied.[4] All questions asked for this score relate to an age below 18. The ACE score has ten categories: emotional violence, physical violence, sexual violence, emotional neglect, physical neglect and substance abuse in the family, mental conditions within the family, violence in the family against a mother or step mother, divorced or parents living separately and the prison record of a family member. To establish each category, certain questions of the questionnaire were used. In the score, the value of any category could be "0" where the respondent in this particular category had not reported being subjected to any type of violence or adverse experience and "1" if the respondent has reported being subjected to a certain type of violence of adverse experience in at least one question. All ten categories in the score were totalled and the sum is between "0" - has not been subjected- to "10" - has been subjected to all categories of ACE.

The ACE categories are described below.

Two questions in the questionnaire were used to establish whether the respondent had been subjected to **emotional violence**. Possible answers to these questions were *"never", "once, twice", "sometimes", "often", "very often": 1. "When you grew up, how many times did one of your parents or stepparents or other adult living with you swear at you, insult you, or denigrate you? 2. Acted in a way that made you afraid that you might be physically hurt?"* Emotional violence is regarded as having been established if respondents answered by saying "often" or "very often" to one or both questions.

Two questions within the questionnaire were used to establish whether the respondent had been subjected to **physical violence**. Possible answers to these questions were *"never", "once, twice", "sometimes", "often", "very often": "When you grew up, how many times did your parents or step-parents or any other adult living with you: 1. Actually push, grab, shove, slap, or throw something at you? 2. Hit you so hard that you were marked or were injured?"* Physical violence is regarded as having been established if the answer to the first question was "often" or "very often", and/ or the answer to the second question was "once or twice", "sometimes", "often" or "very often".

[4] *http://www.acestudy.org/*

To establish the cases of **sexual violence** two questions were used with "yes" or "no" answers.: *"Before you reached the age of 18, did any adult or anyone who was at least five years older than you: 1. Touch of caress your body in a sexual manner? 2. Attempt any type of sexual intercourse -oral, anal or vaginal?".* Sexual violence is regarded as having been established if the answer given to any or both these questions is "yes".

Emotional neglect was assessed using five questions with possible answers being "never", "rarely", "sometimes", "often", "very often": *"How many times has each of these statements been correct, when thinking of a time before you reached 18: 1. There was someone in your family who helped you feel important or special. 2. You felt loved in your family. 3. People in your family took care of each other. 4. You felt that someone in family hated you. 5. You thought your parents wished that you had never been born."* For the first three questions Liker's[5] reverse scale principle was used. Emotional neglect was considered to have been established if respondent's answer to any of the first three questions was "never" or "rarely", but also the fourth and fifth questions were answered with "sometimes", "often" or "very often".

Physical neglect was established using five questions with possible answers being "never", "rarely", "sometimes", "often", "very often": *"How many times has each of these statements been correct, when thinking of a time before you reached 18: 1. You didn't have enough to eat. 2. Your parents/step-parents were too drunk or on drugs to take care of the family. 3. You had to wear dirty clothes. 4. You knew there was someone who took care of you. 5. There was someone to take you to the doctor if it was necessary".* Physical neglect was regarded as having been established if the respondent's answer to any of the first three questions was "often" or "very often", but the fourth and the fifth questions were answered with "never" or "rarely". For the fourth and fifth questions Likert's reverse scale principle was used.

Substance abuse in a household was established using two questions with "yes" or "no" answers: *1. "Had anyone in your family had problems related to alcohol consumption or had been an alcoholic? 2. Have you ever lived with someone who used drugs?"* Substance abuse in a family was regarded as having been established if the answer to at least one of the two questions was "yes".

Mental illness in the family was established using two questions with "yes" or "no" answers: *1. Was anyone in your family depressed or mentally ill? 2. "Did anyone in your family attempt to commit suicide?"* The existence of mental problems in family was regarded as having been established if the answer to one or both questions was "yes".

Violence against a mother or a stepmother was established using four questions, with the possible answers being "never", "once or twice", "sometimes", "often" or "very often": *"While you were growing, how many times did your father or stepfather or partner of your mother or stepmother: 1. Push her, shake her, throw objects at her? 2. Kick her, pull her hair or punch her or hit her with hard objects? 3. Beat the her for a long time or kick several times? 4. Threaten her with a knife or a gun or used a knife or a gun intending to wound her?"* Violence against a mother or stepmother was regarded as having been established if the respondent's answer to the first question was "often" or "very often", or if the answer to the second question was one of the following: "sometimes", "often", "very often", or if the answer to questions 3 and 4 was either "once or twice", "sometimes", "often" or "very often".

The idea of the parents of respondents being divorced or living separately was established using "yes" or " no" answers to the following question: *"Before you turned 18, did your parents ever live separately or had been divorced?".* Whether the parents were divorced or had lived separately was regarded as having been established if respondents answered this question by "yes".

The idea of family members having spent time in prison was established by using questions with "yes" or "no" to the following questions: *"Has anyone of your family ever spent time in prison?"* The existence of family members having spent time in prison was regarded as having been established if the question was answered with "yes".

The data of 1001 respondents were analysed in relation to the ACE Score. The data of 222 respondents was not included in the analysis as it was impossible to establish if all 10 ACE Score categories for these respondents were complete in all key questions.

[5] *http://www.socialresearchmethods.net/kb/scallik.php*

RESULTS

1. Description of respondents

1223 questionnaires completed by respondents were used for data analysis. Almost an equal number of men and women took part in the study; they had different levels of income (see Table 3). The average age of respondents was 18.56 years (standard deviation 0.984).

Table 3: Socio-demographic profile of respondents

	N	%
Gender		
Male	**615**	**50.3**
Female	**608**	**49.7**
Age		
18-25	**1223**	**100**
Current marital status		
Never been married	**1088**	**89.4**
Not married, but living with partner	**113**	**9.3**
Married	**15**	**1.2**
Other	**1**	**0.1**
Type of school		
Secondary	**725**	**59.3**
Professional	**498**	**40.7**
Ethnicity		
Latvians	**799**	**65.3**
Russians	**330**	**27.0**
Others	**94**	**7.7**
Family affluence [6]		
Low income	**356**	**29.4**
Medium income	**451**	**37.2**
High income	**405**	**33.4**
Education of respondent's mother		
Basic or incomplete secondary	**45**	**3.7**
Secondary	**151**	**12.3**
Secondary specialized (professional)	**352**	**28.8**
Higher or incomplete higher	**556**	**45.5**
Education of respondent's father		
Basic or incomplete secondary	**46**	**3.8**
Secondary	**163**	**13.3**
Secondary specialized (professional)	**385**	**31.5**
Higher or incomplete higher	**326**	**26.7**

[6] *To establish the socioeconomic status/income level group the Family Affluence Scale (FAS) was used, (Currie et al. 2008.). [53.]*

Table 4 shows that a majority of respondents (80.9%) lived with their parents at the time of the study. No significant statistical correlation was found between gender and the current place of residence.

Table 4: Current residence of respondents

	Men		Women		Total	
	N	%	N	%	N	%
With parents	506	82.3	482	79.4	988	80.9
Hostels/service hotels/boarding school	60	9.8	66	10.9	126	10.3
With relatives	30	4.9	10	1.6	40	3.3
Family of girlfriend/boyfriend	8	1.3	31	5.1	39	3.2
Alone	32	5.2	24	4.0	56	4.6
Other	12	2.0	46	7.6	58	4.7

2. Sexual relationships

74.2% (n=819) of respondents had had sexual relationships (73.6% men and 74.8% women). A quarter of respondents (25.8%, n=285) had not yet had a sexual relationship.

The average age when respondents had had their first sexual relationship was 16 years (see Table 5).

Table 5: Age of respondents in relation to their first sexual relationship

	Number N	Minimum age	Maximum age	Average age	Standard deviation
Men	410	11	21	16.02	1.43
Women	409	12	21	16.26	1.35
Total	**819**	**11**	**21**	**16.14**	**1.40**

36.7% of respondents who had had a sexual relationship stated that they had had sexual relationships with two or three partners. Approximately a third of respondents -35.1% of men and 25.5% women stated that they had had sexual relationships with four or more partners. There is a statistically significant difference in gender groups in relation to the number of partners ($p<0.05$) (see Table 6).

Table 6: Respondents by number of partners in respect of sexual relationships claimed

	Men		Women		Total	
	N	%	N	%	N	%
One partner	115	31.8	134	34.5	249	33.2
2-3 partners	120	33.1	155	39.9	275	36.7
4 or more partners	127	35.1	99	25.5	226	30.1
Total	**362**	**100**	**388**	**100**	**750**	**100**

$p<0.05$

More than half (58%; n=458) of respondents who had had sexual relationships during the previous year claimed that they had had sexual relationships with at least one partner previously (see Table7). There is no statistically significant difference between gender groups in relation to the number of sexual partners during the previous year.

Table 7: Respondents by number of partners who claim to have had sexual relationships in the previous year

	Men		Women		Total	
	N	%	N	%	N	%
None	41	10.4	11	2.8	52	6.6
One	201	51.1	257	64.9	458	58.0
Two	66	16.8	74	18.7	140	17.7
Three or more	85	21.6	54	13.6	139	17.6
Total	**393**	**100**	**396**	**100**	**789**	**100**

Table 8 shows that 84.7% of respondents - 80.2% of men and 89.1% of women - were satisfied with their sexual lives at the time of the survery. The differences in gender groups in relation to the satisfaction with their sexual life are statistically significant ($p<0.001$).

Table 8: Satisfaction with sexual life

	Men		Women		Total	
	N	%	N	%	N	%
Yes	325	80.2	359	89.1	684	84.7
No	80	19.8	44	10.9	124	15.3
Total	**405**	**100**	**403**	**100**	**808**	**100**

2.9% (n=12) of young men stated that they had caused the pregnancy of a woman.
8.7% (n=37) of girls have stated that they had been pregnant and 89.1% of these young women stated that they had been pregnant once. Table 9 shows the outcome of the first pregnancy: most pregnant women decided to have an abortion. Also, the majority of these women (81.1%; n=30) stated that the first pregnancy had not been planned.

Table 9: Outcome of the first pregnancy and the planning of pregnancy

	Women, who have been pregnant	
	N	%
Outcome of the first pregnancy:		
Birth of a child	6	16.2
Stillborn/miscarriage	5	13.5
Abortion	18	48.6
Other	8	21.6
Total	**37**	**100**
Was the first pregnancy planned?		
Yes	7	18.9
No	30	81.1
Total	**37**	**100**

The average age when women had gone through their first pregnancy was 17.54. Analysing the answers of men regarding the age at which women had become pregnant by them, the statistics seem to be 19.67 (see Table 10).

Table 10: Ages of women who had become pregnant

	Number N	Minimum age	Maximum age	Average age	Standard deviation
What was the age of the youngest woman you made pregnant?	12	15	28	19.67	3.798
How old were you the first time you became pregnant?	37	15	21	17.54	1.502

3. Health behaviour

3.1. Smoking

54.2% (n=652) of respondents stated that they had smoked at least 100 cigarettes in their lives. 39.4 (n=471) of these respondents stated that they still smoke. The biggest proportion (47.4%) of those still smoking today stated that they smoke 6 - 10 cigarettes on an average per day. More than one third (33.8%) said that they smoked 1-5 cigarettes. The number of cigarettes smoked a day has statistically significant difference between gender groups. 45.0% of respondents - 43.0% men and 47.3% women - said that they started smoking regularly when they were 15-16 (see Table 11).

Table 11: Smoking habits by gender groups

	Men		Women		Total	
	N	**%**	**N**	**%**	**N**	**%**
Do you smoke cigarettes now?	***		***			
Yes	265	44.4	206	34.4	471	39.4
No	332	55.6	393	65.6	725	60.6
Total	**597**	**100**	**599**	**100**	**1196**	**100**
Average number of cigarettes smoked per day.	***		***			
1-5 cigarettes	62	23.8	94	46.5	156	33.8
6-10 cigarettes	127	48.8	92	45.5	219	47.4
11 or more cigarettes	71	27.3	16	7.9	87	18.8
Total	**260**	**100**	**202**	**100**	**462**	**100**
How old were you when you began to smoke cigarettes regularly?						
Under 14	76	29.9	51	25.2	127	27.9
15-16	125	49.2	106	52.5	231	50.7
17 or over	53	20.9	45	22.3	98	21.5
Total	**254**	**100**	**202**	**100**	**456**	**100**

*** p≤0.001

3.2. Exposure to passive smoking during childhood

49.9% of respondents stated that their father had smoked in their presence during their childhood; 43.8% of respondents said that there were other family members who had smoked too. The mother was stated having smoked in the presence of 24.9% of respondents. 68.3% of total of respondents said that they had been exposed to passive smoking (n=180) (see Table 12). There is a statistically significant relationship between socioeconomic groups, ethnicity and being exposed to passive smoking ($p<0.01$). Respondents with low or medium socioeconomic status and ethnic Russians had been more exposed to passive smoking during childhood than others.

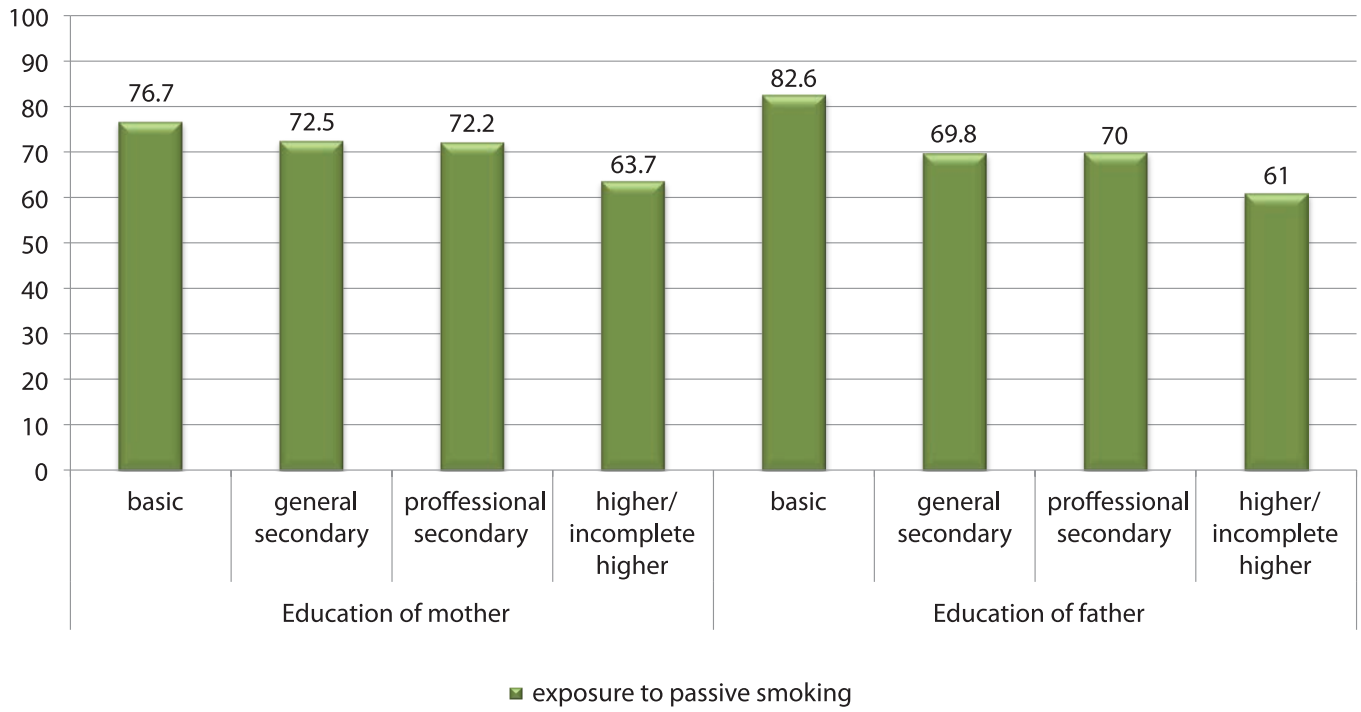
Table 12: Exposure to passive smoking in the family during childhood (%)

	Gender		Socioeconomic status**			Ethnicity**			Total	
	Men	Women	Low	Medium	High	Latvians	Russians	Other	N	%
Have been exposed	67.6	69.0	72.1	70.0	63.1	64.5	77.6	67.4	810	68.3
Have not been exposed	32.4	31.0	27.9	30.0	36.9	35.5	22.4	32.6	376	31.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1186**	**100**

**$p \leq 0.01$

There also is a possible statistically significant relationship between being exposed to passive smoking during childhood and the education of parents ($p<0.01$). Those respondents, whose parents had basic, secondary or secondary professional education, were more exposed to passive smoking during their childhood than others (see Graph 1).

Graph 1: Exposure of respondents to passive smoking in relation to the education of parents (%)



3.3. Drinking alcohol

The average age when alcohol was drunk for the first time, for other than simple tasting, was 15 – the minimum age was 6, the maximum age was 20 and the standard deviation 1.845. The highest percentage of respondents (43.4%) had drunk alcohol for the first time, apart from simply tasting, between 15 and 16. 35.7% had done so between 11 and 14 and 14.6% had done so at 17 or later. 2.3% of the respondents had tasted alcohol before they had reached the age of 10, and only 3.9% had never drank it at all. There is a statistically significant relationship between gender and the age at which alcohol was drank for the first time ($p<0.05$). Women tended to start drinking alcohol when they were older, (see Graph 2). The average age at which men started to drink alcohol was 14.64 (standard deviation 1.948), while women started at 14.94 (standard deviation 1.724).

Graph 2: The age at which alcohol was drunk for the first time by gender group (%)

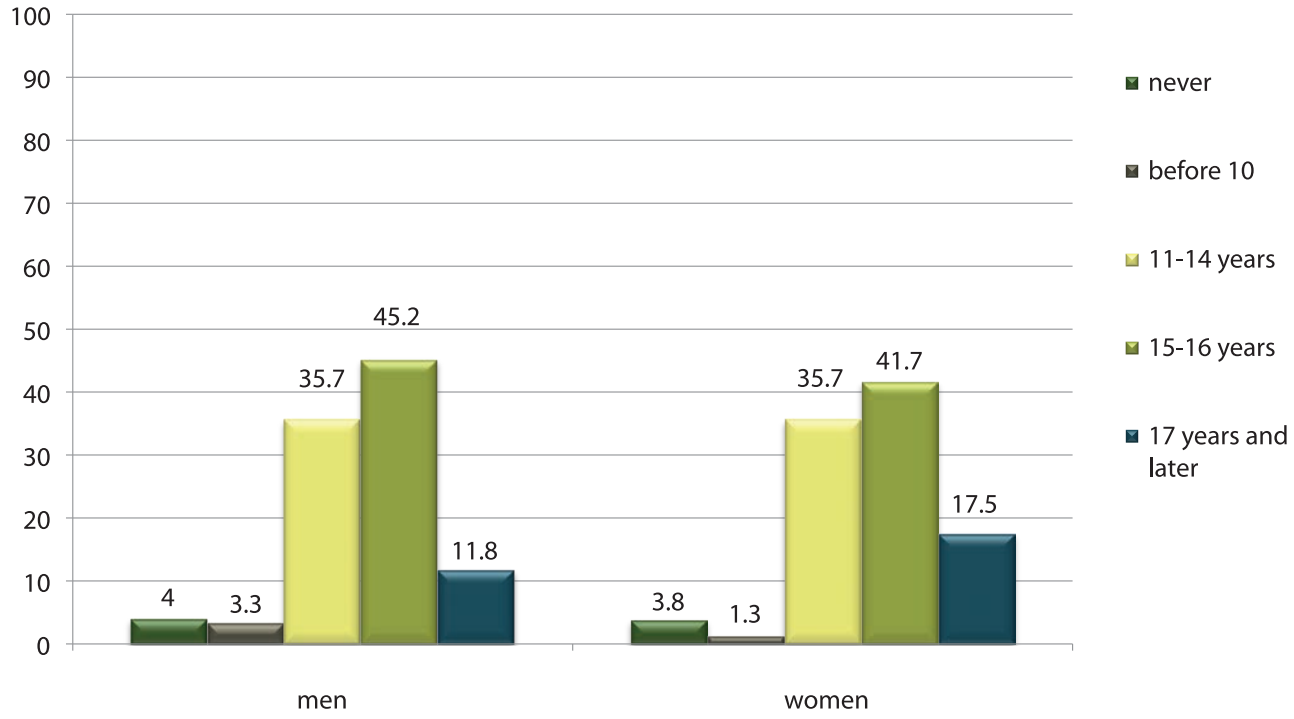


Table 13 shows the frequency of consumption of different alcohol that respondents currently drank at the time of the survey and the relationship of the frequency to gender, socioeconomic status, ethnicity and location of the school that the respondent attended. Beer is the most popular alcohol. Most people who drink beer daily are male and from families of medium to high socio-economic status, ethnic Latvians and attend schools in Riga as opposed to rural areas. The situation regarding the frequency of stronger alcohol is similar.

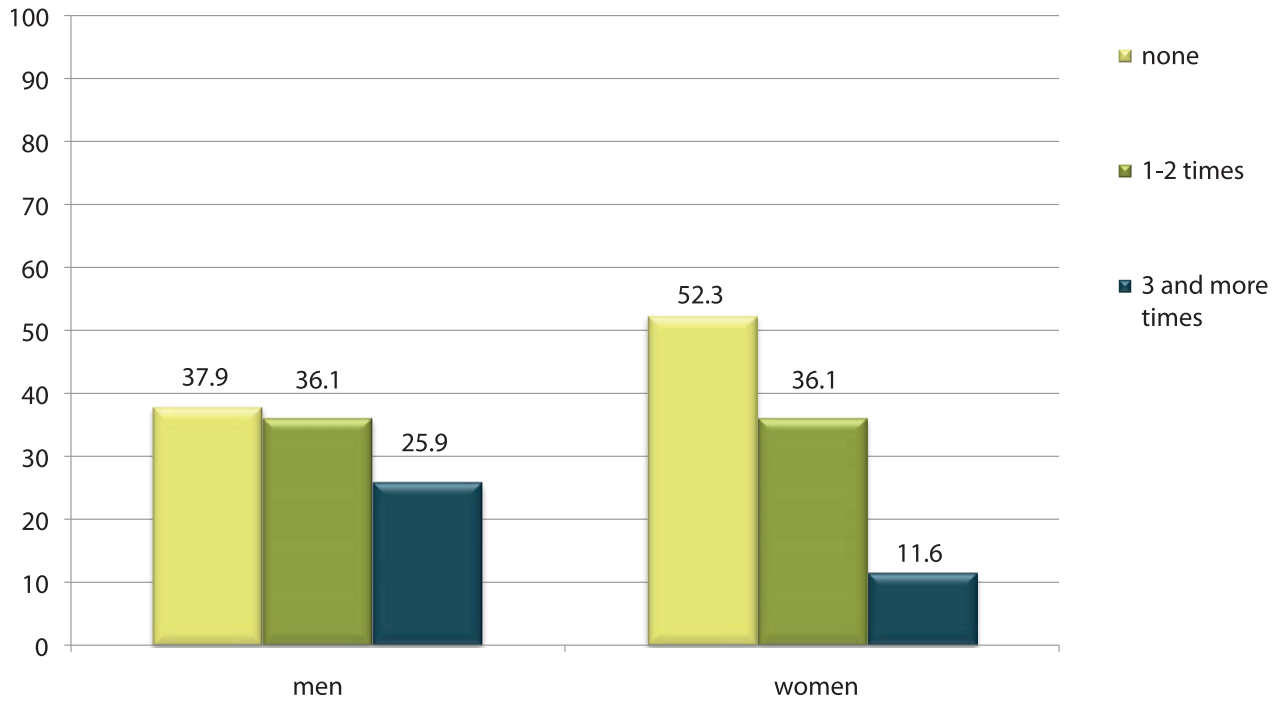
Table 13: Frequency of consumption of alcohol (%)

	Gender		Socioeconomic status			Ethnicity			Location of school	
	Men	**Women**	**Low**	**Medium**	**High**	**Latvians**	**Russians**	**Other**	**Riga**	**Other cities**
Frequency of beer consumption	***	***	*	*	*	***	***	***	***	***
Every day	39.6	12.0	23.0	26.0	28.7	27.6	23.3	23.6	29.2	23.0
Every month	27.8	14.6	20.9	21.0	22.6	24.5	16.6	11.2	22.0	20.8
More rarely or never	36.6	73.4	56.1	53.0	48.7	47.9	60.1	65.2	48.8	56.2
Frequency of wine consumption	**	**	***	***	***				***	***
Every day	4.2	5.1	2.9	4.2	6.7	4.5	5.2	4.4	6.6	2.7
Every month	10.3	18.1	10.1	13.4	19.0	13.6	14.8	15.6	16.1	12.2
More rarely or never	85.5	76.8	87.0	82.4	74.4	81.9	80.0	80.0	77.3	85.0
Strong alcoholic beverages /liquors	***	***	***	***	***					
Every day	15.5	6.3	8.7	10.4	13.0	11.3	8.9	14.3	12.2	9.6
Every month	28.1	18.4	18.0	23.6	27.7	25.9	17.9	19.8	24.0	22.6
More rarely or never	56.4	75.3	73.3	66.1	59.3	62.8	73.2	65.9	63.8	67.9
Alcoholic cocktails	***	***	*	*	*	***	***	***		
Every day	11.0	11.8	83	11.3	14.0	12.2	9.2	12.1	12.9	9.8
Every month	18.9	31.0	24.0	26.8	24.4	28.4	16.9	22.0	23.5	26.4
Rarer or never	70.2	57.2	67.7	61.9	61.7	59.4	73.9	65.9	63.5	63.9
Any other alcoholic beverage			*	*	*				*	*
Every day	10.6	9.9	9.1	8.2	13.4	10.7	8.4	12.0	11.5	8.9
Every month	22.4	22.8	19.1	25.4	22.3	24.3	19.9	16.9	23.9	21.2
More rarely or never	67.0	67.4	71.7	66.3	64.3	65.0	71.6	71.1	64.5	69.9

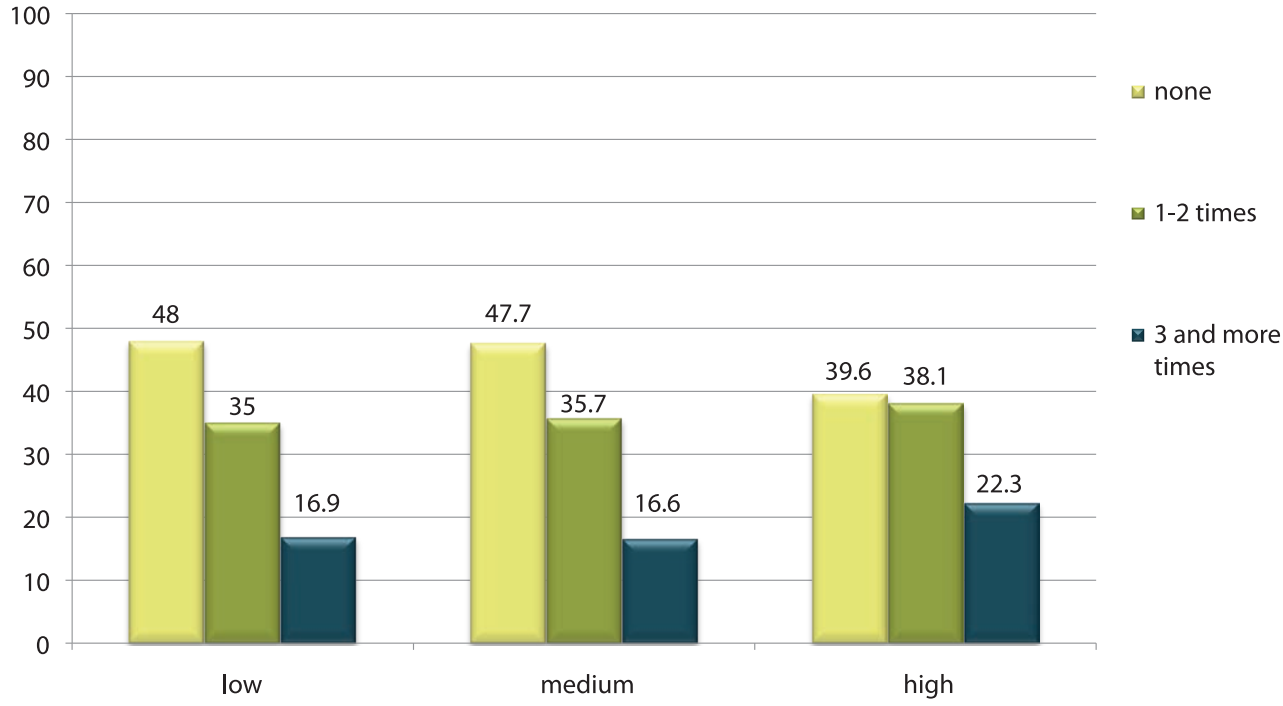
*p≤0.05; **p≤0.01; ***p≤0.001

When respondents were asked the number of times they had been inebriated during the previous month, 45.1% of respondents said that they hadn't been. 36.3% of respondents said that they had been inebriated once or twice, but 18.6% agreed they had been inebriated three or more times. A statistically significant relationship exists between the frequency of becoming inebriated, gender groups ($p<0.001$) and socioeconomic status ($p<0.01$) (see Graphs 3 and 4).

Graph 3: Becoming inebriated in the previous month by different gender group (%)



Graph 4: Becoming inebriated in the previous month by socioeconomic status (%)



The questionnaire included question regarding respondents who had had alcohol related problems, for instance, breaking the law, problems in the family, at school, health problems, etc. 18.6% (n=227) of all respondents - 19.2% of men and 17.9% of women - said that they had had alcohol - related problems.

3.4. Use of drugs

27.8% (n=337) of respondents stated that they had used drugs. A statistically reliable relationship can be observed between the use of drugs and gender, the socioeconomic status of the family and the location of the school. Table 14 shows that drugs were used more by men and by respondents with a higher socioeconomic status and whose schools were located in Riga.

Table 14: Use of drugs (%)

	Gender***		Socioeconomic status ***			Ethnicity			Location of school **		Total	
	Men	Women	Low	Medium	High	Latvians	Russians	Other	Riga	Other cities	N	%
Have used	34.8	20.7	22.8	26.5	33.1	27.6	28.5	26.9	31.8	23.7	337	27.8
Have not used	65.2	79.3	77.2	73.5	66.9	72.4	71.5	73.1	68.2	76.3	877	72.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**1214**	**100**

**p≤0.01; ***p≤0.001

From those respondents who had ever used drugs 59%, (n=197) had tried them for the first time when they were 16 - 17, 23.1% (n=77) had tried them when they were 11-15 and 18% (n=60) at the age of 18 or older. When analysing the frequency of use of drugs for those respondents who had used them, one can see that 29.6% (n=85) had used them once or twice, 32.4% (n=93) had used them 3 to 5 times and 38% (n=109) had used them six or more times.

8.4% (n=28) of respondents who had ever used drugs had had problems related to the use of drugs; for instance breaking the law, difficulties at school, in the family and health problems. 6.3% (n=21) of respondents who had used drugs had at some point in time regarded themselves as addicts.

3.5. Attempted suicides

6.1% (n=74) (3.1% of men, n=19 and 9.2% of women, n=55) of respondents stated that they had attempted suicide at some stage. The relationship between attempts at suicide and gender is statistically significant (p<0.001).

The average age at which the first suicide attempt was made was 15.05 years. The average age at which the suicide was last attempted was 16.35 years (see Table 15).

Table 15: Average age at which suicide was attempted and number of attempts

	Number N	Minimum age	Maximum age	Average age	Standard deviation
How old were you the first time you attempted suicide?	73	11	20	15.05	2.040
How old were you the last time you attempted suicide?	69	11	20	16.35	1.877
	Number N	**Minimum number of times**	**Maximum number of times**	**Average number of times**	**Standard deviation**
How many times have you attempted suicide?	70	1	8	2.04	1.479

For those respondents who had attempted suicide, the average number of attempts was 2.4 (see Table 15). Approximately 50% of respondents (51.4%, n=36) who had attempted suicide, had done so once, 20% (n=14) had done so twice, 28.6% (n=20) had attempted suicide three or more times. 21.9% (n=16) of respondents stated that the suicide attempt had resulted in injuries, poisoning or an overdose of substances which meant that they had to undergo treatment as a result.

3.6. Body mass index

Respondents had to state their weight and height in the questionnaire. A Body Mass Index (BMI) was calculated from this data. The body mass index is calculated using the following formula: BMI= WEIGHT (kg) ÷ HEIGHT $(m)^2$

According to the classification of the WHO the BMI is divided into four categories: BMI<18.5 - underweight, 18.5-24.99 - normal weight, 25-29.99 - overweight and above 30 – obese.

Table 16 shows the distribution of BMI by gender group. The underweight category is observed more frequently among women than men, 16.1% and 5.3% respectively. Overweight and obesity is more frequently observed among men (13.5%). There is a statistically significant relationship between gender and categories of the BMI ($p \leq 0.001$).

Table 16: BMI by gender group

	Men		Women		Total	
	N	%	N	%	N	%
Underweight	32	5.3	96	16.1	128	10.7
Normal weight	486	81.1	440	73.8	926	77.5
Overweight	72	12.0	54	9.1	126	10.5
Obese	9	1.5	6	1.0	15	1.3
Total	**599**	**100**	**596**	**100**	**1195**	**100**

However, respondents themselves, especially women, were critical of their weight; almost 25% (24.7%) thought that they were a little too big or too big. There was a statistically significant relationship between the self-evaluation of weight and gender ($p<0.001$) (see Table 17).

Table 17: Self - evaluation of weight by respondents

	Men		Women		Total	
	N	%	N	%	N	%
Too thin	17	2.8	12	2.0	29	2.4
A little too thin	148	24.1	45	7.4	193	15.8
Not too thin, not too big	367	59.7	332	54.6	699	57.2
A little too big	76	12.4	202	33.2	278	22.7
Too big	7	1.1	17	2.8	24	2.0
Total	**615**	**100**	**608**	**100**	**1223**	**100**

24.6% of men and 46.9% of women had been on a diet during the previous year, had altered their eating habits or done something else to reduce or increase their weight. There is a statistically significant relation between attempts to influence weight and gender group ($p<0.001$).

4. Adverse childhood experiences

As was said in the chapter on methodology an ACE score was used to assess adverse childhood experiences. This score had 10 categories:

1. Emotional violence
2. Physical violence
3. Sexual violence
4. Emotional neglect
5. Physical neglect
6. Substance abuse in a family
7. Mental disorders in a family
8. Violence in the family against the mother or stepmother
9. Divorced or parents living separately
10. Family members with a prison record.

The prevalence of each category included in the ACE score is shown in Table 18. From all types of violence most respondents had been subjected to emotional violence - a total of 31.5% of respondents (28.0% of men and 35.1% of women). 16.4% of respondents had been subjected to physical violence - 14.9% of men and 17.9% of women - and 10.3% had been subjected to sexual violence - 6.3% of men and 13.7% of women. When looking at the parts of the ACE dealing with neglect, one can see that 35.9% of respondents had experienced emotional neglect and nearly a third (27.0%) had experienced physical neglect. In respect of the chapters of the ACE score dealing with family dysfunctional problems the greatest number of respondents (46.6%) had experienced substance abuse in the family and 42.3% had felt the impact of divorced parents. 19.3% of respondents had experienced their family member suffering long term depression or the psychiatric condition of an attempted suicide by a family member.

Table 18: The prevalence of ACE by genders group according to the ACE score categories

Categories of ACE score	Men		Women		Total	
	N	%	N	%	N	%
SUBJECTION TO VIOLENCE DURING CHILDHOOD						
Emotional violence *(1.Were you often or very often sworn at, insulted or denigrated? 2. Did your parents ever act towards you in a way that made you afraid that you might be physically hurt?)*						
Yes	170	28.0	212	35.1	382	31.5
No	437	72.0	392	64.9	829	68.5
Physical violence *(1.Were you sometimes, often or very often pushed, grabbed, shoved, slapped or had something thrown at you? 2. Have you ever been hit so hard that you were marked or injured?)*						
Yes	90	14.9	108	17.9	198	16.4
No	516	85.1	496	82.1	1012	83.6
Sexual violence *(1. Has any adult touched or caressed your body in a sexual way? 2. Has any adult attempted to have any sexual intercourse -oral, anal or vaginal with you?)*						
Yes	36	6.3	74	13.7	110	10.3
No	492	93.2	465	86.3	957	89.7
NEGLECT						
Emotional neglect *(1.Have you sometimes, often or very often thought that your parents wished you had never been born? 2. Have you sometimes, often or very often felt that someone in your family hated you? 3. Was there never anyone or rarely in your family who helped you feel important or special? 4. Have you never or rarely felt loved in your family? 5. Did people in your Family always never or rarely look after each other?)*						
Yes	214	35.7	217	36.2	431	35.9
No	386	64.3	383	63.8	769	64.1
Physical neglect *(1. Did often or very often not have enough to eat? 2. Were your parents often or very often too drunk or on drugs to be able to take care of the family? 3. Did you often or very often have to wear dirty clothes? 4. Did you never or rarely understand that there was someone to take care of you and protect you? 5. Did you rarely or never have someone to take you to the doctor if it was necessary?)*						
Yes	155	26.1	165	28.0	320	27.0
No	439	73.9	424	72.0	863	73.0
HOUSEHOLD DYSFUNCTION						
Violence against mother in the family *(1.Did your father or partner of your mother often or very often push, grab, slap her or throw things at her? 2. Did the same person kick or beat her for a period of at least a few minutes? 3. Did the partner or husband ever threaten her with a knife or gun intending to hurt? 4. Did the partner or husband sometimes, often or very often kick her, pull her hair or hit her with something hard?)*						
Yes	50	8.2	102	16.9	152	12.6
No	558	91.8	500	83.1	1058	87.4
Divorced parents *(1. Have your parents ever been divorced or lived separately.)*						
Yes	232	38.1	281	46.5	513	42.3
No	377	61.9	323	53.5	700	57.7
Substance abuse within the family *(1. Has there been anyone in your family who had problems related to the consumption of alcohol or who was an alcoholic? 2. Have you ever lived with someone who used drugs?)*						
Yes	234	39.3	318	53.5	552	46.4
No	362	60.7	276	46.5	638	53.6
Mental health in the family *(1.Has there been anyone in your family who was depressed for a long period of time or mentally ill? 2. Has anyone in your family ever attempted to commit suicide?)*						
Yes	91	14.9	144	23.8	253	19.3
No	520	85.1	461	76.2	981	80.7
Members of the family with a prison record *(1.Has anyone of your family ever been imprisoned.)*						
Yes	37	6.0	64	10.6	101	8.3
No	575	94.0	540	89.4	1115	91.7

Table 19 shows that only 16.9% of respondents in total had not had any adverse experiences before they had turned 18 (ACE score=0). 56.3% of respondents had an ACE score between 1 and 3, while 26.9% of respondents had a score between 4 and 10.

More women than men scored 4 or more points on an ACE score, as did ethnic Russians and respondents with other ethnicity and also respondents with a low socioeconomic status. The relationship differences on these indicators in relation to categories of the ACE score are statistically significant (see Table 19).

Table 19: The ACE score in relation to socio-demographic indicators

	Number (N)	Categories of ACE score (%)				
		0	1	2	3	≥ 4
Gender ***						
Men	493	20.1	24.3	21.7	13.8	20.1
Women	508	13.8	18.3	19.7	14.8	33.5
Ethnicity ***						
Latvians	667	19.2	21.6	20.7	14.8	23.8
Russians	249	13.3	19.7	21.3	14.1	31.7
Other	74	8.1	24.3	18.9	10.8	37.8
Type of school						
Secondary	610	17.1	23.0	18.4	14.4	26.7
Professional	391	15.6	18.7	24.3	14.1	27.1
Socioeconomic status **						
Low	291	13.7	18.9	19.2	15.5	32.6
Medium	336	16.4	19.4	26.0	14.5	23.8
High	337	20.2	25.2	16.0	13.4	25.2
Location of school						
Riga	490	15.5	20.4	21.6	12.9	29.6
Other cities	511	18.2	22.1	19.8	15.7	24.3
All respondents	1001	16.9	21.3	20.7	14.3	26.9

**p≤0.01; ***p≤0.001

One of the risk factors identified that might be related to children being subjected to adverse childhood experience was a frequent change of residence, even if within the same city. Table 20 shows the relation between the frequency of change of residency and the ACE score. Respondents who had scored 4 or more in the ACE score had more often changed their place of residence significantly more often during their childhood than respondents who did not have scores of 0 or 1 to 3 points. This relation is statistically significant (p<0,001).

Table 20: The ACE score and the frequency of changes of residency in childhood

	Number (N)	ACE score categories (%)				
		0	1	2	3	≥ 4
Frequency of changes of residency in childhood. ***						
Never	369	20.9	25.7	19.8	13.8	19.8
Once	265	19.2	20.8	18.9	14.7	26.4
2-3 times	249	13.7	21.3	21.7	16.1	27.3
4 or more times	117	6.0	8.5	25.6	11.1	48.7

***p≤0.001

Running away from home could be a type of reaction to an adverse experience. 64.8% of respondents scoring 4 or more points in an ACE score stated they had tried to run away from home. The relationship between the ACE score and running away from home is statistically significant (p<0.001) (see Table 21).

Table 21: The ACE score in relation to running away from home for more than one day

	Number (N)	ACE score categories (%)				
		0	1	2	3	≥ 4
Running away from home or a children's home for more than one day. ***						
Yes	369	20.9	25.7	19.8	13.8	19.8
No	265	19.2	20.8	18.9	14.7	26.4

**p≤0.001

5. The relationship between the ACE score and health behaviour of respondents

The health behaviour of respondents in relation to the ACE score was analysed. Table 22 shows that there is a statistically reliable relationship between the ACE score and the health behaviour of respondents. The health behaviour of those respondents who had worse adverse childhood experiences (an ACE score of 4 or more) also had worse health behaviour.

Table 22: The ACE score in relation to health behaviour

	Number (N)	Categories of ACE score (%)				
		0	1	2	3	≥ 4
Have you had sexual relationships? **						
Yes	685	16.2	18.8	21.2	13.6	30.2
No	239	17.2	27.2	21.8	15.1	18.8
How many different partners have you ever had sexual intercourse with? ***						
1	201	19.4	21.4	21.9	13.9	23.4
2-3	241	15.4	21.2	20.3	10.8	32.4
4 and more	192	16.1	18.6	18.2	16.7	39.1
Have you smoked at least 100 cigarettes in your life? ***						
Yes	540	14.8	17.6	21.9	15.4	30.4
No	450	19.6	25.8	18.7	13.3	22.7
How old were you when you began to smoke cigarettes regularly?						
Do not smoke	55	23.6	18.2	14.5	16.4	27.3
Before the age of 14	137	11.7	10.9	20.4	21.9	35.0
15-16	228	17.9	19.3	22.4	13.6	29.8
17 and later	106	14.2	22.6	24.5	9.4	29.2
Exposure to passive smoking in family during childhood. ***						
Have not been subjected	321	22.7	25.2	20.2	13.7	18.1
Have been subjected	657	14.0	19.5	20.7	14.8	31.1
How old were you when you had your first drink of alcohol other than a few sips (for more than just tasting)? **						
Never	37	13.5	18.9	29.7	10.8	27.0
Before the age of 10	19	15.8	10.5	36.8	10.5	26.3
11-14	360	15.6	16.9	20.8	13.3	33.3
15-16	430	18.1	24.0	18.8	16.5	22.6
17 and more	143	16.8	25.9	21.7	12.6	23.1
Becoming inebriated during the past month. **						
None	442	19.0	24.4	18.8	11.8	26.0
Once or twice	365	15.3	19.5	23.0	18.9	23.3
3 times or more	190	14.7	17.4	21.1	11.1	35.8
Have you ever had a problem with drinking alcohol? ***						
Yes	187	7.6	10.9	17.9	18.5	45.1
No	817	19.0	23.6	21.3	13.3	22.8
Have you ever used drugs? ***						
Yes	276	12.3	15.2	23.9	15.9	33.0
No	723	18.7	23.5	19.4	13.8	24.6
The number of times you have used drugs (for those who have stated they had used them). *						
1-2	67	19.4	16.4	17.9	17.9	28.4
3-5	83	15.7	16.9	28.9	10.8	27.7
6 and more	87	4.6	17.2	24.1	17.2	36.8
Have you had problems related to the use of drugs (for those who had used them)? ***						
Yes	24	8.4	12.5	12.5	4.2	62.5
No	252	12.7	15.5	25.0	16.7	30.2
Have you been on a diet, changed your eating habits or done something else to influence your weight (reduce or increase) during the last year? ***						
Yes	361	11.4	19.1	20.8	14.7	34.1
No	640	20.0	22.5	20.6	14.1	22.8
How many days during the previous week you have been physically active for at least 60 minutes? ***						
None	106	8.5	20.8	17.0	12.3	41.5
1-2 days	271	17.3	18.8	17.7	17.3	28.8
3-4 days	351	18.2	20.5	23.4	14.5	23.4
5 days or more	230	19.1	26.1	19.6	11.3	23.9

*p<0.05; **p≤0.01; ***p≤0.001

6. The relationship between the ACE score and the self assessment of the health condition of respondents; visits to doctors, health problems and symptoms

44.8% of respondents had assessed their health condition as good, 35.6% as quite good. 17.2% of respondents thought that their health condition was medium, but 2.4% thought that their health condition was bad or quite bad.

Table 23 shows the relationship between the ACE score and the self-assessment of the health condition of respondents. Of all those who had assessed their health condition as bad or quite bad most respondents had scored 4 or more in the ACE score. This relationship is statistically significant ($p<0.001$).

Table 23: The relationship between the ACE score and the self-assessment of the health condition of respondents

	Number (N)	Categories of ACE score (%)				
		0	1	2	3	≥ 4
Self-assessment of health condition. ***						
Good	444	20.5	25.9	22.1	12.8	18.7
Quite good	352	17.0	22.2	19.9	13.9	27.0
Medium	174	9.2	10.3	19.0	19.5	42.0
Quite bad	16	12.5	6.2	0	6.2	75.0
Bad	7	0	0	28.6	28.6	42.9

***p≤0.001

Among those respondents who had missed at least one day at school as a consequence of depression or stress shared ACE scores of 4 or more points. This was significantly higher than among those who had not missed a day for these reasons. The difference in numbers is statistically significant ($p<0.001$) (see Table 24).

Table 24: The relationship between the ACE score and school days missed because of health reasons

	Number (N)	Categories of ACE score (%)				
		0	1	2	3	≥ 4
Number of school days missed during the previous month because of stress or depression. ***						
None	753	19.4	23.2	21.5	14.2	21.6
1-2 days	144	11.1	17.4	20.1	9.7	41.7
3 and more days	100	7.0	13.0	16.0	20.0	44.0
Number of days missed because of reasons connected with poor physical health.						
None	639	17.4	22.2	21.3	14.7	24.4
1-2 days	190	15.8	21.1	18.4	13.2	31.6
3 and more days	168	16.1	18.5	21.4	13.1	31.0

***p≤0.001

Table 25 shows the relationship between the ACE score and the number of visits to a doctor during the previous year. A third of respondents who scored 4 points or more on the ACE score had seen a doctor 3 or more times during the previous year. The relationship between visits to a doctor and the ACE score is statistically significant ($p<0.05$).

Table 25: The relationship between the ACE score and number of visits to a doctor during the previous year

	Number (N)	Categories of ACE scale (%)				
		0	1	2	3	≥ 4
Number of visits to doctors during the previous year. *						
None	233	15.9	22.7	26.2	10.7	24.5
1	178	19.7	21.9	22.5	11.2	24.7
2	205	19.0	23.9	17.1	17.1	22.9
3-4	195	15.4	21.0	17.9	16.9	28.7
5 or more	181	14.9	17.1	19.3	14.9	33.7

*$p<0.05$

There is a statistically reliable difference in the frequency of health problems during the previous six months and the different ACE score levels (see Table 26). The percentage of ACE scorers with 4 or more points was higher among those who had had health problems at least once a week during the previous six months than among those who had had less frequent or no health complaints.

There are statistically reliable relationships between the ACE score and the symptoms of illness (see Table 26). The percentage of a score of 4 or more points in the ACE score was higher among those who had experienced symptoms listed in the questionnaire than among those who had not. It has to be noted, however, that there is no statistically reliable link between the ACE score and the level of bone fractures in respondents.

Table 26: The ACE score in relation to health complaints of respondents during the previous 6 months and to symptoms experienced

	Number (N)	Categories of ACE score (%)				
		0	1	2	3	≥ 4
Complaints about headaches during the previous 6 months. ***						
At least once a month	259	12.7	14.3	18.5	15.1	39.4
Rarely or never	723	18.8	23.8	20.7	14.1	22.5
Complaints about abdominal pain during the previous 6 months. ***						
At least once a month	130	6.2	15.4	20.0	15.4	43.1
Rarely or never	848	18.9	22.2	20.0	14.3	24.6
Complaints about back pain during the previous 6 months. ***						
At least once a month	219	12.3	17.8	20.1	11.4	38.4
Rarely or never	763	18.6	22.1	20.4	15.1	23.7
Complaints of depression during the previous 6 months. ***						
At least once a month	237	6.8	14.3	13.9	17.3	47.7
Rarely or never	737	20.6	23.6	21.8	13.4	20.5
Complaints of irritability during the previous 6 months. ***						
At least once a month	406	9.4	17.5	17.5	16.0	39.7
Rarely or never	578	22.7	23.7	22.1	13.3	18.2
Complaints of nervousness during the previous 6 months. ***						
At least once a month	301	7.3	15.9	17.9	15.0	43.9
Rarely or never	682	21.6	23.5	21.3	14.2	19.5
Difficulty in getting to sleep during the previous 6 months. ***						
At least once a month	285	10.5	15.8	17.5	15.4	40.7
Rarely or never	697	19.9	23.5	21.4	13.9	21.2
Complaints of dizziness during the previous 6 months. ***						
At least once a month	104	10.6	4.8	10.6	12.5	61.5
Rarely or never	874	18.0	23.2	21.3	14.5	23.0
Complaints about difficulty in concentrating during the previous 6 months. ***						
At least once a month	251	10.0	13.9	15.1	18.7	42.2
Rarely or never	730	19.6	24.0	21.8	12.9	21.8
Have you ever fractured a bone or do you fractured bones now?						
Yes	336	17.0	21.7	19.6	15.2	26.5
No	654	17.1	21.1	20.9	13.9	26.9
Have you ever had or do you have a stinging pain now while urinating? ***						
Yes	148	11.5	12.2	22.3	13.5	40.5
No	840	18.1	22.9	20.2	14.5	24.3
Have you ever had or do you have vaginal bleeding now between periods. ***						
Yes	38	2.6	5.3	15.8	15.8	60.5
No	464	14.7	19.4	20.3	14.7	31.0
Have you ever had or do you have bleeding now from your rectum. *						
Yes	23	4.3	21.7	8.7	21.7	43.5
No	967	17.4	21.3	20.9	14.2	26.3
Have you ever been diagnosed or treated about any sexually transmitted or venereal disease? ***						
Yes	22	0	4.5	36.4	0	59.1
No	970	17.4	21.8	20.3	14.6	25.9
Have you ever been or are you now scared of your own anger, as you feel you could lose control of yourself? ***						
Yes	203	9.9	12.8	17.2	14.8	45.3
No	788	18.9	23.6	21.6	14.2	21.7
Have you ever had hallucinations or are you having any at the moment? ***						
Yes	166	9.0	12.7	18.7	15.7	44.0
No	825	18.7	23.2	21.1	14.1	23.0

*p<0.05; **p≤0.01; ***p≤0.001

7. The adjusted odds of health behaviour and health outcomes through the ACE scale scores

Table 27 shows the adjusted odds ratios of health behaviours and health indicators among young people in relation to the ACE scores. The reference category is the ACE score of value "0" which means that the respondent has not reported being subjected to any type of violence or adverse childhood experiences.

Overall, the most results showed gradually increasing odds of risky health behaviours and negative health indicators with the ACE scores increase.

The odds of current smoking and drunkenness were two times greater for young people with ACE score ≥ 4 than in the reference group. No significant association was found between ACE scores and current weekly alcohol use. However, the odds were also two times greater that young people with ACE score ≥ 4 had been on diet last year.

In general, young people in the group of ACE score ≥ 4 were two times more likely to had sexual experience but 3.5 times more likely to had early sexual intercourse (in 11 – 15 years) than those respondents without any type of adverse childhood experiences. Also the odds of ever using drugs were three times greater for those young people with maximum ACE score. There was sharp increase of the likelihood for suicidal attempt with the ACE scores increase; the odds of suicidal attempt were 12 times greater for young people with ACE score ≥ 4 than for those respondents without any adverse childhood experiences.

Young people with the ACE score ≥ 4 had rated their health as rather bad or bad five times more often and had missed their school for at least three days during the last month because of stress or depression six times more often than those respondents with no adverse childhood experiences.

Table 27: The adjusted [7] odds and 95% confidence intervals of health behaviour and health outcomes through the ACE scale scores

	ACE scores				
	0	**1**	**2**	**3**	**≥ 4**
	N = 169	N = 213	N = 207	N = 143	N = 269
HEALTH BEHAVIOUR					
Current smoking Yes vs. No	Ref. = 1	1.10NS 0.70 – 1.71	1.60* 1.03 – 2.50	1.70* 1.05 – 2.75	1.92** 1.25 – 2.93
Current alcohol use Weekly vs. Monthly/seldom/never	Ref. = 1	0.71NS 0.44 – 1.16	0.66NS 0.40 – 1.70	1.52NS 0.66 – 2.68	1.14NS 0.70 – 1.84
Inebriation last month At least once vs. None	Ref. = 1	0.99NS 0.65 – 1.50	1.76** 1.15 – 2.70	2.07** 1.29 – 3.34	1.63* 1.09 – 2.46
Drug use Ever vs. Never	Ref. = 1	1.01NS 0.59 – 1.71	2.25** 1.36 – 3.72	2.09** 1.21 – 3.62	2.82*** 1.74 – 4.57
Suicide attempts Yes vs. No	Ref. = 1	0.37NS 0.33 – 4.15	2.68NS 0.55 – 13.15	5.10* 1.08 – 24.17	12.44*** 2.94 – 52.54
Had sexual intercourse Yes vs. No	Ref. = 1	0.82NS 0.50 – 1.33	1.08NS 0.65 – 1.80	1.09NS 0.62 – 1.89	1.90** 1.14 – 3.18
Had early sex 11 – 15 old vs. No sex	Ref. = 1	0.94NS 0.48 – 1.85	1.46NS 0.74 – 2.87	1.68NS 0.90 – 3.11	3.48*** 1.80 – 6.72
Been on a diet the previous year Yes vs. No	Ref. = 1	1.42NS 0.89 – 2.28	1.63* 1.02 – 2.62	1.60NS 0.96 – 2.67	2.24*** 0.44 – 3.50
HEALTH OUTCOMES					
Self-perceived health Quite bad/bad vs. Quite good/ good	Ref. = 1	0.37NS 0.33 – 4.16	0.46NS 0.41 – 5.17	2.37NS 0.50 – 11.26	5.48* 1.21 – 24.75
School days missed during the previous month because of stress or depression 3 and more vs. None	Ref. = 1	1.56NS 0.60 – 4.02	1.85NS 0.72 – 4.73	3.46** 1.51 – 7.94	5.93*** 2.32 – 12.51
School days missed during the previous month because of poor physical health 3 and more vs. None	Ref. = 1	0.91NS 0.51 – 1.64	1.10NS 0.62 – 1.96	1.01NS 0.60 – 1.30	1.19NS 0.69 – 2.07
Headaches during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	0.87NS 0.51 – 1.51	1.21NS 0.72 – 2.06	1.43NS 0.81 – 2.50	2.25*** 1.39 – 3.64
Stomach-aches during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	1.80NS 0.75 – 4.28	2.80* 1.22 – 6.42	2.73* 1.14 – 6.53	3.95*** 1.81 – 8.65
Backaches during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	1.24NS 0.71 – 2.17	1.59NS 0.92 – 2.75	1.14NS 0.62 – 2.12	2.39*** 1.44 – 3.96
Feeling low during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	2.15* 1.10 – 4.17	2.66* 1.16 – 4.40	4.50*** 2.31 – 8.73	7.21*** 3.93 – 13.22
Irritability during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	1.70* 1.06 – 2.71	1.90** 1.18 – 3.04	2.96*** 1.80 – 4.87	5.06*** 3.24 – 7.90
Nervousness during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	2.02* 1.14 – 3.55	2.46** 1.41 – 4.31	3.09*** 1.72 – 5.54	6.34*** 3.76 – 10.69
Difficulties in getting to sleep during the previous 6 months Weekly vs. Seldom/never	Ref. = 1	1.38NS 0.81 – 2.35	1.75* 1.04 – 2.96	2.27** 1.31 – 3.93	4.04*** 2.50 – 6.54

NS – non-significant; *p<0.05; **p<0.01; ***p<0.001

[7] *Results adjusted by age, gender, etnicity, type of school and family affluence scale*

The likelihood of weekly somatic and psychological subjective health complaints had significantly increased with the ACE scores increase. For example, for young people with the ACE score ≥ 4 the odds of weekly feeling low had increased by seven times, the odds of difficulties in getting to sleep – by four times but the odds of weekly headache and backache – by two times as compared with those young people who had no adverse childhood experiences.

In general, most of the significant differences in risky health behaviours and negative health outcomes emerge at 3 or more ACE scores with only a few significant differences between the reference category and the 1 and 2 ACE categories. This may suggest either young people have some resilience to one or two adverse childhood experiences or that one or two common types of ACEs in Latvia are less important for later life outcomes; however this should be studied more in detail.

In conclusion, the results of logistic regression show strong association between the ACE scale scores and risky health behaviours and health indicators among young people in Latvia.

LIMITATIONS OF THE STUDY

In order to ensure as wide an involvement of different ethnic and social groups in the study as possible, five cities of Latvia were included. Both secondary and professional schools were selected with both Latvian and Russian being the study language.

- The schools were then recruited for the study in selected cities. Consequently, the results obtained could only be assigned to the student population of secondary and professional schools of the five Latvian cities, aged between 18 and 25. In general this study can be regarded as a pilot study, where the applicability of the questionnaire to young people living in Latvia was tested.

- The Latvian working group did not have The Adverse Childhood Experiences (ACE) Study protocol available. Only articles published in international scientific journals regarding this study were available for some clarification of methodological issues.

- Similar studies were carried out in Lithuania and Macedonia at approximately the same time, but data from the Latvian study cannot be compared to those studies. This is because there are significant differences in the target population and the methodology used in the studies.

- The questionnaire was too complicated and large - women had to answer 143 questions and men 135. This could also have led to lapses in concentration when completing the questionnaires. Many chapters, including those on marital status, marriage, relationships with spouse and number of children were not applicable to school age people.

- The study did not include young people of the same age who did not study in secondary or professional schools. These young people represent a significant part of the population and they may have had very different habits and childhood experiences.

CONCLUSIONS

The results showed a high prevalence of adverse childhood experiences within the selected group:

1. Only 16.9% of the total respondents had not had any adverse/traumatic experiences during childhood (ACE score = 0).

2. More than a quarter (26.9%) of respondents had had serious adverse experiences during their childhood (ACE score 4 to 10 points).

3. Almost one third (31.5%) of respondents had been victims of childhood emotional abuse from their parents or other adult family member living within the home.

4. Of those under 18, 16.4% of respondents had experienced physical violence from their parents or another adult living within the household.

5. One in ten respondents (10.3%) had experienced childhood sexual abuse from an adult, an older relative, family friend or stranger.

6. 35.9% of respondents had been victims of emotional neglect while physical neglect had been experienced by 27% during childhood.

7. 46.4% of children had lived in families which had had problems with alcohol or drugs.

8. 42.3% of respondents had experienced their parents having divorced or had lived separately during their childhood.

9. 12.6% of respondents had experienced violence by a father or stepfather during their childhood where the violence was directed at the mother or stepmother.

10. Respondents who had experienced higher levels of cumulative stress during childhood (an ACE score of 4 to 10 points), reported a wide range of health complaints within the previous six months. They reported that that they had suffered the complaints at least once a week. The complaints included headaches, abdominal pain, backache, depression, anxiety, irritability, dizziness, sleeping problems and difficulty in concentration.

RECOMMENDATIONS TO POLICY MAKERS

1. Violence reduction policy documents need to be equally focussed on the reduction of all types of violence, including the maltreatment of children by families.
2. There is a need to develop intersectoral policies for reducing family violence. An intersectoral coordination mechanism needs to be designed and enacted to develop a unified national system with a single set of criteria for recognizing, recording, monitoring and reporting violence in families. It would also be logical to design and enact legislation and draft guidelines for specialists in a number of sectors, for example, health care, education and the social sphere, based on WHO recommendations and best practices in other countries.
3. More attention needs to be paid within family policies to dysfunctional families, especially families at social risk. The existing mechanisms, including those operating at the level of local authorities, educational establishments and social support systems, need to be re-assessed and improved in order to provide information and practical (skills-based) support for bringing up children in families at social risk. There is a need to provide primary prevention programmes for parents, particularly those at social risk, in parenting education and home visitation.
4. Graduate and postgraduate curricula of professionals working at local government level, Orphan's Courts' staff and social workers all need a mandatory course on family violence and the recognition of violence, as well as ways of providing adequate assistance.
5. The support system for victims of family violence needs to be improved through ensuring government-funded psychological assistance. More focus needs to be placed on involving the family of the victimised child in the process of rehabilitation.
6. In educational policies, there is a need to focus on promoting awareness among teachers of secondary and professional schools regarding the recognition of family violence, the victims of violence and taking adequate action. Support materials can be developed for teachers and their skills should be regularly upgraded.
7. The role of the health sector should be expanded through the broader involvement of primary health care professionals to enable early recognition of family violence and to provide support, especially in those families at social risk. Health visitors / public health nurses have a role to play in primary prevention by providing structured support and training for at risk families.
8. Graduate and postgraduate curricula of professionals in reproductive health need to be supplemented with a mandatory course on family violence, including the use of evidence-based guidelines used in Latvia and recommended by WHO. The WHO TEACH-VIP curricula [54.] offer training in prevention and should be used for health professionals.
9. Graduate and postgraduate curricula of all health care professionals need to be supplemented with a course on family violence, developed on the basis of international experience and WHO recommendations.
10. The prevalence of violence and its causes need to be regularly monitored by the appropriate authorities. The results need to be regularly assessed and appropriate adjustments of policy planning documents could be put in place. The findings must be publicly accessible and there is also a need to promote public awareness and participation in the reduction of family violence.
11. An in-depth study of factors which are associated with family violence also needs be conducted. The findings can be integrated into a monitoring and assessment policy to measure levels of family violence and create a policy of combating violence.
12. Issues dealing with the impact of the media, including electronic media and the potential role for promoting violence through some programmes shown needs to be examined. Skilled and well-known individuals from public health and other social areas could be involved in this process.
13. There also needs to be a method of targeting public awareness on family violence through the encouragement to act in cases of suspected family violence. Hotline numbers need to be available for this purpose. The media could play a larger part in this awareness-raising through the use of electronic media and outdoor advertising.
14. Local authorities need to be targeted to cooperate and share information, including examples of best practice on reducing family violence. Support units at local government level need to be organized.
15. Non-governmental organisations also need to be encouraged to participate in reducing family violence and providing victim support.

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