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LIST OF ORIGINAL STUDIES

This dissertation is based on original publications which will be referred to in the dissertation by their respective Roman numerals.

I **Samm, A**., Värnik, A., Tooding, L-M., Sisask, M., Kõlves, K., von Knorring, A-L. (2008). Children's Depression Inventory in Estonia: Single Items and Factor Structure by Age and Gender. *European J Child & Adolescent Psychiatry, 17(3)*:162–170.

II **Samm, A.**, Tooding, L-M., Sisask, M., Kõlves, K., Aasvee, K., Värnik, A. (2010). Suicidal thoughts and depressive feelings among Estonian schoolchildren: effect of family relationship and family structure. *European Child & Adolescent Psychiatry, 19(5)*:457–468.

III Heidmets, L., **Samm, A**., Sisask, M., Kõlves, K., Aasvee, K., Värnik, A. (2010). Sexual behavior, depressive feelings, and suicidality among Estonian school children aged 13 to 15 years. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 31(3)*:128–136.

IV Mark, L., **Samm, A**., Tooding L-M., Sisask. M., Aasvee, K., Zaborskis, A., Zemaitiene, N., Värnik, A. (forthcoming). Suicidal ideation, risk factors, and communication with parents: an HBSC study on school children in Estonia, Lithuania, and Luxembourg. *Crisis: The Journal of Crisis Intervention and Suicide Prevention.* DOI 10.1027/0227-5910/a000153.

Additional article of direct relevance

Heidmets, L., Samm, A., Sisask, M., Kõlves, K., Visnapuu, P., Aasvee, K., Värnik, A. (2009). Depressiivsete ja suitsidaalsete kooliõpilaste seksuaalkäitumine. Sexual behaviour of depressive and suicidal Estonian schoolchildren. *Eesti Arst, 88(3)*:156–163.

Conference papers of direct importance

Samm, A., Värnik, A., Anion, L., Sisask, M., Kõlves, K., Raudsepp, J., von Knorring, A-L. (2006). Laste depressioonile viitav sümptomaatika 7–13-aastaste Lääne-Eesti kooliõpilaste hulgas. V Annual Conference of Estonian Centre for Behavioural and Health Sciences, Roosta, Estonia.

Samm, A., Värnik, A., Kolves, K., Sisask, M., von Knorring, A-L. (2006). The prevalence of depressive symptoms in schoolchildren in Estonia.11th European Symposium on Suicide and Suicidal Behaviour, Portorož, Slovenia.

Samm, A., Värnik, A., Kolves, K., Sisask, M., von Knorring, A-L. (2007). Eesti kooliõpilaste vaimse tervise seos peresuhetega. VI Annual Conference of Estonian Centre for Behavioural and Health Sciences, Toila, Estonia.

Samm, A., Kõlves, K., Sisask, M., Tooding,L-M, Värnik, A. (2007). Suicide ideation and mental health in relation to family functioning among schoolchildren in Estonia. 8th International Conference on Asian Youth and Childhoods, Lucknow, India.

Kõlves, K., Samm, A., Aasvee, K., Värnik,A. (2007). Use of alcohol and nicotine among schoolchildren with suicidal thoughts and depressive feelings. International Association for Suicide Prevention, Killarney, Iirimaa.

Samm, A., Kõlves, K., Sisask, M., Aasvee, K., Tooding, L-M, Värnik, A. (2008). Suicidal thoughts and depressive feelings in the context of family relations among schoolchildren in Estonia.12th European Symposium on Suicide and Suicidal Behaviour, Glasgow, Scotland.

Mark, L, Samm, A, Sisask M, Aasvee, K, Tooding, L-M, Värnik, A. (2011). Suitsiidimõtete esinemise seos riskifaktorite ja peresuhetega Eesti, Leedu ja Luksemburgi kooliõpilastel. 10th Annual Conference of the Doctoral School of Behavioural, Social and Health Sciences, Sagadi, Estonia.

Samm, A., Mark, L., Sisask, M., Tooding, L-M., & Värnik, A. (2012). Suicidal ideation amongst adolescents: Effect of communication with parents and with best friend in association with presence of multiple risks.14th European Symposium of Suicide and Suicidal Behavior, Tel Aviv-Jaffa.

AUTHOR'S CONTRIBUTION

The author of the dissertation has contributed to these four publications as follows:

Study I: formulating the research question, checking and validating data, carrying out data analysis and interpretation, writing manuscript drafts, and giving final approval to the manuscript;

Study II: formulating the research question, checking and validating data, carrying out data analysis and interpretation, writing manuscript drafts, and giving final approval to the manuscript;

Study III and IV: carrying out data analysis and interpretation, participating in writing manuscript drafts, and giving final approval to the manuscript.

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1. INTRODUCTION

1.1. The aim and the context of the study

The suicide rate in the world as a whole is estimated at 11.6 per 100,000 inhabitants, and it is more common among males than females (P. Värnik, 2012), and it rises with age. The male–female rate ratio of suicide is estimated to be the highest in the European region (4.0). Generally the suicide trend has been downward in Europe during the past decade, and Estonia was twelfth in the world by total suicide rate of 18.1 per 100,000 inhabitants in 2008 (P. Värnik, 2012).

Furthermore, Estonia is ninth by the number of young people in the 15–19 age group by mean suicide rate at 13.2/100000, according to the World Health Organization's mortality database from 90 countries (Wasserman *et al.*, 2005). Suicide rates were higher among males (24.1) than among females (1.9) (Wasserman et al., 2005).

In the world, 200,000 young people end their life in the prime of their life because of suicide each year (Greydanus *et al.*, 2009). The increased occurrence of suicide in adolescence is reported in many parts of the world, particularly among young males (Greydanus et al., 2009; Strukcinskiene *et al.*, 2011; C. Van Heeringen, 2001c). Suicide rates in adolescence dropped somewhat from the 1990s to 2001, then again, increased at the end of the last decade, as described in many studies (Greydanus et al., 2009; Strukcinskiene et al., 2011). Suicidal behavior remains an important clinical problem and a major cause of death of adolescents (Bursztein & Apter, 2009). Community surveys of suicidal ideation have demonstrated that about one-fourth of adolescents have experienced suicidal ideation at some point in their lives (Bursztein & Apter, 2009; Samm *et al.*, 2010).

Epidemiological data show considerable differences in sociological, psychological and biological characteristics between the individuals who communicate suicidal ideation and those who commit suicide (K. Van Heeringen, 2001b). Evidences from psychological autopsy studies points to the importance of mental disorders in the pathogenesis of suicidal behavior and suicide (King & Merchant, 2008).

Beside biological vulnerability and cognitive style, social contextual factors significantly impact adolescent suicidality, along with social conditions under which suicide occurs. Many of the basic risk factors for adolescent suicidality are well known; among these, the most important are depression, and personal characteristics such as gender, age and social environment characteristics including the family (Angold *et al.*, 1998; Sroufe & Rutter, 1984). Life events and difficulties such as bullying, social isolation, and poverty are linked to the increased risk of suicidal behavior (Mark *et al.*, 2012; Samm et al., 2010; Williams & Pollock, 2001).

Children's vulnerability to suicidal behavior depends upon interactive effects within the family (Pfeffer, 1981; Samm et al., 2010). Their perception of the entire family as a source of support is considered a key factor affording protection against the onset of depression (McFarlane *et al.*, 1994). Adolescents who are dissatisfied with their social support tend to suffer from depressive symptoms (Garber *et al.*, 1998; Samm et al., 2010) and low family support is a predictor of adolescent suicide attempts (Morano *et al.*, 1993; Ram & Hou, 2003). Previous studies have pointed out that, compared to children brought up in intact families with both birth parents, young persons whose family structure is weaker are more likely to have emotional and psychological problems (Samm et al., 2010).

Kutsar et al (2012) indicated that in recent decades Estonian society faced rapid political, social and economic changes, and these changes are visible in the family institutional level: analyses show wide changes in the family structure, i.e., marriage has been replaced by unmarried cohabitation, high numbers of divorce and separations. The probability of moving from a two-parent biological family type to a single-parent family type before a child reaches adulthood is rather high in Estonia today (Kutsar et al., 2012), and that in turn can be related to risk of poverty. However, these new types of family should also be able to socialize children and support their emotional and physical well-being. Therefore, the unstable societal background is a challenge in family formations and is expected to affect the quality of parenting style and capacity to meet several emotional needs of the adolescent: closeness, autonomy and security (Kutsar et al., 2012).

The social context influences young person's well-being, including mental and physical health. A child's mental health depends on the environment where the young person lives and includes the family. Important indicators in the family include mutual relations. The family, as social community, is directly based on the individuals who are related in mutual interaction. Individuals social integration is an important inversely related factor to suicidality that was conceptualized as an opposite to anomy and isolation (Durkheim, 1897/2010).

Several sociological studies have focused on suicide. There are only a few studies that focus on suicidal ideation as a social phenomenon in adolescents. Depression is the disorder most frequently related to suicidal ideation. By our knowledge there are no studies on the screening of suicidal ideation in the population of Estonian schoolchildren in relation to the family context.

The present dissertation relates to the onset of adolescence and the challenge of its physical and emotional changes, where environmental factors play an important role. Today's Estonian society faces rapid changes: families that are supposed to support young people are not stable, and this has had an impact on young people's mental health and could contribute to the high suicide rate among Estonian adolescents.

The aim of the current study is to examine the suicidal behavior of adolescents in Estonia in terms of suicidal ideation, depressive feelings and

risk-taking actions in the context of the family. The following, as a function of gender and age, were analyzed: (1) subjective estimation of satisfaction with relationships in the family, (2) perceived ease of talking about worries to family members, (3) family structure, (4) family economic deprivation, and (5) selected risk factors: smoking, alcohol consumption, physical fighting, bullying, sexual behavior, and the presence of multiple risks.

The objectives of the current dissertation are the following:

1. To estimate and describe the prevalence of self-reported suicidal ideation and symptoms of depression in the non-clinical population of Estonian adolescents aged 11–15 years (**Study I** and **II**);
2. To explore the association of mental health (self-reported presence of suicidal ideations and depressive feelings) with selected family relation variables, family structure and economic deprivation in the families of Estonian adolescents (**Study II**);
3. To examine self-reported suicide ideation in respect to risk behavior traits, particularly sexual behavior among Estonian adolescents (**Study III**);
4. To analyse the connection of self-reported suicidal ideation with characteristics related to functioning in the social environment (smoking, alcohol consumption, physical fighting, bullying, and the presence of multiple risks) and communication difficulties with parents among Estonian, Lithuanian and Luxembourgish adolescents (**Study IV)**.

The present paper presents a multidisciplinary study, and looks at risk and protective factors for suicidal ideation among Estonian adolescents. The study gives a better understanding of the meanings of suicidal ideation in the context of family relations by taking into account the importance of trustworthiness of family relations in terms of the mental health of adolescents. In the theoretical section of the dissertation, in explaining the relationship between suicidal ideation among adolescent in their family context, the author has integrated her experience as a family therapist with academic knowledge.

2. THEORETICAL FRAMEWORK

2.1. Definitional issues: suicide and suicidal ideation

The word suicide, founded on the Latin „sui" (of oneself) and „caedes" (killing) was first introduced by the philosopher Sir Thomas Browne in the 17th century (De Leo *et al.*, 2006, p. 7). Definitions of suicide can be found in the different scientific disciplines, from sociology to philosophy, and the conceptualization of suicide has changed over time. Suicide has been described as a process in most studies and it can be manifested in different ways (Hawton *et al.*, 1998; Wasserman, 2001).

Durkheim proposed that the term *suicide* applied to all cases of death directly or indirectly resulting from a positive or negative act of a person who is aware of the consequences of the behavior (De Leo & Krysinska, 2008a; Durkheim, 1897/2010). According to Durkheim (1897/2010), the term *suicide* was conceived as positive, when self-destructive behavior involved some muscular energy or suicide may happen due to negative attitude or mere abstention (for example, refusal to take food)(p. xl).

As suggested by the World Health Organization, suicide is defined as „an act with a fatal outcome, which the deceased, knowing or expecting a potential fatal outcome, had initiated and carried out with the purpose of bringing about wanted changes" (De Leo et al., 2006, p. 12). The definition encompasses those cases in which an individual, with ambivalence or wanting to influence others, takes the risk of death in a suicide attempt and dies (De Leo et al., 2006).

The distinction between suicide and attempted suicide is based upon the outcome of the behavior – a lethal versus non-lethal outcome (De Leo & Krysinska, 2008a). De Leo (2008a) pointed out that „not all individuals who die by suicide have intended to die, and not all attempts are failed suicides" (p. 267).

The term *suicidal* is used to describe any behavior or ideation involving harm to self, irrespective of the level of intent to die including self-injurious behaviors and suicidal ideation (De Gioannis & De Leo, 2012). The term *suicidality* is used by researchers to describe cognitive and behavioral characteristics which may become manifested as suicidal ideation or suicidal behavior. Suicidal behavior is an important clinical problem and a major cause of death in adolescents (Bursztein & Apter, 2009).

Suicidal behavior can be described as a set of non-continuous and heterogeneous spectra of behaviors, and can include suicidal ideation, suicidal threats, gestures, self-cutting, low lethal suicide attempts or actual suicide, and may or may not be related to each other, depending on the context in which they are studied (Bursztein & Apter, 2009).

The term *suicidal ideation* refers to the occurrence of any thought about self-destructive behavior, whether or not death is intended (K. Van Heeringen, 2001b). Such thoughts may range from vague ideas about the possibility of

ending one's life at some point of time in the future to very concrete plan to commit suicide. Suicidal ideation encompasses phenomena ranging from passive suicidal ideation (e.g., death thoughts and wishes: Life is not worth living) to active ideation and planning, which might lead to actual suicidal behavior (De Leo & Krysinska, 2008a, p. 267).

Suicidal behavior depends on the person's degree of ambivalence ("I want to die, help me to live"), and knowledge of lethality of the chosen method and its availability, and coincidental factors (De Leo & Krysinska, 2008a). De Leo and Heller (2004) underscore the fact that seemingly suicidal behaviors are not directly associated with the intention to die. Intentions other than wanting to die are frequently involved, including a cry for help, interpersonal communication, or attention seeking. Many clinicians look upon suicidal behavior in adolescents as being demonstrative, manipulative or a "cry for help" (Bursztein & Apter, 2009; De Leo & Krysinska, 2008a).

From the viewpoint of mental health, the absence of reported suicidal intent is not sufficient to exclude the risk of completed suicide (De Gioannis & De Leo, 2012). Any form of suicidal ideation is regarded as clinically important and as such requiring the utmost diligence in assessing the nature and the extent of the suicidal ideation: that very often individuals perceive those thoughts as distressing, but because of the stigma attached to suicidal behavior, they may not be as forthcoming (De Gioannis & De Leo, 2012).

Suicidal ideations are seen as complex patterns of suicidal behavior requiring more attention through research for better level of understanding, prediction, and prevention. Although there have been previous controversies, De Gioannis and De Leo (2012) point out that exploring suicide ideation does not increase patient's risk of suicide. They also point out that frequently individuals find comfort in being able to discuss their struggle and vent their self-destructive thoughts.

2.2. Suicidal behavior of adolescents in the social context

2.2.1. Social structure and change

Emile Durkheim (1897/2010) explains suicide through the social structure and functions, and related it to the way in which the individual is structured into society – inadequately, overadequately or by lack of regulation of the individual by society. Suicide in societies is a dimension of social integration, reflecting the degree to which society's members are bound together and social regulation that marks the strength of society's norms, rules and values (A. Värnik *et al.*, 2003). Hereby, too weak or too strong social integration or regulation or lack of regulation of the individual by society generates suicides.

Although Emile Durkheim's (1897/2010) thesis had gained a lot of attention, it was seriously criticized and his thesis have given different interpretation possibilities due to the unreliability of the statistics. In spite of that, he was the first who investigated suicides and presented suicide as a social fact. According to Durkheim (1897/2010), no social fact has been explained until it has been in its full and complete nexus with all other social facts and with the fundamental structure of society.

As brought out by Durkheim (1897/2010) and confirmed by modern studies, suicide is extremely rare among younger children. He pointed out that "there is no exist that these extraordinary facts must be attributed by heredity only. Child is influenced by social causes which may drive him to suicide, and even in this case their influence appears in the variations of child–suicide according to social environment" (Durkheim, 1897/2010, p. 49). It shows that Durkheim (1897/2010) does not deny the impact of biological vulnerability but stresses the interconnectedness of suicide with social phenomena. Durkheim explains that because social life in a civilized society starts to influence a child at a very early age, he or she undergoes its effects more completely and too early, and "this causes the number of child-suicides to grow with pitiful regularity in civilized land" (Durkheim, 1897/2010, p. 49). This tendency is also described by recent studies, namely although suicide rates for most subpopulations tend to be stable over time, the suicide rate among adolescents has risen in recent years in many countries, particularly among young males (Greydanus et al., 2009; Strukcinskiene et al., 2011).

Durkheim (1897/2010) also indicated that it's not only that suicide was very rare during childhood, but that it reaches its height with increase in age. "Its character is not to appear at a definite moment in life but to progress steadily from age to age. Just as suicide appears more or less early depending on the age at which men enter into society, it grows to the extent that they are more completely involved in it" (Durkheim, 1897/2010, p. 50). Furthermore, Durkheim (1897/2010) argued that the social conditions on which the number of suicides depends are the only ones in terms of which they can vary and "this is why the number of suicides remains stable as long as society does not change"(p.286). Thus, in changing society as characterized by the concepts of reflexive modernity of Anthony Giddens (1991), the prevalence of suicide is not stable but may vary from time to time from country to country.

Möller-Leimkühler (2003) argued that Western societies of today are moving from being collectivistic (modern) to individualistic (postmodern) in nature and are undergoing a comprehensive socio-cultural transition. Giddens (1991) points out the changes in intimate aspects of personal life and the importance of the establishment of social connections in a very wide scope, and emphasizes that global social influence may break down the protective framework of small communities and traditions, replacing these with much larger, impersonal organisations. Individuals therefore feel bereft and alone and lacking psychological support (Giddens, 1991).

Eckersley and Dear (2002) have suggested that cultural changes in Western societies have contributed to the trends in psychosocial disorders, including suicidal behavior and depression. Their study showed strong positive correlates between suicide and individualism, and supporting Durkheim's (1897/2010) theory that suicide is associated with low social attachment, and therefore can be a point a failure of society to integrate the individual. Moreover, they stressed that individualism may impact on adolescent suicide through its specific institutions and functions, such as family and childrearing (Eckersley & Dear, 2002).

In the light of Durkheim's general interpretation of suicide, let's ask why and how the suicide rate is linked to changes taking place in society? One explanation lies in the systems that are supposed to ensure connectedness: families are changing, but the essential need of individuals to have emotionally significant and meaningful relationships remains stable. Durkheim emphasized that social integration is crucial in its protective capacities. According to Durkheim, if suicide occurs, does it mean that in some cases families have been failing in their essential task to support their members?

Furthermore, Eckersley and Dear (2002) emphasized that society may be promoting cultural norms of personal autonomy and attainment that are unrealistic and my result in a gap, or tension, between cultural ideals, psychological needs and social reality: Firstly, there may be a surfeit of choice and uncertainty, and that diversity turns the developmental tasks that adolescents are confronted with into overload; secondly, because its self-focus, individualism can undermine or distort the fundamental human need to belong and to form lasting significant personal relationships; thirdly, structural changes in recent decades, such as increasing inequality, poverty or unemployment, would have tended to increase the tension between perceived and real choice and opportunity; fourthly, in contrast to the loosening of norms, values and constrain associated with individualization, life becomes increasingly regulated by new laws and regulations, and at the same time the growing social, economic and technological complexity of life tends to work against individual agency and empowerment (p.11). It shows that it is becoming more difficult to cope with the developmental tasks of adolescence in the context of the challenges of postmodern culture. The ability to tolerate feelings of ambivalence and uncertainty and at the same time the social relationships which have to be individually established and maintained are of central importance (Möller-Leimkühler, 2003). Eckersley and Dear (2002) argued that the harm done by individualism is limited to adolescents, particularly young men, while other adults benefit.

2.2.2. Socio-cultural setting: the family and peers

It shows that it is important to bear in mind what the life cycle tasks are for the person and for his or her family. The adolescent will probably be dealing with issues of individuation and autonomy, as will be part of their family (Jenkins, 1989). It is also important to be aware that these life cycle stages occur in a cultural and social environment (Jenkins, 1989).

Among adolescents, besides the family relations the importance of peer relations is growing. Bearman (1991) explained that the growth in the adolescent suicide rate may be explained with "anomie as dissonance resulting from the occupancy of social groups that are disjoint at the level of social integration, and may be a characteristic position of postmodern adolescent" (p. 517). He noted that "in contrast to the adolescent of the 19th century, the postmodern adolescent often spends substantial amounts of time and energy in social worlds quite distant from the adults who have putative moral authority over his or her behaviour. The postmodern adolescent is often a member of two separate societies, the family of origin and the peer group. The adolescent is integrated to the normative demands and regulation of each, the social worlds of the family and the peer group. The norms of each society are often experienced as contradictory and the normative dissonance experienced by the teen is the same as anomie" (Bearman, 1991, p. 517). Belonging to the group is essential and in correspondence with Durkheim's thesis about the importance of social integration in the prevention of suicide, but at the same time it is important to bear in mind the possible damaging impact of normative dissonance between two groups, pointed out by Bearman, and which may drive adolescents to suicide.

Durkheim (1897/2010) emphasises that when the suicide rate increases rapidly, it may be a sign of malfunctioning social structure. According to Durkheim, an individual's inclination to suicide is explicable scientifically only by relation to the collective inclination, and this collective inclination is itself a determined reflection of the structure of the society in which the individual lives. For Durkheim (1897/2010), all preventative measures must be tied to social structure. The increase in suicide rate cannot be halted in its upward curve by exhortation, or repression. He points out that suicide can be reduced by reintegrating the individual's group-life, giving him or her strong allegiances through a strengthened collective conscience, by integrating him or her to the society (Durkheim, 1897/2010). Furthermore, Cohen (2004) reviewed that those who participated in their community and the larger society were in better mental health than their more isolated counterparts. The models of social support literature suggest that the perceived availability of social support acts as a buffer against negative effects of stress, and that social resources have a beneficial effect irrespective of whether persons are under stress (Cohen, 1988).

A family can be regarded as a natural small group version of society. As societies change so do families, but the stress-buffer effect of family as a social institution has been proven. Furthermore, Giddens (1991) argues that in circumstances of uncertainty and multiple choices the trust is crucial as a generic phe-

nomenon of personality development. Trust is established between a child and its caretakers and is directly linked to the achieving of an early sense of ontological security (Giddens, 1991).

Durkheim (1897/2010) underlines that "family is a powerful safeguard against suicide, so the more strongly it is constituted the greater its protection" (p.160). Durkheim points out also that "domestic society, like religious society, is a powerful counteragent against suicide, and this immunity increase with the density of the family, that is with the increase in the number of its elements" (p.156). Durkheim pointed out in his work that the density of the family group has an effect upon suicide – as suicide diminishes, family density regularly increases. He indicated that "density of the group cannot sink without its vitality diminishing. Where collective sentiments are strong, it is because the force with they affect each individual conscience is echoed in all the others, and reciprocally. The intensity depends on the number of consciences which react to them in common, and for the same reason, the larger the crowd, the more capable of violence the passions vented" (Durkheim, 1897/2010, p. 159). It seems that Durkheim's thesis is consistent with the modern systems theory's view of a family, an issue that is discussed below.

Minuchin and Fishman (1981), who represent a systemic way of thinking, characterize the family as a natural group which over time has evolved patterns of interacting and with these patterns makes up the family structure. Family structure governs the functioning of family members, delineating their range of behavior and facilitating their interaction (S. Minuchin & Fishman, 1981). Furthermore, family has been described as the "context for both growth and healing and its substantial task is of supporting its members individuation while providing a sense of belonging" (S. Minuchin & Fishman, 1981, p. 11).

Previous studies have documented, that good communication with the mother or father reduces the risk of suicidal ideation in both genders and in all age groups (Samm et al., 2010). Family resources are often seen in terms of relationship between parent and children, but the importance of a supportive extended family relationship (grandparents, siblings) has been demonstrated in research (McFarlane et al., 1994; Samm et al., 2010). Furthermore, compared with children brought up in intact families with two parents, child whose family structure is weaker are more likely to have emotional problems, including depressive feelings and suicidal ideation (Ram & Hou, 2003; Samm et al., 2010).

King and Merchant (2008) argued from the result of psychological autopsy studies of young people's suicides that adolescents who died by suicide had significantly less frequent and satisfying communication with their mothers and fathers, with no evidence of more negative interactions with parents. Moreover, King and Merchant (2008) indicated that psychosocial risk factors had a predictive impact that was comparable with that of a psychiatric disorder.

2.3. Theoretical explanations of suicidal behavior

2.3.1. Suicidal behavior as communication

In the 1970s, suicidal behavior was considered a certain form of communication (De Leo *et al.*, 2004). It was pointed out that attempted suicide is conscious, or subconscious act of communication addressed to others, and it is a sort of alarm signal that appeals for help (De Leo et al., 2004). Through the studies of suicidal behavior, certain types of actions associated with attempted suicide such as seeking help or social isolation appear to be revealing of particular behavioral patterns or motives (Beck *et al.*, 1976). Beck et al (1976) pointed out that the "cry for help" is often alleged to be the major motivation for suicidal behavior may be primarily a reflection of the personal style of a particular suicidal behavior: some suicidal individuals are "communicators" and others are not.

Stressors play a particularly important role in the early phases of the suicidal process, which may be characterized by relatively low intent of self-harming behaviour, but which may increase the risk of suicidal behavior or suicide (Mann *et al.*, 1999; K. Van Heeringen, 2001a). Van Heeringen hypothesized that in psychopathological terms it can be that this evolution will become manifest as a more or less gradual change from anxiety- or aggression-related symptoms to increasing levels of hopelessness (K. Van Heeringen, 2001a).

Mann et al (1999) proposed a stress-diathesis model in which the risk for suicidal acts is determined not merely by a psychiatric illness as a stressor but also by diathesis. This diathesis reflects in tendencies to experience more suicidal ideation and to be more impulsive and, therefore, more likely to act on suicidal feelings (Mann et al., 1999). Diathesis concerns social interaction in the sense that this component is hypothesized to reflect resilience to social or interpersonal stressors and to modulate interaction with others, and this component is considered to be responsible for what in "cry for help" model has been called "sensitivity to signals of defeat" (K. Van Heeringen, 2001a). However, Van Heering (2001a) points out, that studies have indicated that sensitivity may also have a profound effect on the way in which individuals engage in interpersonal relation. In ethological studies on the neurobiological basis of social attachment, evidence was pointed to in support of the role of the neuropeptides oxytocin and vasopressin in determining affiliative capacities, including parent care and attachment behavior (Goldney, 2001; K. Van Heeringen, 2001a).

Williams and Pollock (2001) attempted to fit the social, biological and psychological facts together in the "Cry of pain" theory. Suicidal behavior represents the response (the "cry") to social signals that represent defeat, lack of escape and rescue (real or imagined) (Williams & Pollock, 2001), and presents more reactive characteristics. They accentuated that the suicidal individual is likely to be vulnerable to the triggering of primitive "helplessness" biological process impulses to escape by self-harm or by dying. The act on the impulse may depend on the availability of models to be imitated and the availability of methods. The effect of seeing no escape is moderated by the presence of social

"closeness" or perceived social "closeness" (Williams & Pollock, 2001). Williams and Pollock (2001) emphasized that the "Cry of pain" theory describes the psychological and information processing mechanisms that involves: suicidal individual's attention as biased by being hypersensitive to stimuli signaling defeat and rejection; suicidal individuals have over-general memories that prevent adequate definition of and solution for current problems, giving rise to a feeling of being trapped, of there being no escape; a lack of fluency in generating positive events that may occur in the future leads to hopelessness.

2.3.2. Individual factors of suicidal behavior of adolescents: gender and age

Basic factors contributing to adolescent suicidal behavior and depression are described by personal characteristics such as gender and age, and from social environment characteristics – the family-related factors, and will be discussed next.

Gender. Among demographic data, there are a number of demographic variables having a strong correlation with the suicide rate and one of the most significant is gender (De Gioannis & De Leo, 2012). Females are more likely to attempt suicide and males are more likely to complete suicide: there is around four male suicide for every female one (De Gioannis & De Leo, 2012). Moreover, males are much less likely to seek help if in need (De Gioannis & De Leo, 2012).

Durkheim (1897/2010) proposed that "if there is an organic-psychic determinism of heredity origin which predestines people to suicide it must have approximately equal effect upon sexes. Shall we say that women inherit the tendency to suicide as much as men, but that is usually offset by the social conditions peculiar to the female sex?" (p. 48). Nowadays, a gender perspective integrates the controversy about its cultural, individual as well as biological factors.

Previous studies on adolescent suicidal behavior and depression show gender identities as crucial factors in understanding developmental trajectories of adolescent (King & Merchant, 2008; Shaw & Dallos, 2005). Previous research consistently documents gender differences in boys' and girls' perceptions of their relationships with others, and adolescent girls tend to report more satisfaction than boys with the support they receive (King & Merchant, 2008).

Shaw and Dallos (2005) accentuate the importance of realizing that the interaction between caregiver and children teaches children not only about how loveable they are, but also about what it means to be a boy or a girl. They emphasize that both, family and broader cultural gender discourses are needed to be negotiated in order for the emerging adolescent identity to develop as an integrated and healthy adult (Shaw & Dallos, 2005).

Möller-Leimkühler (2003) points out that gender is a basic principle of societal organisation structuring social roles, and the access to personal, social and material resources is different for men and women and for this reason gender is a significant determinant of health and illness, manifesting in gender-specific exposure to life stress, gender-specific stress vulnerability as well as gender-specific stress response and pathways to diseases.

It is well documented that suicide is more prevalent among males than females. Möller-Leimkühler (2003) contends that traditional masculinity is a key risk factor in male vulnerability as the male gender-role in Western cultures entails not perceiving or admitting anxiety, problems, or burdens, which can occur under conditions of danger, difficulty, and threat; female identity, however, is defined in a context of social relationships and communications, allowing females to express their feelings more easily, they remain better socially connected and which is a crucial protective factor.

Möller-Leimkühler (2003) argued that it is plausible that some facets of postmodern individualism may adversely affect males more than females: "First, as females are more likely to perceive themselves as interdependent, they remain better socially connected, suggesting that individualism is less isolating for females; secondly, negative emotions such as pessimism, anxiety, uncertainty, weakness or sadness may have higher psychological costs for males in a postmodern society of "winners", where all other males seem to be happy, healthy, optimistic, competitive, successful and selfactualised; and thirdly, in general, traditional male gender-role expectations are apparently reinforced by individualism, thus promoting a more androgynous gender-role orientation for females, which has been shown to have positive effects on their well-being. However, due to the dissolution of traditional masculinity, and the mixture of traditional and non-traditional social expectations a conflicting tension can emerge for males that may be experienced as double binding"(p. 6).

Male adolescents in particular may increasingly experience feelings of ambivalence, helplessness and hopelessness as anomy (Möller-Leimkühler, 2003). In case of family conflict or broken home situations and/or lower socio-economic status have even fewer resources to cope with their conflicts, which will further increase their perception of lacking control over their social environment and increase their vulnerability to health risks (Möller-Leimkühler, 2003).

Möller-Leimkühler (2003) explained the roots of suicide in gender–specific cultural beliefs: "males who opt to behave according to traditional masculinity are not able to tolerate loss of mastery and control. Thus, suicide as a stress response is a last documentation of self-control to ultimatively change the situation" (p.4).

Age. Rates of attempted suicide are highest among adolescents and an increased occurrence is recently again reported in many parts of the world, particularly among young males (Greydanus et al., 2009; Strukcinskiene et al., 2011; C. Van Heeringen, 2001c).

Sawyer at al (2012) pointed out that the shape of adolescence is rapidly changing – the age the onset of puberty is decreasing and the age at which mature social roles are achieved is rising. Societies typically define adolescence in terms of age and social roles with little consistency between countries (Sawyer et al., 2012).

Even by the definition of UN Convention on the Rights of the Child by which a child means a human being who is younger than the age of eighteen (hpp://www2.ohchr.org), the onset of puberty has been accepted as the starting point of adolescence (Sawyer et al., 2012). In the literature on developmental psychology, adolescence is defined as the period between ages 10 and 19 years: early adolescence is defined as approximately 10–14 years of age and late adolescence as approximately 15–19 years of age (hpp://www.hhs.gov) (Sawyer et al., 2012). The term "young people" is used in the present study to describe the transition stages of childhood and adolescence in generally.

Although the biological sequences of puberty are highly consistent, changes in the timing of puberty, the nature of social-role changes, and the hopes and aspirations of adolescents across the world are described as widely affected by sociocultural and economic factors (Sawyer et al., 2012). The present dissertation emphasises the changing context of health and social development in young people aged 11–15 years and the significance of the immediate family context of adolescence in Estonia.

2.3.3. Clinical preconditions of suicidal behavior in adolescents

Most of the studies point to the importance of psychiatric or mental disorders in the pathogenesis of suicidal behavior and suicide. There is also evidence suggesting that suicidal behavior is highly familial and heritable and that adolescent suicide is inherited distinctively from psychiatric illness and it is possible that impulsive aggression is the basic psychological dimension that is passed on (Brent & Melhem, 2008; Bursztein & Apter, 2009; King & Merchant, 2008). Impulsive aggression is strongly associated with suicidal behavior, already because it increases the likelihood that a person will act as if having suicidal ideation, and it has been found to be a possible mediator between other disorders and suicidality (Brent & Mann, 2006; Bursztein & Apter, 2009; Mann et al., 1999).

Aggression and impulsivity. Furthermore, De Gioannis et al (2012) pointed out that adolescents manifest higher levels of impulsivity and aggression compared to their adult counterparts, with a significant impact on the likelihood of self-destructive behaviors.

Biological vulnerability could be exacerbated if the person lives in an unfavorable psychosocial environment (Wasserman, 2001). Impulsivity in adolescents has been related to low serotonin turnover and poor regulation of affect, and the problems in the family, including child maltreatment (Paaver *et al.*, 2008). Furthermore, results of a previous study indicate that biological vul-

nerability may lead to high maladaptive impulsivity due to higher sensitivity to environmental adversity, which is more significantly expressed in girls (Paaver et al., 2008). However, Reif et al (2011), in their findings from a genetic basis study, indicated that the absence of adverse family environmental conditions may lead to a beneficial effect and functional forms of biological vulnerability to impulsivity are proved.

Hence, aggression and impulsivity in adolescents are found to have a significant link with suicidality, there is evidence that impulsivity is mediated through the relations between adolescents and their immediate social context, and it allows to bring focus to the social determinants of the adolescent's health.

Depression. Suicidal behavior has multiple causes that are broadly divided into proximal stressors or triggers and predisposition. Suicidal behavior is not bound to the borders of classical psychiatric disorders such as depression or schizophrenia, and it found to be common also in somatic disorders (Träskman-Bendz & Westrin, 2001).

More than 90% of suicides have a *Diagnostic and Statistical Manual of Mental Disorder* (*DSM-IV*) psychiatric illness, including mood disorders, principally major depressive disorder and bipolar disorder, which are associated with about 60% of suicides (Mann *et al.*, 2005). As much as 33% of adolescent disability is due to mental disorders, of which depression is a major component (Greydanus et al., 2009; Mann et al., 2005). Major depression is noted in 9 of 1,000 preschool children, 20 of every 1,000 school age children (ages 6 to 11), and almost 50 of 1,000 in adolescents (ages 12 to 18); the latter rate is similar to severe depression in adults (Greydanus et al., 2009). In adolescents and adults, there is a 1 to 2 male to female ratio with regard to depression (Greydanus et al., 2009).

The timing of the change in sex ratios has important implications for theories about the relationship between depression and puberty. Studies suggest that the gender difference in rates of depression emerges during adolescence (Angold et al., 1998). The child and adolescent epidemiological literature generally agrees that rates of depression are similar in pre pubertal boys and girls, and that rates of depressive disorders begin to rise in girls at some time between childhood and age 15 (Angold et al., 1998). Disorders with both the cognitive and affective components of depression appear after infancy, being somewhat more common in boys (Sroufe & Rutter, 1984). But there is a sharp increment in the frequency of depression with puberty, depression then being notably more common in girls (Sroufe & Rutter, 1984).

Researches describing cognitive characteristics of suicidal persons generally focus on their tendency to evaluate events, the present and future in such a way that this results in feelings of being trapped and hopelessness because of lack of fluency in generating positive views of the world (Kienhorst, 2001). Cognitive distortions have been described to be associated with depression. Depressed individuals have been shown to have a negative view of self, their current environment and the future (Samm et al., 2010; Zalsman *et al.*, 2006). To differen-

tiate depression from normal variance in the mood of adolescents, clinical depression is associated with functional impairment. It is mediated through intensity, duration and lack of responsiveness of depressed mood and associated symptoms, and it is described as a change from prior behaviour (Zalsman et al., 2006).

Depression may be viewed in terms of the interaction of experience, stress, and age-related biological, psychological and social factors (Sroufe & Rutter, 1984). Gene studies have revealed a biological vulnerability carried by the short (S) allele of the 5-HTT gene promoter region polymorphism (5-HTTLPR), which, in combination with adverse environmental influence, leads to higher likelihood of depression among adolescents (Paaver et al., 2008). While this may reflect greater biological vulnerability in some individuals, it cannot be due to biological factors alone. Even if there is evidence that certain factors predispose youth to depression, adolescents' dependence on family relations, sensitivity to warmth expressed in the family, and especially for girls (Paaver et al., 2008), is proven.

Depression in adolescents can have many adverse results, including academic dysfunction, increased arguments with family members, risk behaviours and suicide (Greydanus et al., 2009). A major issue in suicide prevention is to screen young people for depression and other factors that may trigger suicide in adolescence (Greydanus et al., 2009). However, there is scientific evidence of importance of structural dimensions of social network that may have a bearing on young person's health and deserve more systematic investigation.

2.4. Family contextual factors of suicidal behavior in adolescents

2.4.1. Risk factors

Despite individual biological predictors, the roles of social and interpersonal factors are rising with the aim of understanding of suicidal behaviour in adolescents.

In the findings of a longitudinal study, the childhood profile of those at greatest risk of suicidal behaviour included being raised in a poor parent–child attachment, socioeconomic adversity and family disruption (Fergusson *et al.*, 2000). Empirical studies focused on family and friend support, social isolation, peer victimization, physical/sexual abuse, or emotional neglect as these relate to adolescent suicidality (King & Merchant, 2008). Other contributory factors include availability of lethal means, alcohol and drug abuse, access to psychiatric treatment, attitudes to suicide, help-seeking behaviour, physical illness, and poverty (Mann et al., 2005; Williams & Pollock, 2001). Social support significantly reduced likelihood for suicidal ideation and depressive feelings among adolescents (Mark et al., 2012; Samm et al., 2010).

Brent and Melhem (2008) have reviewed some of the nongenetic factors contributing to the risk of familial transmission of suicidal behaviour among adolescents. Environmental causes for familial transmission include the intergenerational transmission of family adversity (Brent & Melhem, 2008). These include social factors such as parental separation, divorce and family discord as well as child abuse and imitation (Bursztein & Apter, 2009). Another study about imitation, indicated that the suicide of a close friend or sibling does not increase the risk of suicide attempt; familial transmission suggests a closer link to genetics than to imitation (Brent & Mann, 2006).

Studies document a higher risk for suicidal behaviour and suicide in adolescents from non-intact families (Ram & Hou, 2003; Samm et al., 2010). However, Brent and Melhem (2008) highlight that divorce in family *per se* is unlikely to lead to suicidal behaviour. For example, marital disruption is more common in parents with a psychiatric disorder (Brent & Melhem, 2008).

Furthermore, studies have indicated that adolescent health risk behaviours and suicidal behaviour were related to health risk behaviour of their friends (Heidmets *et al.*, 2010; Prinstein *et al.*, 2001). Family dysfunction and depression altered the magnitude of association between peer and adolescent risk behaviour (Prinstein et al., 2001). Brent and Melhem (2008) pointed out that it is possible that exposure to suicidal behaviour is the result of "assertative friendships," insofar as friends of individuals with psychological difficulties are more likely to have mental disorder themselves.

In accordance with the previous study, precocious sexual activity, substance use and risk behaviour are associated with lower involvement in health-maintenance behaviour (Donovan *et al.*, 1991; Jessor & Jessor, 1977), and were associated with higher risk for depressiveness and suicidality among adolescents (Heidmets et al., 2010; Mark et al., 2012). Corresponding with the social-psychological framework of problem-behaviour theory developed by Jessor and Jessor (1977), risk behaviours such as precocious sexual intercourse, substance use and delinquent behaviour have been reported to comprise a "syndrome" of problem behaviour, and correlate positively with each other (Donovan *et al.*, 1988, 1993).

2.4.2. Protective factors

Results of a previous study indicated that perceived parent-family connectedness was protective against health risk behaviours: substance use, violence, and sexual behaviour (age of sexual debut) (Resnick *et al.*, 1997). Significant family factors associated with delaying sexual debut included high levels of parent-family connectedness, parental disapproval of their adolescents being sexually active (Resnick et al., 1997).

The effect of protective factors and their role as moderators of the relationship between risk factors and risk behaviour are examined in many studies. Protective factors can moderate the relationship between risk factors and

behaviour and might serve as a buffer against risk of suicidality (Jessor *et al.*, 1995; Wasserman, 2001).

The protective role that perceived parental support plays, has been found to be an important correlate of emotional health and healthy behaviour among adolescents (Resnick et al., 1997). Likewise, while physical presence of a parent in the home at key times reduces risk (and especially substance use), it is consistently less significant than parental connectedness e.g., feeling of warmth, love, and caring from parents (Resnick et al., 1997).

Social support is mediated through the relationship with the parents. There is a large amount of research where the support system can be seen as funneled through the mother but less investigations to prove the role of the father in emotional support of adolescents (Mark et al., 2012; P. Minuchin, 1985; Samm et al., 2010). Importance of the extended family, trustworthy relations between grandparents have been found to be a significant resource for decreasing suicidal ideation and depressive feelings among adolescent (Samm et al., 2010).

Successful parenting is a principal key to the mental health of the adolescent. From the field of developmental psychology, Bowlby's (1988) concept of parenting is: "the provision of a secure base from which a child or an adolescent can make sorties into the outside world and to which he can return knowing for sure that he will be welcomed when he gets there, nourished physically and emotionally, comforted if distressed, reassured if frightened" (p.11). In essence, it is the caregiver's role of being available, ready to respond when called upon to encourage and perhaps assist, but to intervene actively only when clearly necessary (Bowlby, 1988).

2.4.3. Psyche is social: young person between health and illness

How is mental health disrupted? This is not necessarily a question about medical expertise but an understanding of the society. Can mental health issues reflect problems on a social interaction level? Can mental health symptoms be a communication between disease carriers and the society? Can the symptomatic disruption be a sign of disrupted communication? Below I will deal with the modern understanding of mental health issue as an example of suicidal ideation and depression among adolescents that does not appear as self-evident or inevitable. This issue in the present paper is reviewed in relation with the social environment of immediate family relations.

A human being is part of family, this important system into which one is born and that is part of the bigger system, the society. In this discussion, a situation is regard in which an individual is not treated in isolation to one's important relations or support systems, but is reviewed as part of a joint system in terms of social integration.

This enables us to conclude that also emotionally perceived difficulties of an individual person have a larger surrounding context. This in turn allows us to understand that the formation mental health symptoms is not only the outcome

of the person's inner processes, but also the relationship with other people and that the direct environment and social context to which it belongs helps to keep it constant.

The determining factor is communicative behaviour between people that creates relationships and upholds them. Can it be concluded in this case that psychopathology does not exist and that there are only disorderly communication patterns?

The social context can have either a positive or negative effect on a person's development. In terms of mental health it means that the environment can have either a curative effect or facilitate the appearance of a health problem, provided there are genetic preconditions, according to biologically oriented research.

What then causes the health of one family member, in this case a child, to be disrupted to the level where one starts to express symptoms that can be classified as mental health disruption? How does a child's mental health disruption develop from the aspect of a systemic approach?

A family environment is a surrounding that should support family members in their existence in every way. Moreover, the family is the natural context for both growth and healing. A child's behaviour is best understood in the social context in which it occurs (Becvar & Becvar, 1999).

This shows that one sign of a malfunctioning family system is the child with its undesirable behaviour, psychosomatic complaint or, in the worst case depression, even suicidal behaviour.

It inevitably raises a question on the role of occurrence of symptomatic behaviour in a family context. What role do symptomatics have in describing a mental health disruption in such an institution as a family? Can a symptom be a manifestation that the set system of family relationships is not working? It means that a symptom is a tool for defining relationships, a way of communication with each other. Consequently the symptom discontinues once relations between family members are defined in such way that people in this relationship are content with the definition of the relationship and the processes happening in the family.

Paradoxically, as pointed out in much previous research, families are often unable to notice mental health disruption of its members.

As referred to above, the most sensitive link in the family is often the child whose emotional and physical welfare depends on the same close surrounding environment. It may be important to analyse the context in which it is practical to present symptomatic behaviour in order to maintain a "liveable" environment.

Pfeffer (1981) pointed out that suicidal behaviour of children is not a symptom only of individual upheaval but the organisational characteristics of the dynamic of a family with a suicidal member also underlies family disruption. Hospitalised and with psychiatric diagnoses, children's family systems are characterized as functioning with intense ambivalence, poor identity as a family unit due to lack of differentiation of generational boundaries, regression

to the collective primitive ego functioning level, helplessness, low self esteem, existence of depression, and threats by any attempt of family differentiation or member individuation (Pfeffer, 1981). Mutual interaction is characterized by rigid patterns and the lack of intergenerational boundaries that have been proven to be dysfunctional from the point of mental health (Pfeffer, 1981).

British anthropologist, social and cybernetic scientist and a pioneer of family therapy Gregory Batesoni (1972) has analysed the relations between mental health and the environment. He described epistemiology based on systems theory and cybernetics and that itself has affected the development of therapies (Bateson, 1972/2000). The basic thought is that mental phenomena may reflect social phenomena (Tomm, 1984). Karl Tomm (1984) in his description of the Milan Systemic Approach pointed out that "mental problems" may reflect problems on a social interaction level (p. 117). This approach does not deny behaviour's biological or psychological aspects, but only stresses that "the meaning of each behavioural manner or event in the concrete individual social context can be derived" (Tomm, 1984, p. 117). When one claims that "psyche is social", it means that each behavioural manner or event is related to social context (Tomm, 1984). Karl Tomm emphasised that if somebody is regarded "mad", "ill" or "evil", it means that that person is carrying some sort of interaction pattern that people evaluating it take as such. Furthermore, he pointed out that because pain is experienced as "pain" by its percipient and the surrounding environment, it is necessary to have some social interaction tied to this experience (Tomm, 1984, p. 117). Illness and the sign of disrupted mental health express a certain pattern of interaction. Other people who regarded this person as "ill" are part of the interaction pattern – this meaning is imposed by the context and in case there is a symptom carrier in the family, the whole family is linked to this "illness" by some kind of a social pattern.

The assumption that "psyche is social" is also an important starting point in practical work, psychotherapeutic intervention, or mental health promotion and prevention. It directs effort into the interaction patterns that exist between people and not into internal processes or some personal characteristics (Tomm, 1984). Symptomatic behaviour and operation of psychological processes are in accordance with the context in which they function– the "truth" is in the relationships.

When describing individual processes it is tempting to give an explanation based on cause-consequence method as a systemic approach enables to see the problem not only on the individual level, but as a reflection of relations between family members in a larger social context, that of family relations.

3. METHODOLOGICAL FRAMEWORK OF THE STUDY

This section outlines firstly the theoretical framework of the present dissertation in explaining the relationship between family communication and suicidal ideation in adolescents, and secondly, introduces the data sets which form the empirical basis.

3.1. Understanding suicidal behaviour in adolescents from a systemic perspective

3.1.1. Why a systemic perspective?

It is important to describe the theoretic-ideological framework of systems approach. The foundation of modern systems theories was laid by Ludwig von Bertalanffy who presented the basic principles of General Systems Theory (Von Bertalanffy, 1968; Whitchurch & Constantine, 1993). General Systems Theory made its way into family social science, sociology, and thinking of families as systems laid the foundations of family therapy (Whitchurch & Constantine, 1993).

Concepts of modern micro-level family systems theories are the product of information theory, cybernetics and the General Systems Theory (Whitchurch & Constantine, 1993). Whitchurch and Constantine (1993) indicated that those three distinct but closely related theoretical legacies are so intertwined that "they really cannot be discussed separately" (p. 332). Information theory focuses primarily on reducing uncertainty through the acquisition of information; cybernetics are concerned with the communication manipulation of information in controlling many kinds of systems such as physical, chemical, and biological systems, as well as families and other social systems, and contributes to General Systems Theory with the concept of wholeness, interchange with environment, interdependence, self-regulation, and as well as the feedback and open-or closed-loop, and the notion of homeostasis (Whitchurch & Constantine, 1993; Von Bertalanffy, 1968).

Systems theory is a unifying theory, representing a paradigm shift in terms of how to understand human behaviour – instead of studying objects in isolation, it is a means of studying them in relations (Becvar & Becvar, 1999). The systems concept provides a theoretical framework which gives an opportunity to view family members as objects that are in interaction, and under review is the impact of the communication between each other, the indicator of which is the mental health of a child.

The systemic way of thinking looks at the reality of individuals and their role in the family's sense of wholeness (Jenkins, 1989; Whitchurch & Constantine, 1993). Minuchin and Fishman (1981) emphasize that in systems approach,

every individual, or nuclear family, the extended family, and the community – is both a whole and a part, exerting competitive energy for autonomy and self-preservation as a whole. They pointed out that "each whole contains the part, and each part contains the "program" that whole imposes. Part and whole contains each other in a continuing, current, and ongoing process of communication and interrelationship" (S. Minuchin & Fishman, 1981, p. 13).

An essential characteristic of the systems approach is the issue of boundaries (Whitchurch & Constantine, 1993). For identifying components as a system, a boundary determines what is included within the system and what is outside the system. The boundaries define the system and represent the interface between the system and its subsystems, between the system and its environment (Whitchurch & Constantine, 1993). Family members are defined, and are able to be distinguished from other families and systems by the information or communication which flows between them (Becvar & Becvar, 1999).

To ensure a healthy family system it is important that there is sufficient communication between and beyond the children's and parents' subsystems. If the boundaries are too rigid the system will not be sufficiently flexible to effectively process information from its environment; if the boundaries are completely transparent, they offer no impediment to such interchange (Whitchurch & Constantine, 1993).

All family systems are seen as open systems, although they differ greatly in their degree of openness (Becvar & Becvar, 1999). The more input family members accept from family members, or a family allows from other systems, the more it is an open system, and conversely, the less input permitted, the more closed it is (Becvar & Becvar, 1999). However, a family system can experience problems as a function of being either too open or too closed.

From a systemic viewpoint, behaviour in systems is seen as resulting from communication of information among components (Whitchurch & Constantine, 1993). The system maintains a pattern of behaviour that is determined by forms of feedback: positive or negative feedback (Whitchurch & Constantine, 1993). Negative feedback loops restore or maintain a condition of dynamic equilibrium, a state of homeostasis (Becvar & Becvar, 1999). When any deviation from the state of homeostasis occurs, the system responds by enacting negative feedback to bring the system back to the previous homeostatic state. Becvar and Becvar (1999) emphasized that if a family system sensing danger or deviation is too far from its calibrated settings, it will take necessary action to pull itself back to its former state of homeostasis. With positive feedback loops, the deviation from the setting would increase by resulting in more variation in system behaviour (Becvar & Becvar, 1999). If a family system does not change, it may be at the expense of symptomatic behaviour of its members.

Becvar and Becvar (1999) emphasised that a system seeks stability, but to continue to be healthy, it must also be able to change. Furthermore, the ability to change is necessary as the family and its members grow and develop.

From a systemic viewpoint, even if one family member changed his or her actions, the overall behaviour of the system could change (Whitchurch & Constantine, 1993). If the structure of the system changes, it is defined as morphogenetic; if the existing system structure is maintained, it is defined as morphostatic (Whitchurch & Constantine, 1993). To assure survival of the family system, the morphogenetic force of positive feedback must be counterbalanced by the homeostatic force of negative feedback (Whitchurch & Constantine, 1993).

Beaver and Becvar (1999) emphasised that maintenance of family identity involves a process in which the boundary functions as a buffer for information from outside the system, screening it for compatibility with the family value system.

3.1.2. The family in the system theory framework

Minchin and Fishman (1981) describe family as a natural group which over time has evolved patterns of interacting and with these patterns makes up the family structure. "A viable form of family structure is needed to perform the family's essential tasks of supporting individuation while providing a sense of belonging" (S. Minuchin & Fishman, 1981, p. 11).

A systemic view enables us to see each family member in relation to other family members, as one affects and is affected by another family member (Becvar & Becvar, 1999). In order to understand a person he or she must be studied in relation with another family member, in the context of his/her family in which these behaviours occur as a bilateral process (Becvar & Becvar, 1999). In the structural perspective, causality becomes the interface between individuals and systems.

As in the systems approach its central property is its wholeness, which means that the operation of a single member of the system is not understood in isolation. The element of each system is connected to another element of the same system in such way, that the change in one element triggers a change in another element of the system and like this in the whole system (Whitchurch & Constantine, 1993; Von Bertalanffy, 1968). A systemic view stresses the difference through an ideological framework, which in turn makes the basis of how an individual acts. For example, the emergence of symptoms is connected to the system's property to act as a coordinated unity, a person can have a biological vulnerability towards some kind of disruption, but if the relations in the system are of the kind that such behaviour has no place in the system, it cannot be revealed. The emergence of the symptom is connected to the system's quality of wholeness. Biological vulnerability can be revealed, if the relations in the system are such, that the behaviour has a place in the system (S. Minuchin & Fishman, 1981).

It is common in the systemic view to have a principle of circular causality, in other words, how to see the relation between the cause and consequence

(Tomm, 1984). Linear thinking creates the illusion of control and desire to expand it to another situation. A circular way of viewing gives a possibility to see the situations in an interaction that allows a possibility for an important shift in perception of the world and in thinking. Formulating that "this individual shows depressiveness compared to somebody else" the situation has not been labeled and we can begin circular thinking (Tomm, 1984, p. 119). In this case systemic thinking raises a question, why in one situation a person shows this sort of behaviour and in another situation one does not?

When a child says that it is not possible to talk about concerns it means that the relationship is so distant that the child feels alone, emotionally separated from the relations that are important to him or her. In order to understand a personal experience the meanings that words have and how they shape relationships must be understood. It is also important to know that through change of the meaning the person's experience of relationships changes.

Communication patterns define the nature of relationships in a family (Becvar & Becvar, 1999). Verbal and also non-verbal communications are considered the significant elements in defining the nature of a relationship or system. Becvar and Becvar (1999) emphasised that it is important to specify the context of the relationship. For example: a statement "We are not able to talk about problems" is meaningless without context. "I'm not able to talk about my problems with my parents" gives a context of the relationship. The statement "I don't communicate" can describe dissatisfaction with how the speaker feels about the relationship, but there is communication. Becvar and Becvar (1999) pointed out that "the way in which the observers define a behaviour is associated with our observation. A context is giving meaning to the behaviour" (p.18–19).

This person is expressing depressive attitude – context is a frame in which verbal and non-verbal behaviour is given a meaning (Becvar & Becvar, 1999). Every family member has a specific meaning within the experiential context. Context allows us to derive the meaning that is given to a demeanour. It is important to concentrate on behavioural phenomena of communication, explaining the behaviour disorder. Behaviour disorder can be taken as a pattern of a specific communication pattern. Because the symptom communicates the nature of the relationship, it can be concluded, that psychopathology does not exist, there are disorders in communication patterns. The system must be understood as a whole and it is characteristic to every system.

Whitchurch and Constantine (1993) underlined that systems approaches should not be construed to mean that dysfunctional family interaction patterns are advanced as inevitably causing family problem. Thus, problems once attributed to symptomatic behaviour or disorder in an individual family member are more accurately associated with dysfunctional transactional patterns in the entire system of affected families (Whitchurch & Constantine, 1993). In the case of an adolescent who claims that he or she cannot talk about problems, this is feedback on how the family system is functioning. Furthermore, Whitchurch

and Constantine (1993) accentuated that it is important to bear in a mind that a systemic view of families is contextual, taking into account the sociocultural, historical, political, and economic matrices in which particular families are located.

3.1.3. Understanding suicidal behaviour in an adolescent's family from a systemic perspective

Minuchin (1985) emphasised that from a systemic view, a transitional point for a family member is a challenge for the entire system. As a child moves into adolescence, the parents must be ready to let go of their adolescent who is seeking more autonomy. The systemic concept gives the circle of interaction, in which "the adolescent pushes, parents yield, the adolescent becomes uneasy and escalates unacceptable behaviour, that leads to a response from parents, and so forth" (P. Minuchin, 1985, p. 294). She stresses that adolescents need boundaries, but in a broader sense and that this is a challenge for their parents.

Koopmans (1995) pointed out that suicidal behaviour in adolescence may in part reflect the resulting ambiguity in the relationship between the adolescent and his or her caretaker(s). He focused on the concepts of boundary transgression, double bind interactions, and the demarcation of kinship roles in the family. Koopmans (1995) brought out the possibility that suicidal behaviour is a double bind response to contradictions in the way in which roles and responsibilities are distributed in the family, and that as a response, suicide attempts may contain a simultaneous "appeal for help" and an assertion of independence from the family.

Koopmans (1995) indicated that an adolescent's suicidal behaviour reflects an inability on the part of the attempter to communicate effectively with significant others as a result of double bind contingencies in the social environment, as has been suggested by Gregory Bateson (Bateson, 1972/2000; Koopmans, 1995).

In his clinical work, Bateson (1972/2000) recognized ambiguous communications in schizophrenic families and proposed the "double bind" hypothesis: "(1)When the individual is involved an intense relationship of vital importance about the nature of those relations that he discriminate accurately what sort of messages is being communicated so that he may respond appropriately, (2) but the individual is caught in a situation in which the other person in the relationship is expressing two orders of messages and one of these denies other, (3) and the individual is unable to comment on the messages being expressed to correct his discrimination of what order of message to respond" (p. 208).

Previous studies describe problems in adolescent individuation to result from disturbances in family dynamics, boundary transgression, role structure, and affective expression among family members. In essence, in a systems approach,

symptomatic behaviour and family processes were viewed as being bound together in a self-regulating cycle that minimized conflict and change (Koopmans, 1995; S. Minuchin *et al.*, 1978; Rosman & Baker, 1978).

It may be concluded that suicidal behaviour of adolescents can be explained as a result of an anomie arisen in relationships of vital importance about the nature of those relations.

In the present paper, a systemic view allows us to conceptualize suicidal ideation and/or depressive feelings as disorders involving the entire family system rather than only the "symptom carrier". A child's suicidality is in relation to responses to relationship with one's immediate family context and is manifested in one's behaviour.

3.2. Research methods and data

The present study focuses on the social contextual factors related to suicidal ideations and depressive feelings among Estonian adolescents. In addition to suicidal ideation among adolescents, the present study focuses on the behavioural aspect of adolescence (risk behaviour) regarding suicidality in relation with their immediate social context (relationship in family, family structure).The study looks at social integration in terms of familial source of emotional support regarding adolescents, and on how they feel emotional support is available to them. Also, protective and risk factors for suicidal ideation and depressive feelings are discussed.

3.2.1. Instruments

In the **Study I,** Maria Kovacs' 27-item self-report questionnaire was used. This contains items regarding cognitive, emotional and behavioural aspects of depression in children. CDI quantifies a range of symptoms of depression including disturbed mood, hedonic capacity, vegetative functions, self-evaluation and interpersonal behaviour (Kovacs, 1985, 1992). In the present study a 26-item questionnaire was used to represent the original 27-items CDI (from the present study, the question concerning suicidal tendencies was excluded) (Samm *et al.*, 2008). The CDI questionnaire was pilot-tested in Estonia and the study served as baseline data before intervention of the EC project ''European Alliance Against Depression'' in collaboration with Estonian-Swedish Mental Health Institute.

Although previous research has shown that this inventory is moderately correlated with other measures of depressive disorder, the instrument is insufficient for diagnosis in a clinical population, and a primary diagnostic measure should be a structured interview to determine diagnostic status (Kovacs, 1985; Samm *et al.*, 2008). The word "depression" is used in the

present study to refer to a feeling state or mood, reflecting cognitive, behavioral and somatic complaints.

Studies II, III and IV analyze Estonian data from the 'Health Behaviour in School-aged Children' (HBSC) study, a WHO Collaborative Cross-national Study, is an international research study that aims to gain new insight into, and increase our understanding of, health behaviour, health, well-being, lifestyles and social contexts among schoolchildren (Roberts *et al.*, 2007). It has built up a longitudinal database that offers a better understanding of patterns and issues in relation to the health and well-being of adolescents aged 11, 13, and 15 years in various countries (Currie *et al.*, 2008a; Roberts et al., 2007). In **Study IV** the data of Lithuania and Luxembourg from the same HBSC study were used as a context for the research.

The self-reported mental health indicators suicidal ideation and feeling depressed were measured with a suicidality–depressiveness index created from the following categories: (1) presence of suicidal ideation, with or without depressive feelings; (2) presence of depressive feelings without suicidal ideation; and (3) without suicidal ideation or depressive feelings, a reference group referred to in our study as 'others'.

The following variables regarding adolescent's social environment, classified by gender were used:

(a) the respondents' subjective satisfaction with relationships among members of the family that the children were living with;
(b) perceived ease of talking about worries to family members (mother, father, grandmother, grandfather, sister, brother) or to best friend;
(c) family structure: birth mother and birth father in the family, lone birth parent (mother or father), and one birth parent and one step-parent (step-father of stepmother);
(d) family economic deprivation index: based on material conditions of the adolescent's family (car ownership, bedroom occupancy, holidays and home computers);
(e) sexual behaviour: sexual status and the age of first sexual intercourse
(f) risk behaviour: bullying, fighting, substance use (alcohol, tobacco).

3.2.2. Subjects and data collecting procedure

Study I was conducted among elementary school children in a city/district of Estonia (Haapsalu/Läänemaa) in 1996 and 2004 as part of a regular screening conducted by the Estonian–Swedish Mental Health and Suicidology Institute. A stratified sampling method was used (Samm et al., 2008). The schoolchildren were 7–13-year-old and were divided during the analysis into two age groups: a younger group (7–10-year-old), and an older group (11–13-year-old). The reasons for grouping were, first, that the age of 7–10-year-old is considered to be pre-puberty and 11–13-year-old to be peri-puberty. The younger age group is considered in the present dissertation as a background. The final number of

subjects was 725 (383 boys and 342 girls). The distribution of children by grades was similar to the age cohorts. The children filled in the questionnaire during a regular school lesson (Samm et al., 2008).

Studies II–IV were carried out among a random sample of Estonian schoolchildren in the context of the WHO collaborative HBSC study conducted by the National Institute for Health Development. Cross-sectional, school-based, anonymous questioning was carried out during the 2005/2006 academic year, with the standard methodology used in the HBSC study (Roberts et al., 2007). In accordance with the HBSC guidelines, a two-stage random sampling procedure was used. Data were collected by means of self-completed, standardised questionnaires in the classroom. The Estonian national data set included data on 4,477 subjects.

In **Study II,** analysis was performed only on children living in households with at least one birth parent, mother or father (n = 4,389; 2,178 boys and 2,211 girls). Schoolchildren aged 11 (n = 1,404; 683 boys and 721 girls), 13 (n = 1,434; 712 boys and 722 girls) and 15 (n = 1,544; 779 boys and 765 girls) years old were the targets for the study. Seven subjects did not indicate their age (Samm et al., 2010).

Study III analyzes data from two age groups (n = 3,055; 1,528 boys and 1,527 girls): 13-year-olds (n = 1,469, 728 boys and 741 girls) and 15-year-olds (n = 1,586, 800 boys and 786 girls). 11-year-olds were excluded because of their slightly different questionnaire, which excluded questions about sexual behaviours. Seven questionnaires did not report age. In accordance with the inclusion criteria, the age range for 13-year-olds was 12.8 to 14.5 years, and the age range for 15-year-olds was 14.8 to 16.5 years (Heidmets et al., 2010).

Study IV analyzes data from 4,954 subjects: from Estonia (n=1586; 800 boys and 786 girls), Lithuania (n=1861; 940 boys and 921 girls), and Luxembourg (n=1507; 766 boys and 731 girls). The age range for the students surveyed was 14.6 to 16.5 years, with mean age of 15.8 years for Estonia, 15.7 years for Lithuania, and 15.5 years for Luxembourg (Mark et al., 2012).

3.2.3. Data analysis

In **Study I** statistical analysis was performed with SPSS 13.0 for Windows. Differences between the mean values of continuous data for different groups were analysed with an independent sample t-test and an analysis of variance (ANOVA) and controlled with non-parametric tests (Mann–Whitney U-test and Kruskal–Wallis test). To extract factors of the CDI, principal components procedure by a Varimax rotation was used. The items which had loadings of more than 0.30 on any of the factors were accepted. Reported factors were analysed by gender and age and gender/age interaction using ANOVA. Cronbach's alpha was used to calculate the internal consistency of the whole questionnaire as well as single factors. Given the high number of tests carried out, a significance level

of 0.01 was used to compare single items. In other comparisons, a significance level of 0.05 was applied (Samm et al., 2008).

In **Studies II–IV,** data analyses were performed with SPSS 15.0. The impact of family factors on suicidal ideation and depressive feelings was evaluated using multinomial logistic regression and summarised by means of odds ratios (OR) at a 95% confidence interval (CI). The suicidality–depressiveness index (Samm et al., 2010) was used as the dependent variable, and family-related factors and family economic deprivation index (Samm et al., 2010) or risk behaviour related variables (Mark et al., 2012) were used as independent variables in logistic regression analyses.

4. FINDINGS

4.1. Gender specific symptoms of depression

Study I estimated the score of symptoms of depression with the use of the CDI among Estonian schoolchildren, according to age and gender differences, and to the components characterising self-reported childhood symptoms of depression identified. Findings of the study demonstrated that there were no statistically significant differences in the CDI mean scores of the study years (1996 and 2004), and there were no gender or age effects. Furthermore, there were no significant differences in the CDI mean scores between 7-year-olds and older schoolchildren in the present study (Samm et al., 2008).

In **Study I,** the 5-factor model was clearly interpretable as five distinct dimensions of symptoms of depression where age and gender differences appeared. This model explained 39.9% of variance (Samm et al., 2008) (Table 4, p.166). Significant gender and age differences were found in three of five factors: Factor one brought out the symptoms of anhedonia, which reflects psychosomatic complaints and absence of pleasure. Analysis indicated significant gender and age effects, but no gender and age interaction effects. Psychosomatic complaints and absence of pleasure were reported more in girls than boys, and was expressed more in the younger age group than the older (Samm et al., 2008); Factor two described ineffectiveness, including a pessimistic view of one's coping ability at school. There were significant gender and age effects, but no gender and age interaction effects. The boys had higher scores of ineffectiveness than the girls. The older children had remarkably higher scores of ineffectiveness than the younger children (Samm et al., 2008); Factor three showed negative self-esteem. There were significant gender and age effects, but no gender and age interaction effects. Lower self-esteem and feelings of being unloved were reported more in girls than boys. The older age group had lower self-esteem than the younger age group (Samm et al., 2008); Factor four, negative mood, described feelings of sadness and guilt. There were no gender, nor age effects, and no gender and age interaction effects; Factor five, interpersonal

problems, brought out lack of communication skills and loneliness. There were no gender, nor age effects, and no gender and age interaction effects (Samm et al., 2008).

The main findings in **Study I** were the gender-specific symptoms expression of depression among schoolchildren in Estonia: girls reported more symptoms of anhedonia and negative self-esteem, and boys reported more symptoms of ineffectiveness.

4.2. Sucidal ideation and depressive feelings among Estonian adolescents

Findings of **Study II** show the prevalence of suicidal ideation and depressive feelings among 11-, 13- and 15-year-old adolescents in relation with family contextual factors. Among the adolescents who reported living at least with their mother or father, suicidal ideation was more prevalent in 11-year-olds (23.8%) compared to 13-and 15-year-olds (11.4 and 13.5%, respectively). The prevalence of depressive feelings rose with age for both boys and girls ranging between 15.8 and 29.0% (Samm et al., 2010).

For validation of one-item questions about suicidal ideation and depressive feelings in the present study, the logistic regression method was used to compare items of suicidal ideation and depressive feelings with items of subjective health complaints (head ache, stomach ache, back ache, feeling low, irritability, nervousness, sleep difficulties, dizziness) (Samm et al., 2010). Recurrent subjective health complaints were significantly associated with higher likelihood of suicidal ideation and depressive feelings. The odds were statistically significant ($p<0.001$) for all health complaints in all age groups, except backache at age 11 years ($p<0.05$) (Samm et al., 2010).

Study II revealed that adolescents who reported suicidal ideation and depressive feelings had increased risk of subjective health complains when compared to adolescents who did not reported suicidal ideation and depressive feelings. Presence of suicidal ideation represents significant deficiency in emotional and physical well-being among Estonian adolescents.

Results of **Study II** confirm that a separate treatment of the topic is needed, in terms of what a child thinks, to confirm the presence of suicidal ideation. Meaning of this expression is obviously strongly variable (needs to be clarified from which) and does not necessarily mean that one sixth of the population of school children in Estonia between the age of 11 and 15 years plan to end their life. But there is certainly a very high emotional or physical distress among these children, which is the reason for raising this indicator (suicidal ideation) to special priority in the present analysis.

The main findings of **Study II** shows that the gender differences emerged for depressive feelings at ages 13 and 15 years, and for suicidal ideation at age 15 years. Girls aged 13 and 15 years had a higher risk of depressive feelings

than boys of the same age, and 15-year-old girls had higher risk of suicidal ideation when compared to 15-year-old boys.

4.3. Suicidal ideation and depressive feelings in relation with family contextual factors

Study II indicated that suicidal ideation and depressiveness were less frequent among adolescents who were more satisfied with their family relationships. Among the boys, those who were more satisfied with their family relationships had a lower risk of suicidal ideation and depressive feelings in all age groups: odds ratios for unit increase on a ten-point scale within the limits 0.7 –0.9. And similarly, those girls who were more satisfied with their family relationships had a lower risk of suicidal ideation in all age groups and depressive feelings at ages 13 and of 15 years (OR within the limits 0.7–0.9).

Of all subjects, 97.3% of Estonian adolescents lived with their birth mothers and 68.5% with their birth fathers, and 65.9% of adolescents lived with both birth parents, 18.7 % lived in lone birth parent and 15.5% lived with one birth parent and a step-parent (Samm et al., 2010). In Estonia, the proportion of families with both birth parents is decreasing, while the number of families with single parents and step-parents is rising (Currie et al., 2008a).

In order to analyze the characteristics of the family structure variables in relation to suicidal ideation and depressive feelings, and gender, multinomial regression analysis (**Study II**) was used. A variable characterising economic deprivation in the family was included in the regression analysis to statistically control it (Samm et al., 2010). Adolescents' material conditions in the households in which young people live were measured in the HBSC study by Family Affluence Scale (FAS). FAS is a validated alternative evaluation of self-reported socio-economic status of adolescents for measuring family affluence and economic deprivation (Currie et al., 2008a; Currie *et al.*, 2008b; Richter *et al.*, 2009). Preliminary analysis of the present study indicated that boys living in materially more deprived families were more likely to have suicidal ideation at the age of 11 years, and girls living in materially more deprived families were associated with an increased risk of suicidal ideation at ages 11 and 15 years (Samm et al., 2010).

In the model, economic deprivation of an adolescent's family was associated with an increased risk of suicidal ideation only at age 15 years. Furthermore, adolescents who reported easy communication with the mother were less likely to have suicidal ideation in all age groups and depressive feelings at ages 11 and 13 years, compared to adolescents who had poor communications with their mother. Adolescents aged 11 and 15 years who reported poor communication with their birth mother had an increased risk of suicidal ideation, when compared to those adolescents who did not have a mother in the family. Good

communication with the father was negatively associated with a higher risk of depressive feelings and of suicidal ideation in all age groups. The presence of a step-parent in the family was associated with an increased risk of suicidal ideation at ages 11 and 13 years, in comparison to those living with both of their birth parents (Samm et al., 2010).

4.4. Suicidal ideation in relation to risk behaviour among adolescents

The findings of **Study III** focused on the adolescent's sexual behaviours, in particular sexual status and age of first sexual intercourse, in association with suicidal ideation and depressive feelings (Heidmets et al., 2010). Results of this study show that about 5% of 13-year-olds and a quarter of 15-years-olds schoolchildren reported having had sexual intercourse (Heidmets et al., 2010). Gender difference was significant only among 13-year-olds; more boys reported having lost their virginity than girls. The association between sexual status and suicidal ideation showed that 18% of the 13-year-olds male nonvirgins and 48% of the 13-year old female nonvirgins reported having suicidal ideation (Heidmets et al., 2010).

In **Study III**, main findings of multinomial regression analyses indicated that, among 15-years-olds adolescents in relation to age of first sexual intercourse, the risk for suicidal ideation was higher the younger sexual intercourse was first experienced, compared to 15-year-old virgins (Heidmets et al., 2010). Furthermore, the younger a student reported having lost their virginity, the more frequently, and from a younger age they reported substance use, aggressiveness, poorer self-assessed health, and suicidal ideation. Results of the study show a greater frequency of risk behaviours within peer groups (Heidmets et al., 2010).

Study IV brought together self reported mental health status (presence of suicidal ideation) in association with selected risk factors: smoking, alcohol consumption, physical fighting, bullying, the presence of multiple risks, and communication possibilities with parents among 15-year olds adolescents from Estonia, Lithuania and Luxembourg (Mark et al., 2012).

In total the prevalence of self reported suicidal ideations during the previous 12 months among the studied 15-year-old adolescents was 16.7%; significant difference between the countries were found. The proportion of suicidal ideation among Estonian adolescents was 13.9 %, while it was 18.3% and 17.9% in Lithuania and Luxembourg respectively.

In total, 37.2% of adolescents reported no risks experienced. Presence of at least one risk factor was reported by 28.2% of adolescents. Furthermore, 35.3% of adolescents reported presence of at least two concurrent risk factors, and 5.3% of students reported presence of four to five concurrent risk factors. In general, boys reported more concurrent risk behaviours than girls (Mark et al., 2012).

Study IV revealed that adolescents who were partaking risk behaviours, such as smoking, drinking alcohol, physical fighting and bullying, were more likely to have reported suicidal ideation than adolescents who do not report these risk factors (Mark et al., 2012). Coexistence of one or more aforementioned risk behaviours was associated with increased risk for suicidal ideation, when compared to those adolescents who had not experienced any of the risks.

In the final multivariate model the effect of family communication was calculated by multinomial logistic regression. Suicidal ideation was the dependent variable and multiple risks, the ease of talking about worries to the mother and the father, and gender were independent variables. Girls aged 15 years had a higher risk for suicidal ideation than boys of the same age across the studied countries. Adolescents, who reported one or more concurrent risks, had an increased likelihood of suicidal ideation. Adolescents who reported difficult communications with the mother or father had an increased likelihood of suicidal ideation. Not having or seeing the father, in comparison with good communication with the father, was associated with an increased likelihood of suicidal ideation (Mark et al., 2012). Furthermore, the aforementioned associations between family-communication variables and suicidal ideation remained significant even after adjusting for communication with the best friend (Samm *et al.*, 2012).

The main conclusion drawn from **Study IV** is that subjective perception of connectedness in the family reduces significantly the risk of suicidal ideation and risk behaviour in adolescents. Perception of social integration in terms of ease communication with caregivers, especially with the mother or father, seems to be a universal protective factor associated with a decreased risk of suicidal ideation among adolescents in all studied countries.

5. DISCUSSION

5.1. Girls are more prone to suicidal ideation than boys

About 40% of Estonian adolescents aged 11–15-years reported suicidal ideation and/or depressive feelings (Samm et al., 2010). Although this is not a clinical diagnosis but a self-reported evaluation, the finding of **Study II** suggests that a surprisingly high proportion of adolescents in Estonia lack psychological well-being in their everyday life (Samm et al., 2010).

The prevalence of suicidal ideation and depressive feelings varied among the age groups. **Study II** reveals that the proportion of respondents experiencing depressive feelings rose with age for both boys and girls. In contrast, the highest proportion of respondents reporting suicidal ideation, almost a quarter of the adolescents, was found among the 11-year-olds, while the proportions of 13- and 15-year-olds with suicidal ideation were considerably lower (Samm et al., 2010). However, the reason for the high rate of suicidal ideation in the youngest group is probably a technical issue, rather than being 'meaningful', since the questions for the assessment of this group's suicidal ideation were worded differently (Samm et al., 2010). The 11-year-olds were asked whether they had any serious ideation that "it might be better if they were not alive any more", while the 13- and 15-year-olds were asked directly "whether they had ever had any serious thought about killing themselves". The wording of the question the 11-year-olds were asked may reflect aspects of their relationships, rather than a suicidal process (Samm et al., 2010).

Our research indicated that adolescents with suicidal ideation and depressive feelings had higher likelihood of general aches and pains: headaches, stomach or back aches (Samm et al., 2010). A previous study shows that adolescents who reported experiencing somatic symptoms also reported significantly higher proportions of depressive symptoms than other adolescents (Saluja *et al.*, 2004). It can be caused by limited ability to communicate negative emotions and ideation with language and a consequent tendency toward somatisation, and it is more common in younger ages. As stated in previous studies, younger children may not be able to describe their internal mood stage and may express their distress through somatic symptoms or pain (Bhatia & Bhatia, 2007).

The present study revealed that gender differences for depressive feelings started to emerge from the age of 13 years and for suicidal ideation from 15 years among Estonian adolescents, with girls having higher risk in both (Samm et al., 2010). This pattern of gender divergence may have both biological and sociological explanations. Biologically, the younger children did not develop to the stage where mental health risk factors were differentiated; sociologically, the social and family status of the younger age group was not gender-specific (Samm et al., 2010). Additionally, the higher rate of depression in girls compared with boys after onset of puberty may be caused by different coping styles

or hormonal changes during puberty (Zalsman et al., 2006). **Study II** reveals that almost half of the 15-year-old girls reported suicidal ideation and/or depressive feelings. This was a significantly higher proportion than among the boys (Samm et al., 2010).

The period of emergence of increased risk for depression in adolescent girls appears to be a relatively sharply demarcated developmental transition occurring in mid-puberty (Angold et al., 1998). Angold et al (1998) in their study reported that effects of the timing of puberty (which have tended to be transient) appeared less important in the increase of risk for depression than pubertal status (Angold et al., 1998). Among boys, however, the transition to puberty has been found to be associated with a significant reduction in the rate of depression (Angold et al., 1998). It is important to stress, that even symptoms of depression are more prevalent among girls, in most countries, including Estonia, suicide rates are higher among boys than girls (Wasserman et al., 2005; A. Värnik *et al.*, 2009).

Furthermore, in **Study I**, the multifactorial construct of depression was evaluated in which individual differences by age and gender appeared (Samm et al., 2008). In accordance with previous studies, girls in Estonia reported more symptoms of anhedonia and negative self-esteem, and boys reported more symptoms of ineffectiveness (Aluja & Blanch, 2002; Samm et al., 2008). Psychosomatic complaints and absence of pleasure were more expressed in younger children than older children, and older children were reported remarkably higher pessimistic view of one's coping ability at school, lower self-esteem and feelings of being unloved (Samm et al., 2008).

Results of **Study I** supports the interpretation revealing in previous studies that girls tend to ''internalise'' depression at an earlier age than boys, and that they tend to manifest internally focused characteristics, e.g. sadness, negative body-image, somatic preoccupation, more often (Samm et al., 2008). Boys tend to manifest more behavioural components of depressive moods, and that estimation of incompetence is an important predictor of depression among boys in Estonia (Samm et al., 2008).

Proneness toward depression in girls in the face of adolescent challenge can be explained by differential socialization patterns (Sroufe & Rutter, 1984). Sroufe and Rutter (1984) highlight the importance of differential socialization in boys and girls and stress that depressive patterns of symptom expression can be congruent with their socialization history. Girls in our culture are socialized toward compliance, inhibition, passivity, and reliance on others (Sroufe & Rutter, 1984). Depression in boys is shown by conduct-disturbance problems, which confirms the explanation that boys are shaped toward externalizing symptomatology and away from expression of tender feelings (Sroufe & Rutter, 1984). Furthermore, traditional masculinity has been described as a risk factor in male vulnerability while in contrast, female identity allows females to express their feelings more easily and is described as a protective factor (Möller-Leimkühler, 2003).

Research on gender stereotypes and their cultural evaluation suggests that although gender-roles have changed in postindustrial Western societies, the content of gender stereotypes has remained stable over the years; however, they are differently evaluated by men and women: male-associated attributes, which were positively valued two decades ago, are now consistently less valued compared to female-associated attributes, which in turn are judged to be more socially desirable (Möller-Leimkühler, 2003).

Möller-Leimkühler (2003) brings out that nowadays the confusion from gender role expectations becomes particularly high for boys especially in their teens, when they start to perceive the conflict between traditional expectations from gender roles and the demands of post-modern individualistic society. Frequently the experience of the traditional male gender role in the boy's social environment, e.g. the negative feedback received from the teachers at school, grows confusion in youth and raises tension, to which the solution may be risk behaviour, consumption of substances, or, in order to get rid of tension and bad feeling, a suicidal path is chosen (Möller-Leimkühler, 2003). Teenage boys that start to define themselves as adults may be in great trouble if they do not find alternatives to the traditional, but fragmented sense of masculinity, causing severe emotional distress, which is a response to the stereotypical behaviour to feel more in control (Möller-Leimkühler, 2003).

Research from previous studies shows that because of gender role expectations for girls, they are more likely to allow themselves to be mutually dependent, being more socially connected, and therefore the post-modern individualism has a less isolative effect on them (Möller-Leimkühler, 2003). This explanation does not exclude the effects of genetic predisposition, but tries to bring out the role of social constructs on the perception and expression of the typical symptoms of depression and suicidality and obtaining possible link in anomic growth context in adolescents. Meeting unfavourable life stress the individual's perception is affected by social constructs and the individual may be inclined to choose a suicidal path to solve the situation (Möller-Leimkühler, 2003).

Gender-specific social constructs that may create in adolescent boys a sense of low social connectedness supports Durkheim's theory that suicidality is associated with a low sense of social integration.

5.2. Risk behaviour – a precondition and consequence of suicidal ideation

Study III and IV included questions on health-related behaviours considered to place the adolescent at risk of a range of negative outcomes (Currie *et al*., 2008a; Heidmets *et al*., 2010; Mark *et al.*, 2012). A relevant aspect of adolescent suicidality is the relationship of suicidal ideation with other risk factors. These risk behaviours include early sexual behaviour, substance use, bullying

and fighting. Adolescents can often be at particular disadvantage not only in terms of recognising their own problems and needs but also in not being able to communicate these problems and needs to others, with the result that many young people express despair through risk behaviour, and not in words, and may end up isolated (Hawton *et al.*, 2006).

Studies have described a remarkable discrepancy between help-seeking in males and need for help and also high rate of untreated depressive disorders among males (Möller-Leimkühler, 2003). This has been seen as a central point where biological, individual and social factors are catalysed, contributing to a non-perception, undervaluation and denial of symptoms as barriers to help-seeking (Möller-Leimkühler, 2003). Socially constructed male's response to depressiveness is described as inconsistent with the masculine stereotype. These are considered to be typical female symptoms and men are not supposed to suffer from them (Möller-Leimkühler, 2003). Therefore, to hide their depression, men rely on norm-congruent behaviour like aggressiveness, acting out, low impulse control and alcohol abuse as gender-related responses (Möller-Leimkühler, 2003).

Study III examines associations with depressive feelings and suicidal ideation in relation with sexual behaviour of adolescents (Heidmets et al., 2010). Among the studied 15-year-old girls in relation to age of first sexual intercourse compared to virgins, the odds for suicidal ideation was higher the earlier a sexual intercourse was first experienced (Heidmets et al., 2010). The odds for girls who lost their virginity at the age of 13 years or younger to have had suicidal ideation was 8 times higher, and for boys who lost their virginity at the same age, the odds were 4 times higher. The odds for girls who lost their virginity at the age of 14 years to have had suicidal ideation was 3 times higher, and respectively for 15-year-olds girls twice higher. However, research did not reveal a significant difference between boys who had their sexual debut at the age of 14 years or older when compared to male virgins, regarding suicidal ideation.

Results supporting problem behaviour theory indicate that risky sexual behaviours are only one aspect of general risk taking behaviour (Jessor *et al.*, 1983). Furthermore, the younger adolescents reported having lost their virginity, the more frequently and from a younger age they reported substance use, aggressiveness, poorer self-assessed health, and suicidal ideation (Heidmets et al., 2010). Empirical findings have suggested that adolescents' affiliation with friends who engaged in risk behaviour is a strong predictor of adolescents' own health-risk behaviour (Prinstein et al., 2001). The present study provides support for the hypothesis of previous studies that adolescent suicidal ideation and risk behavior are related to the risk behavior of their friends (Heidmets et al., 2010; Mark et al., 2012; Prinstein et al., 2001).

Previous analyses among Estonian adolescents revealed that the probability of early sexual intercourse rose with having a steady partner, being in a sexually offensive situation conjointly personality characteristics (Ainsaar, 2009). Cohen

(1988) indicated that a socially integrated person is subject to social controls and also peer pressures that influence normative health behaviour (e.g., not smoking, moderating alcohol intake), and social integration would promote better health. Otherwise, to the extent that normative behaviours within a social network promote behaviours that are deleterious to health, social integration would result in poorer health and well-being (Cohen, 1988).

Findings of the present study confirm that suicidal ideation was more common among adolescents participating in risk behaviours such as smoking, drinking alcohol, physical fighting and bullying (Mark et al., 2012). **Study IV** revealed that adolescents who said their communication with their mother and/or father was difficult had an increased likelihood of suicidal ideations. The risk of suicidal ideation was higher the more intense the reported risk behaviour was. Presence of one of the aforementioned risk behaviours increased the odds for suicidal ideations two times, and presence of 4–5 concurrent risk behaviours increased the probability of suicidal ideation eight times (Mark et al., 2012). Regarding the gender, the girls were more likely to have suicidal ideation if they were partaking in risk behaviours (Mark et al., 2012).

Möller-Leimkühler (2003) accentuates that anger, aggressiveness, control and risk-taking are traditionally socially accepted as male codes of expression – while girls, rather, are expected to be sedate, caring, and to express their feelings – society is far more accepting of risk behaviours among boys (Möller-Leimkühler, 2003). Mark et al (2012) argue that girls participating in risky behaviours are likely to be more concerned and disturbed about their perceived impermissible behaviour(s) and they might feel more ashamed, as they know that their behaviour is condemned by many others.

Furthermore, existence of multiple risks is a strong risk factor for suicidal ideation, but the aforementioned associations between family-communication variables and suicidal ideation remained significant even after adjusting for communication with best friends (Samm et al., 2012). Good parent-child communication is a significant resource for decreasing suicidal ideation among 15-year-olds adolescents.

5.3. Social integration in the family protects against suicidal ideation

Study II revealed that adolescents who perceive that they do not have a possibility to talk about their worries to their caregivers are more likely to have suicidal ideation and depressive feelings than adolescents who have a possibility to talk about their worries in their immediate family environment. Ease of communication with parents is considered to be an indicator of both social support from parents and family connectedness, and is estimated as an important source of support throughout the adolescent period (Currie et al., 2008a).

Results of **Study II** show that perceived satisfaction with relationships in the family markedly reduced the likelihood of reporting suicidal ideation and depressive feelings (Samm et al., 2010). The quality of the adolescent's family relationships, as part of their psychosocial environment, has an impact not only on their current mental health status, but also on their prospects of developing mental health problems, such as major depression, in later life (Reinherz *et al.*, 1993). However, there have also been research findings showing that depressed children perceive their family environment to be relatively more distressed (Kaslow *et al.*, 1984).

The results of **Study II** highlight the importance of close and trusting parent-adolescent relationships. Good communication with the mother or father reduces the risk of suicidal ideation in both genders and in all age groups (Samm et al., 2010). Evidently, if adolescents can talk about their worries with their parents, they are less likely to report both suicidal ideation and depressive feelings. Furthermore, **Study II** revealed that adolescents who had difficulties in communicating with their mother had a higher probability for suicidal ideation than those who did not meet or see their mother (Samm et al., 2010).

Study II revealed gender-related patterns in terms of reported ease in communication with parents. In line with previous studies, adolescent boys are more likely to report that they find it easy to talk to their parents, especially their fathers, about things that really bother them (Currie et al., 2008a; Samm et al., 2010).

Further to the adolescents's social context, **Study II** found relationships with the adolescent's material context. Economic deprivation in the family may contribute to an increased risk for suicidal ideation at the age of 15 years. Ease of communication with the mother or father is independently associated with decreased risk of suicidal ideation, and living with a stepparent independently is associated with increased risk for suicidal ideation, even after adjusting for the presence of economic deprivation variables (Samm et al., 2010).

In a previous study, depressive symptoms in the Estonian population aged 15–79 were strongly related to socioeconomic functioning (Aluoja *et al.*, 2004); in the present study, susceptibility to economic deprivation in relation with suicidal ideation emerged among girls at age 15 (Samm et al., 2010). Adolescent girls living in materially more deprived families were associated with an increased risk of suicidal ideation (Samm et al., 2010). Even though research affirms that material resource alone is not sufficient for healthy child development, there is evidence that parents under economic stress are less able than other parents to provide adequate levels of support and control (Elder, 1974/1999; Thomson *et al.*, 1994). Economic resources were found to be predominant explanation of adolescents of mother only households, since single mothers can have much lower incomes than married couples (Thomson et al., 1994).

One tendency that emerged in **Study II** was that living in a single-parent family did not increase the likelihood of boys having suicidal ideation or

depressive feelings (Samm et al., 2010). The same applied to girls aged 11 and 13 years (Samm et al., 2010). The only significant association was found in 15-year-old girls, who had a higher probability of experiencing suicidal ideation if they had only one parent in the family. One possible explanation may be related to a feature of a suicidal adolescent's family system, that of a symbiotic parent–adolescent relationship: because of particularly intense and rigid interaction with (usually) the mother, the adolescent may not be able to develop autonomous functioning successfully (Pfeffer, 1981).

Study II revealed that having a step-parent in the family, compared to living with both birth parents, meant an elevated risk for suicidal ideation at ages 11 and 13 years (Samm et al., 2010). The association between having a step-parent in the family and the adolescent's depressive feelings was less clear. Unfortunately, the current study does not provide any information about the timing of the step-parent's entry into the family. However, one possible explanation for the increased risk of adolescent's suicidal ideation may be that parental attention must now be divided between the child and another family member, the new partner, who may be perceived by the child as an invader. Dilution and deterioration of parental resources in the family are not conducive to children's good mental health and may be important in explaining the effects on the children's emotional and behavioural outcomes (Mann et al., 1999). However, good communication quality between the adolescent and the step-parent reduced the depressive feelings in 15-year-old girls with their stepmother and in 13-yearold boys with their stepfather (Samm et al., 2010).

Furthermore, **Study II** evaluated the extended family as one possible protective factor against suicidal ideation and brought out grandparents as significant others, especially in early adolescence (Samm et al., 2010). Grandparents had less influence on depressive feelings (Samm et al., 2010). Apparently, there are benefits in cross-generational family relationships. Previous study has singled out grandparents as a special resource for adolescents in stepfamilies (Kennedy & Kennedy, 1993).

Family resources are often seen in terms of relationships with adults, but siblings' structure, with the emphasis on the impact of group configuration on social interaction, is another family resource. **Study II** brought out the possible influence of good communication with an elder sister or elder brother on the child's mental health (Samm et al., 2010). In line with previous findings, the importance of group configuration for siblings' social interaction and of protection against the onset of depression were supported (Samm et al., 2010).

To identifying the people with whom adolescents feel able to talk provides valuable information on which people are the potential protective resource of adolescents with problems (Hawton et al., 2006). It may also pinpoint potential sources of help for adolescents that currently have no advantage in terms of social integration. Social integration has been conceptualized as having multiple identities or ties to network members with different roles. Adolescent can be a child to his mother or father, or a grandchild to his grandparents, or in the role

of siblings or a friend. Cohen (1988) stresses that having a wide range of network ties can provide multiple sources of information and hence increase the probability of having access to an appropriate information source that could influence health-relevant behaviours or help one to avoid stressful or high-risk situations(Cohen, 1988). Therefore, integration in a social network can also operate to the detriment of health, in the example of influencing youth to adopt behaviours inimical to health (Cohen, 1988). Previous studies demonstrated that adolescent' health risk behaviours and suicidal behaviour were related to health risk behaviour to their friends (Brent & Melhem, 2008; Heidmets et al., 2010; Prinstein et al., 2001).

5.4. Psyche is social: the family communication and support is the key

Study IV supports the idea of the stress buffering model, and suggests that good communication with family members moderates the relationship between stressful life events and risk behaviours (Mark et al., 2012). According to the stress-buffering model, support is a buffer for persons from potentially pathogenic influence of stressful events (Cohen, 1988; Mann et al., 1999). Results in previous studies suggest that families who are more cohesive, who communicate support to their members better and whose systems are more flexible are better able to adapt to the pile-up of stressors and strains (Cohen & Wills, 1985; Lavee *et al.*, 1985).

Several theoretical perspectives suggest that social support increase feelings of self-esteem, of self identity, control over one's environment, and provide a source of generalized positive affects, a sense of predictability and stability in one's life (Cohen, 1988). Alternatively, a sense of isolation increases negative affect, sense of alienation, decreases sense of control and engenders the view that isolation is a stressor (Cohen, 1988), and has been described as strong risk factor for suicide.

Using a systems perspective, the behaviour of family members is viewed as intertwined. Thus, individual behaviour, such as adolescent substance use, is best understood in the family context (Anderson & Henry, 1994). Results of a previous study indicated that family bonding, parent-adolescent communication and parental support were negatively related to adolescent risk behaviour (Anderson & Henry, 1994). The meaning of suicidal thoughts have been described as a "cry for help" in a hopeless situation (Wasserman, 2001), and the final result depends on protective and risk factors.

In the present study, the manner of how the question is presented – "does an adolescent feel that he or she is able to talk about problems to his or her parents" – comes from the circular principle. The response to this question gives information about the child's subjective perception about the potential for emotional support, the cognition about the presence of buffer in life stress situations.

What is important is the social support and its apprehensibility and whether a person believes that he or she has social support when necessary. Subjective perception of availability of support is an important protective factor. The thought itself helps to cope better with the situation, to adjust with the stressful situation. To cope is to function better; it is a precondition of survival. Social support is an important buffer for handling distress, acting as an important intermediary between stressful life events and maintaining mental health.

Adolescents who had the possibility to communicate with their parents about their problems participated less frequently in risk behaviour. It may be explained by the communicative meaning of risk behaviour – in a situation, where verbal communication with others is not possible, risk behaviour may be expressed in the form of non-verbal communication. Social support plays an important buffering role. Good relations with parents are an important buffer between stressful life events and risk behaviour in promoting mental health of young persons. Furthermore, trustworthy relations with parents have an important buffer role between risk behaviour and appearance of suicidal ideation.

The findings of the present study are consistent with Durkheim's theory about the importance of social integration in prevention of suicidality which may lead to suicide. Hence, what Durkheim (1897/2010) stated more than hundred years ago is still valid today: "since the people who kill themselves annually do not form a natural group, and are not in communication with one another, the stable number of suicide can only be due to influence of a common cause which dominates and survives the individual persons involved" (p.278). As social changes are taking place in society, economic uncertainty may influence adolescents in some respects more than other age groups, the basic needs of human seem to be stable: to be in trustful and meaningful emotional relationships with family members and socially connected is an essential need for healthy growth in adolescents.

6. CONCLUSION

The present thesis focused on suicidal ideation as a social phenomenon. The aim of the study was to examine schoolchildren's suicidal ideation and depressive feelings in relation to their subjective estimation of satisfaction with relationships in the family among 11–15-year-old adolescents in Estonia. Risk and protective factors for suicidal ideation and depressive feelings were considered.

A study on the impact of family contextual factors to suicidal ideation can help to shed light on the etiology of suicidal ideation The results of the present study suggest the importance of availability of social support to ensure emotional wellbeing of adolescents. The results of this study point to the value of family communication and subjective perception of social integration in buffering against risk of suicidal ideation and depressive feelings.

In **Study I**, the multifactorial construct of depressive symptoms was evaluated in which significant age and gender differences were found: girls reported more symptoms of anhedonia and negative self-esteem, and boys reported more symptoms of ineffectiveness. Psychosomatic complaints and absence of pleasure were more expressed in younger children than older children, and older children reported remarkably higher pessimistic view of their coping ability at school, lower self-esteem and feelings of being unloved.

According to **Study II**, adolescents who were more satisfied with their family relationships had less suicidal ideation and depressive feelings. The current research shows that adolescents who have a possibility to talk about their problems with their parents had a lower risk of suicidal ideation and depressive feelings compared to those adolescents who do not possess such a possibility. The ease of talking about their worries with parents has a protective effect, but grandparents and siblings may also be considered a valuable protective resource. Family structure can have an important role and adolescents who live with both birth parents have fewer depressive feelings and suicidal ideation. Adolescents who live with a stepparent have more suicidal ideation than those in single-parent families. Family economic deprivation is a risk factor for suicidal ideation, but the aforementioned associations between family-related variables and suicidal ideation remained significant even after adjusting for family economic deprivation.

Study III showed that sexual intercourse among 13–15-year-olds is associated with suicidal ideation and depressive feelings. In the present study, compared to virgins, non-virgin adolescents were more likely to have had suicidal ideation and depressive feelings. Among the studied 15-year-old adolescents in relation to age of first sexual intercourse compared to virgins, the risk for suicidal ideation was higher the younger sexual intercourse was first experienced. Additionally, the younger a student lost virginity, the more serious the other risk-taking behaviours they engaged in. Results supporting problem behaviour theory indicate that risky sexual behaviours are only one aspect of general risk taking behaviour. Furthermore, the younger a student reported

having lost their virginity, the more frequently, and from a younger age they reported substance use, aggressiveness, poorer self-assessed health, and suicidal ideation. Empirical findings have suggested that adolescents' affiliation with friends who engaged in risk behaviour is a strong predictor of adolescents' own health-risk behaviour. The study supported the hypothesis that adolescent suicidal ideation and risk behaviour is related to the risk behaviour of their friends.

Study IV demonstrated that the prevalence of suicidal ideation was relatively high among 15-year-olds Estonian schoolchildren. All of the risk factors studied, alcohol consumption, smoking, physical fighting, bullying, being bullied, and difficulties in parent-child communication, were associated with an increased likelihood of suicidal ideation. From the gender perspective, boys reported more concurrent risk behaviours than girls. Girls were more likely to report suicidal ideation compared to boys, if participation in risk behaviour was counted. Furthermore, the likelihood of suicidal ideation was the highest when multiple risks were reported. Subjective perception of social integration in terms of ease communication with caregivers appears to be a universal protective factor associated with a decreased risk for both suicidal ideation and multiple risks among adolescents.

The importance of present research is in bringing a better understanding in the recognition of trustworthy relationships in adolescents' immediate family as protective factors for adolescents against suicidal ideation and depressive feelings. The results of the present study should assist health and social service providers, social workers, educators, and others to diminish risk factors and enhance protective factors for adolescents. Familial resources should be addressed as protective factors when implementing mental health promotion and suicide prevention programs for adolescents.

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SUMMARY IN ESTONIAN

Suitsiidimõtete levimus Eesti kooliõpilastel ning seosed peresuhetega

Suitsidaalsust võib vaadelda kui seda soodustavate ja esile kutsuvate bioloogiliste, arengut puudutavate, sotsiaalsete ning psühholoogiliste muutujate kompleksset fenomeni (Bursztein & Apter, 2009). Uurimused on välja toonud laste ja noorte depressiooni kui olulise suitsiidiriski faktori. Suitsidaalsus ja depressioon on rahvatervise probleem, mis halvendab indiviidi toimetulekuvõimet ja elukvaliteeti ning võib isegi elu ohtu seada, mistõttu on see nii indiviidi kui ühiskonna seisukohalt oluline teema.

Uurimused toovad välja, et lastel ja noorukitel, kes ei ole rahul oma lähimast keskkonnast tuleva emotsionaalse toetusega, esineb enam depressioonile viitavat sümptomaatikat ning perekondliku toetuse puudumine on osutunud riskiteguriks suitsidaalsuse osas, mille üheks näitajaks võib olla riskikäitumine (Pfeffer, 1981; Mark et al., 2012; Samm et al., 2010). Sotsiaalsel kontekstil on mõju nooruki heaolule, sealhulgas vaimsele ja füüsilisele tervisele. Nooruki suitsidaalsel käitumisel on leitud seoseid pereliikmete vahelise interaktsiooniga. Nooruki vaimne tervis sõltub keskkonnast, kus ta elab, sealhulgas perekonnast. Perekeskkonna oluliseks indikaatoriks on omavahelised suhted. Perekond kui sotsiaalne kooslus rajaneb otseselt vastastikustes suhetes olevatel isikutel. Durkheim (1897/2010), kes on kaasaegse sotsioloogilise teooria ja suitsidoloogiaalaste uurimuste rajaja, on toonud välja indiviidi sotsiaalse integratsiooni kui olulise suitsidaalsusega negatiivselt seotud faktori, mille ta kontseptualiseeris kui vastandi anoomiale ja isoleeritusele.

Varasemad uurimused toovad Eesti välja kui kõrge suitsiidiriskiga maa, seda nii täiskasvanute kui ka noorte suitsiidide osas (Wasserman et al., 2005; Värnik, 2012). Eesti statistika andmebaasist nähtub, et alates 15-ndast eluaastast tõuseb järsult suitsiidide arv noorte seas ning poisid osutuvad ohustatumaks võrreldes tüdrukutega (http:/pub.stat.ee). Eesti puhul ilmneb, et perekondades, mis peaksid tagama lapsele stabiilse kasvukeskkonna, esineb palju ebastabiilsust – lahutusi ning vanemate lahku elamaasumisi, mille tõttu liiguvad lapsed ühest perestruktuurist teise juba enne 18-aastaseks saamist, elades koos võõrasvanemaga või üksikvanema perekonnas, mis omakorda on seotud vaesusriskiga (Kutsar et al., 2012).

Kui varasemate sotsioloogiaalaste suitsidaalse käitumise uurimuste rõhuasetus on olnud lõpule viidud suitsiididel, siis antud dissertatsioonis on võetud uurimise alla suitsiidimõtete levimus Eesti kooliõpilaste seas ning seosed peresuhetega. Dissertatsioonis on uuritud depressioonile viitava sümptomaatika kui olulise suitsiidiriskiga seotud faktori levimust Eesti kooliõpilastel.

Väitekirjaga seotud uurimuste eesmärgiks on:

1. kirjeldada suitsidaalsusele ja depressioonile viitavate sümptomite levimust Eesti 11–15-aastaste kooliõpilaste hulgas;

2. tuua välja seosed depressiivsuse ja suitsiidimõtete esinemise ja pere suhtekonteksti vahel Eesti kooliõpilastel;
3. selgitada välja perekonna suhtekontekstiga seotud tunnused, mis ennustavad depressiivsuse ning suitsiidimõtete esinemist kooliõpilastel (Eesti, Leedu ja Luksemburgi valimite näitel).

Väitekiri põhineb neljal empiirilisel uurimusel, mis on avaldatud artiklitena rahvusvahelise levikuga eelretsenseeritavates ajakirjades. Nende põhjal koostatud ülevaateartikkel sisaldab teoreetilist raamistikku, uurimuse tutvustust ja tulemusteülest arutelu. Teoreetiline raamistik tutvustab sotsiaalseid ja interpersonaalseid konstrukte suitsiiditeooriates ning välja on toodud sümptomaatilise käitumise seletus süsteemiteooria baasil. Empiiriline materjal väitekirja jaoks on kogutud Eesti-Rootsi Vaimse Tervise ja Suitsidoloogia Instituudi poolt projekti EAAD (*European Alliance Against Depression*) raames 1996. ja 2004. aastal (**uurimus I**) ning Tervise Arengu Instituudi poolt WHO projekti HBSC (*Health Behaviour in Schoolaged Children; Estonian study 2005/2006*) raames (**uurimused II–IV**). Väitekirja uurimustes on rakendatud kvantitatiivset lähenemisviisi ning rahvusvaheliselt tunnustatud andmeanalüüsi meetodeid (faktoranalüüs, logistiline regressioonanalüüs).

Väitekirjaga seotud **I uurimus** toob välja depressioonile viitavate sümptomite levimuse Eesti kooliõpilaste hulgas ning uurib laste depressioonile iseloomuliku sümptomaatika mitmefaktorilist struktuuri. Antud uurimuses on vaatluse alla võetud 7–13-aastased Lääne-Eesti kooliõpilased (n= 729, 386 poissi ja 343 tüdrukut). Laste depressioonile viitavate sümptomite esinemist on uuritud rahvusvaheliselt tunnustatud diagnostilise küsimustiku abil, milleks on lapse enesekohasel hinnangul põhinev skaala – *Children Depression Inventory* (CDI). Uurimus on läbi viidud pilootprojekti raames. CDI abil mõõdetud depressiivsuse keskmist näitajat on võrreldud soo- ja vanusepõhiselt (vanusgrupid 7–10 ja 11–13). Uurimuse tulemused näitavad, et uuritud valimi puhul depressiivsuse keskmise näitaja poolest soolisi ega vanuselisi erinevusi ei esinenud. Faktoranalüüs toob välja laste depressioonile omase sümptomaatika mitmefaktorilise struktuuri ning selle erinevused sugude osas: tüdrukute puhul väljendub depressiivsus psühhosomaatiliste kaebuste, elurõõmu puudumise ja negatiivse enesehinnanguna; poiste puhul on iseloomulikud käitumuslikud komponendid ning negatiivne hinnang oma toimetulekule.

Väitekirjaga seotud **II uurimus** käsitleb Eesti kooliõpilastel esinevate suitsiidimõtete ja depressiivsuse seoseid peresuhete ning perekonna majandusliku kitsikusega (n= 4383, poisse 2208 ja tüdrukuid 2175). Valimisse on võetud koolinoored, kelle peres on vähemalt ema või isa. Valim on jaotatud kolme vanusgruppi – 11-, 13- ja 15-aastased noored. Antud uurimuse tulemused toovad välja, et 11–15-aastastel noortel, kes ei ole rahul omavaheliste suhetega peresüsteemis, esineb enam depressiivsust ja suitsiidimõtteid. Muredest rääkimise kergus vanemaga osutus oluliseks kaitseteguriks depressiivsuse ja suitsiidimõtete esinemise osas. Perekoosseisu poolest vaadelduna võõrasvanem

perekonnas osutus riskiteguriks depressiivsuse ja suitsiidimõtete esinemisel võrreldes Eesti koolinoortega, kes kasvasid mõlema bioloogilise vanemaga või siis üksikvanema perekonnas. Muredest rääkimise kergus vanemaga jäi oluliseks kaitseteguriks depressiivsuse ja suitsiidimõtete esinemisel ka juhul, kui oli arvesse võetud perekonna majandusliku kitsikuse näitaja. Olulise depressiivsust ning suitsiidimõtete esinemist ennetava ressursina tõi uurimus välja muredest kõnelemise võimaluse vanema õe või vennaga ning laiendatud perekonna liikmetega – vanavanematega.

III uurimus toob välja seosed suitsidaalsuse ja depressiivsuse esinemise ning varase suguelu alustamise vahel. Uurimuses on vaatluse alla võetud 13–15-aastased Eesti koolinoored (n= 3055, 1528 poissi ja 1527 tüdrukut). Uurimuse tulemused näitavad, et varane seksuaalne aktiivsus vanuses 13 aastat ja nooremana suurendab suitsiidimõtete esinemise tõenäosust enam kui seitse korda tüdrukute puhul ja enam kui neli korda poiste puhul. Tõenäosus depressiivsuse esinemiseks kasvas nii poistel kui tütarlastel, kui suguelu algus nihkus varasemaks. Mida nooremalt alustati suguelu, seda sagedasem oli alkoholi tarvitamine, suitsetamine, agressiivse käitumise esinemine ning seda madalam oli subjektiivne hinnang oma tervisele.

IV uurimus toob välja seosed suitsiidimõtete esinemise, riskifaktorite (suitsetamine, alkoholi tarvitamine, kakluses osalemine, kiusatud või kiusaja olemine) ja pereliikmete omavahelise kommunikatsiooni vahel 15-aastaste koolinoorte hulgas. Analüüsitud on Eesti, Leedu ja Luksemburgi andmeid, mis on kogutud WHO projekti HBSC (*Health Behaviour in Schoolaged Children*) raames. Leedu ja Luksemburgi andmeid on käsitletud taustana Eesti kooliõpilaste tervisekäitumist analüüsivas uurimuses. Küsitletud on 15-aastaseid kooliõpilasi: Eestis 1586 õpilast (poisse 800, tüdrukuid 786); Lätis 1861 õpilast (poisse 940, tüdrukuid 921); Luksemburgis 1507 õpilast (poisse 776, tüdrukuid 731). Uurimuse tulemustest nähtub, et noorukitel, kellel esineb riskikäitumist, on suurem tõenäosus suitsiidimõtete esinemiseks ning tüdrukud osutusid ohustatumateks võrreldes poistega. Samas toob uurimus välja, et 15-aastastel Eesti noortel, kellel on kerge muredest rääkida ema ja/või isaga, on väiksem tõenäosus suitsiidimõtete esinemiseks võrreldes nendega, kellel vanematega muredest kõnelemine ei ole kerge. See tulemus leiab kinnitust ka Leedu ja Luksemburgi noorte puhul. Veelgi enam, muredest rääkimise kergus vanemaga jääb oluliseks kaitseteguriks suitsiidimõtete esinemisel ka juhul, kui on arvesse võetud muredest rääkimise võimalus parima sõbraga (Samm et al., 2012). Uurimuse tulemused kinnitavad noorukite poolt subjektiivselt tajutud sotsiaalset integreeritust oma lähima keskkonna – perekonnaga – kui olulist suitsiidimõtete esinemise riski vähendavat tegurit.

Tänapäeva Eesti konteksti puhul tuleb rõhutada, et lisaks peresisesele integreeritusele on oluline perede integreeritus ühiskonda, sest pered on haprad ja ühiskondlikud protsessid on kiiretes muutustes, olles samas laiemaks kontekstiks noore inimese arengukeskkonnana. Siin on ühiskonnal võimalus

peredele appi tulla pöörates tähelepanu perede toimimise toetamisele, pakkudes vanematele teadmisi, et nad märkaksid nooruki kurvameelsust, õnnetut olekut ja muresid ning oskaksid anda adekvaatset tuge, seega oleksid teadlikud emotsionaalse toe olulisusest terve ja ühiskonnas hästi toimiva noore inimese arenemisel.

PUBLICATIONS

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Professional employment:

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Special courses:

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