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Developmental Perspectives of Adolescence

Adjustment for maternal depressive symptoms

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List of original communications

- I. Korhonen M., Luoma I., Salmelin R., Tamminen T. (2012) A Longitudinal Study of Maternal Prenatal, Postnatal and Concurrent Depressive Symptoms and Adolescent Well-being. *Journal of Affective Disorders* 136:680-692.
- II. Korhonen, M., Luoma, I., Salmelin, R., & Tamminen, T. (2014) Maternal Depressive Symptoms: Associations with Adolescents' Internalizing and Externalizing Problems and Social Competence. *Nordic Journal of Psychiatry* 68:323-332.
- III. Korhonen M., Luoma I., Salmelin R., Helminen M., Kaltiala-Heino R., Tamminen T. (in press) The Trajectories of Child's Internalizing and Externalizing Problems, Social Competence and Adolescent Self-reported Problems in a Finnish Normal Population Sample. *School Psychology International*. doi: 10.1177/0143034314525511
- IV. Korhonen M, Luoma I., Salmelin R., Helminen M., Tamminen T. Maternal Depressive Symptoms and the Patterns of Child's Internalizing and Externalizing Problems. Submitted.

Abbreviations

ADHD	Attention deficit and hyperactivity disorder
AIC	Akaike Information Criteria
BIC	Bayesian Information Criteria
CBCL	Child Behavior Checklist
CI	Confidence Interval
EPDS	Edinburgh Postnatal Depression Scale
HPA-axis	Hypothalamus-Pituitary-Adrenocortical-axis
M	Mean
MDE	Major Depressive Episodes
mo	Months
OR	Odds Ratio
SD	Standard Deviation
SES	Socioeconomic status
vs	Versus
yrs	Years
YSR	Youth Self Report

Abstract

The pattern of child development is modified by multiple factors. This dissertation addresses the developmental patterns of child's emotional and behavioural problems identified in a Finnish normative sample and how they are associated with social competence in middle childhood and in adolescence. The co-occurrence of emotional and behavioural problems is also studied. Further, the study explores how maternal depressive symptoms from pregnancy to child's adolescence are associated first, with the adolescent's outcome at the age of 16-17 years and second, with the developmental patterns of emotional and behavioural problems of the child from the age of four to five years to the age of 16-17 years. The dissertation explores whether it is the timing, recurrence or the developmental pattern of maternal depressive symptoms that best explains the negative effect of maternal depressive symptoms on child development and adolescent outcome.

The dissertation is a part of a longitudinal study started in 1989 in the city of Tampere, Finland. The original sample of the study consisted of 349 consecutively selected normal population mothers expecting their first child (T1). The later data collection points of the first study stage of the longitudinal process took place after the delivery (T2; n = 210 mother/211 children, one pair of twins) and when the children were two months (T3; n = 205/206) and six months old (T4; n = 201/202). The second study stage (T5; early childhood; n = 158/159) was conducted when the children were four to five years old and the third study stage (T6; middle childhood; n = 188/189) at the children's age of eight to nine years. At the latest study stage (T7; adolescence; n = 191/192) the children were 16-17 years old.

In all the study stages maternal depressive symptoms were screened using the Edinburgh Postnatal Depression Scale (EPDS), a ten-item self-administered questionnaire originally designed to detect postnatal depressive symptoms, but also validated for evaluating depressive symptoms among non-postnatal women. The emotional and behavioural problems and the social competence of the child (not at T5) were evaluated at the ages of four to five years, eight to nine years and 16-17 years using the Finnish translation of the Child Behavior Checklist (CBCL) completed by the mothers. At T7 the adolescents also completed the Youth Self-Report (YSR).

The patterns of child's emotional and behavioural problems indicated that most of the children had low or moderate level of problems. However, approximately 10% of the children had a chronically high level of emotional problems from the age of four to five years to the age of 16-17 years (high-stable) and 17% had an initially high pattern of behavioural problems (high-decreasing). The problem levels among those children assigned to the low or high trajectory groups of both emotional and behavioural problems were fairly stable throughout the development while among the children in the biggest trajectory

group the level of emotional problems increased towards adolescence (moderate-increasing; 41%). In addition, an adolescent-onset pattern of behavioural problems was detected (moderate-to-high; 5%). Among the children assigned to that group the level of behavioural problems also increased rapidly towards adolescence. In middle childhood and in adolescence the social competence was poorest among those children assigned to the chronic pattern of emotional problems. When considering the behavioural problems, in middle childhood the social competence was equally good between the children in various trajectory groups. In adolescence, however, the social competence was poorest among the children assigned to the adolescent-onset pattern of behavioural problems. There was also a fairly high co-occurrence between emotional and behavioural problems and one problem type increased the risk of the other.

Maternal prenatal depressive symptoms increased the child's risk for behavioural problems at adolescence. Maternal depressive symptoms two months postnatally increased the child's risk for emotional and behavioural problems as well as poorer social competence in adolescence. Initial exposure to maternal depressive symptoms in early childhood was moreover associated with the child's poorer social competence in adolescence. Boys were found to be more sensitive to maternal perinatal depressive symptoms than girls in terms of behavioural problems and poorer social competence in adolescence. Both adolescent girls and boys had more emotional and behavioural problems as well as poorer social competence if their mothers had depressive symptoms concurrent with their adolescence, especially if the children had also been exposed to maternal depressive symptoms at some point earlier in life. Recurrent maternal depressive symptoms increased the child's risk for emotional problems while chronic maternal depressive symptoms increased the child's risk for behavioural problems and poorer social competence in adolescence. Intermittent maternal depressive symptoms also increased the child's risk for poorer social competence in adolescence. Intermittent maternal depressive symptoms were also associated with the chronic pattern of child's internalizing problems. In addition to the increased risk for behavioural problems of the offspring among those exposed to perinatal and especially prenatal depressive symptoms, the association between maternal depressive symptoms after the perinatal period and child's behavioural problems seemed to be reciprocal.

This dissertation suggests that recurrent, chronic and also concurrent maternal depressive symptoms increase the child's risk for emotional and behavioural problems and poorer social competence. The timing of the exposure may, however, be critical to the developmental task of the child during such exposure. Thus, given that pregnancy and infancy are important developmental periods, maternal depressive symptoms in early life and during pregnancy may have a long-lasting impact on child development. The clinical conclusions of the study stress the importance of early interventions and prevention as well as comprehensively supporting children and families at risk.

Key words: internalizing problems; externalizing problems; social competence; developmental psychopathology; adolescence; maternal depressive symptoms; prenatal depression; postnatal depression

Tiivistelmä

Lapsen kehitystä muovaavat monet lapseen liittyvät sekä ulkoiset tekijät. Tässä väitöskirjassa selvitettiin, millaisia käytöksen ja tunne-elämän ongelmiin liittyviä kehityspolkuja suomalaisilla normaaliväestöön kuuluvilla lapsilla voidaan havaita. Lisäksi tutkittiin, kuinka erilaiset tunne-elämän ja käytöksen oireiden kehityspolut liittyvät lapsen sosiaaliseen kompetenssiin keskilapsuudessa ja nuoruudessa ja kuinka paljon käytöksen ja tunne-elämän pulmia esiintyy samanaikaisesti. Väitöskirjassa tutkittiin myös, kuinka äidin masennusoireet raskausajalta lapsen nuoruusikään liittyvät nuoren psyykkiseen vointiin 16-17 vuoden iässä sekä toisaalta lapsen käytöksen ja tunne-elämän oireiden kehityspolkuihin 4-5 vuoden iästä 16-17 vuoden ikään. Lisäksi arvioitiin, onko äidin masennusoireiden negatiivinen vaikutus lapsen kehitykseen parhaiten selitettävissä masennusoireiden ajoituksella, toistuvuudella tai niiden kehityspolulla.

Tämä tutkimus on osa pitkittäistutkimusta, joka on alkanut vuonna 1989 Tampereella. Alkuperäinen aineisto koostui 349 satunnaisesti valitusta normaaliväestöön kuuluvasta ensimmäistä lastaan odottavasta naisesta (T1). Ensimmäisen tutkimusvaiheen myöhemmät aineistokeräykset ajoittuivat välittömään synnytyksen jälkeiseen aikaan (T2; n = 210 äitiä/211 lasta, yhdet kaksoiset), sekä lapsen kahden kuukauden (T3; n = 205/206) sekä kuuden kuukauden (T4; n = 201/202) ikään. Toinen tutkimusvaihe ajoittui lasten 4-5 vuoden ikään (T5; varhaislapsuus; n = 188/159) ja kolmas tutkimusvaihe (T6; keskilapsuus; n = 188/189) lasten 8-9 vuoden ikään. Viimeisimmässä tutkimusvaiheessa (T7, nuoruus; n = 191/192) lapset olivat iältään 16-17-vuotiaita.

Jokaisessa tutkimusvaiheessa äidin masennusoireita arvioitiin kymmenenkohtaisella itse täytettävällä masennuskyselyllä (Edinburgh Postnatal Depression Scale; EPDS). EPDS on alun perin suunniteltu synnytyksen jälkeisen masennuksen seulontaan, mutta sen on todettu olevan validi tunnistamaan naisten masennusta myös muissa elämän vaiheissa. Äidit arvioivat lapsen käytöksen ja tunne-elämän oireita sekä sosiaalista kompetenssia (ei vaiheessa T5) lapsen 4-5-vuoden, 8-9-vuoden sekä 16-17-vuoden iässä käyttämällä suomeksi käännettyä Child Behavior Checklist (CBCL) lomaketta. Tutkimusvaiheessa T7 nuoret täyttivät myös suomeksi käännetyn Youth Self-Report (YSR) lomakkeen.

Tulokset osoittivat, että suurimmalla osalla lapsista käytöksen ja tunne-elämän oireet olivat vähäisiä tai kohtalaisia varhaislapsuudesta nuoruusikään. Kuitenkin noin 10 %:lla lapsista tunne-elämän oirepisteet ylittivät kliinisen tason varhaislapsuudesta nuoruusikään ja 17 %:lla käytöksen oireet ylittivät kliinisen tason varhaislapsuudessa, mutta laskivat hieman ollen alle kliinisesti merkittävän tason nuoruusiässä. Vaikka sekä vähäisen että korkean oireilun ryhmissä oireiden taso oli melko vakaa läpi lapsuuden, suurin osa lapsista (41 %) kuului ryhmään, jossa tunne-elämän oireet lisääntyivät kohti nuoruusikää. Lisäksi 5 % lapsista kuului ryhmään, jossa käytöksen oireet olivat kohtalaisella tasolla varhais- ja

keskilapsuudessa, mutta nousivat kliiniselle tasolle nuoruusiässä (nuoruudessa alkavat käytösongelmat). Sosiaalinen kompetenssi keskilapsuudessa ja nuoruudessa oli huonointa lapsilla, joilla oli kroonisesti kliinisen tason ylittävät tunne-elämän oireet. Käyttöoireiden osalta keskilapsuudessa sosiaalisessa kompetenssissa ei ollut eroa ryhmien välillä, mutta nuoruusiässä kompetenssi oli huonointa nuoruusiässä alkavien käyttöoireiden ryhmässä. Käytöksen ja tunne-elämän oireet esiintyivät melko usein yhdessä ja lisäsivät toistensa riskiä.

Äidin raskaudenaikaiset masennusoireet lisäsivät lapsen riskiä käyttöoireille nuoruusiässä ja äidin synnytyksen jälkeiset masennusoireet lisäsivät lapsen riskiä tunne-elämän oireille ja huonommalle sosiaaliselle kompetenssille nuoruusiässä. Lisäksi äidin varhaislapsuuteen ajoittuvat masennusoireet lisäsivät huonomman sosiaalisen kompetenssin riskiä nuoruusiässä. Pojat osoittautuivat olevan herkempiä äidin raskaudenaikaisen ja synnytyksen jälkeisen masennuksen negatiivisille vaikutuksille nuoruusiässä käyttöoireiden ja sosiaalisen kompetenssin osalta. Äidin ajankohtainen masennus lisäsi nuoruusiässä sekä poikien että tyttöjen riskiä tunne-elämän ja käytöksen oireille sekä huonommalle sosiaaliselle kompetenssille, erityisesti jos lapset olivat altistuneet äidin masennukselle myös jossain aiemmassa elämänvaiheessa. Äidin toistuvat masennusoireet lisäsivät nuoruusiässä lapsen tunne-elämän oireiden riskiä kun taas krooniset masennusoireet lisäsivät lapsen käytöksen ongelmien ja huonomman sosiaalisen kompetenssin riskiä nuoruusiässä. Lisäksi myös äidin ajoittaiset, syvemmät masennusoireet lisäsivät lapsen huonomman sosiaalisen kompetenssin riskiä nuoruusiässä. Vaihtelevat ja syvemmät äidin masennusoireet liittyivät myös lapsen kroonisten tunne-elämän oireiden kehityspolkuun. Sen lisäksi, että käyttöoireiden riski oli suurempi lapsilla, jotka olivat altistuneet äidin masennusoireille raskausaikana, suhde lapsen käyttöoireiden ja äidin masennusoireiden välillä vaikutti olevan kahdensuuntainen.

Tämä väitöskirja osoittaa, että toistuvat, krooniset ja ajankohtaiset äidin masennusoireet lisäävät lapsen riskiä tunne-elämän ja käytöksen oireille sekä huonommalle sosiaaliselle kompetenssille. Lisäksi altistuminen tiettyinä ajankohtana voi häiritä lapsen senhetkistä kehitysvaihetta ja sitä kautta vaikuttaa myöhempään kehitykseen. Koska raskausaika ja lapsen ensimmäinen elinvuosi ovat tärkeitä lapsen myöhemmän kehityksen kannalta, altistuminen äidin masennukselle tänä tärkeänä kehityksen ajankohtana saattaa vaikuttaa lapsen kehitykseen pitkäaikaisesti tai jopa pysyvästi. Tulokset osoittavat varhaisen intervention ja ennaltaehkäisyn tärkeyden sekä tarpeen riskiperheiden ja lasten kokonaisvaltaiseen tukemiseen.

Avainsanat: tunne-elämä oireet; käytöksen oireet; sosiaalinen kompetenssi; kehityspsykopatologia; nuoruus; äidin masennusoireet; raskaudenaikainen masennus; synnytyksenjälkeinen masennus

1. Introduction

Growing up is about acquiring skills and completing certain developmental tasks as well as adjusting to the changes in the environment and in the self. If development is endangered, signs of emotional or behavioural problems or problems in the social or academic competence may emerge. Some of the maladaptation is transient and problems dissipate when the hazard is over. However, occasionally these hazards have a long-lasting influence on child adaptation and development and may even influence the plasticity and maturation of the developing brain.

There are also individual differences in the resilience and the ability to adapt (Masten, 2007; Rutter, 2006a; Sameroff & Rosenblum, 2006). These differences may be genetic or child-related e.g. personality characteristics or neurodevelopmental deficits, or environment-induced like parenting, maltreatment and traumas. Accumulating risk factors also increase the risk for psychopathology (Appleyard, Egeland, van Dulmen, & Sroufe, 2005). Longitudinal studies are essential to explore child development and the continuity and changes in child's problems and competence. Person-centred trajectory analyses have recently offered tools for such studies to explore the different patterns of e.g. child's emotional and behavioural problems (Nagin & Odgers, 2010a; Nagin & Odgers, 2010b; Nagin, 1999)

The level of child's emotional and behavioural problems, whether low or high, has been found to be fairly stable from early childhood to adolescence and even adulthood. Thus the course of the developmental pattern is perhaps determined at a very early age. Adolescence, however, is the developmental period after the early childhood during which changes mostly occur. As the ability to affect control and the verbal expression of emotions improve, the level of behavioural problems is found to decrease while the level of emotional problems is found to increase towards adolescence. However, among some children the behavioural problems may rather increase towards adolescence (Moffitt & Caspi, 2001). The co-occurrence of emotional and behavioural problems is also rather common (Angold, Costello, & Erkanli, 1999). In addition, problems in academic and social competence often precede or accompany emotional and behavioural problems (Burt & Roisman, 2010).

Child development is modified by multiple factors. Maternal depression is known to have a harmful effect on child adjustment and outcome throughout childhood (Goodman, 2007; Talge, Neal, & Glover, 2007; Weissman et al., 2006). Maternal concurrent depressive symptoms are associated with emotional and behavioural as well as social competence problems in the child, although some of the problems diminish over time, especially if maternal depressive symptoms are alleviated (Gunlicks & Weissman, 2008; Pilowsky et al., 2008; Wickramaratne et al., 2011). Maternal prenatal depressive symptoms and stress increase the child's risk for maladaptation in various areas of life (O'Connor, Monk, &

Fitelson, 2014). In addition, postnatal depressive symptoms are also associated with multiple deficits in the child's life including lower IQ and poorer cognitive academic performance (Hay et al., 2001; Murray et al., 2010), attention and aggression problems (Hay, Pawlby, Angold, Harold, & Sharp, 2003) as well as affective problems and depression (Halligan, Murray, Martins, & Cooper, 2007; Murray et al., 2011). Males have been suggested to be more sensitive to the perinatal depressive symptoms of the mother than females (Weinberg, Olson, Beeghly, & Tronick, 2006). However, less is known about the effects of maternal depressive symptoms after the perinatal period on child development and adolescent outcome. It has also been speculated whether the harmful effects of maternal prenatal and postnatal depressive symptoms are rather explained by the recurrent and chronic depressive symptoms of the mother and thus prolonged or recurrent exposure of the child to maternal depressive symptoms. In addition, although the use of trajectory analyses in describing the child's patterns of emotional and behavioural problems has increased, only few studies have explored how maternal depressive symptoms influence the pattern of child's problems from early childhood to the preadolescent or adolescent years (Fanti & Henrich, 2010; Feng, Shaw, & Silk, 2008; Leve, Kim, & Pears, 2005; Sterba, Prinstein, & Cox, 2007). No earlier studies have included prenatal data or the different patterns of maternal depressive symptoms.

This study aims to explore the trajectories of child's emotional (internalizing) and behavioural (externalizing) problems from the child's age of four to five years to the age of 16-17 years in a Finnish normal population sample. In addition, it explores how social competence is associated with different patterns of internalizing and externalizing problems and whether there is co-occurrence of the abovementioned problems. Further, this study explores how maternal depressive symptoms from pregnancy to the adolescence of the child are associated with the internalizing and externalizing problems of the adolescent at the age of 16-17 years and with the developmental patterns of child's internalizing and externalizing problems.

2. Review of the literature

2.1 Towards adolescence

Although the interaction between environment and individual begins already *in utero*, infancy is the base of emerging social and psychological capacities. Emotion regulation is the cornerstone of social and emotional development during infancy (Crockenberg & Leerkes, 2000). A sensitive caregiver facilitates infant's emotion and behaviour regulation and the infant learns to use the caregiver to assist in the regulation of emotions and emotion-linked behaviour (Crockenberg & Leerkes, 2000). Infants also internalize emotion regulation through social learning from the caregivers.

The survival of the child depends on the care of the adult for many years from birth. As the human newborn is unable to seek for shelter and comfort and there is no fur to cling to, the successive attachment on the part of the baby and bonding on the part of the caregiver are evolutionarily crucial (Brüne, 2008). The psychological purpose of the attachment relationship is to reduce infant's stress, regulate emotions and promote exploration (Bowlby, 1988). Attachment theory describes the dynamics of long-term relationships between infant and caregivers. Sensitive responsiveness on the part of the caregiver to the infant's needs and affects is one of the factors influencing the development of a secure attachment relationship between infant and caregiver. Disturbances in the attachment relationship are considered to be the origin of many psychopathological patterns.

Through experiences from the attachment relationship infants and children develop cognitive and emotional representations which serve as guides for future relationships (Crockenberg & Leerkes, 2000). In early childhood the child takes the first steps towards social contact outside the family members. The importance of social contacts and social skills as well as the need for regulating one's own behaviour rapidly increases as the child enters school (Luoma, 2004). The feedback mechanisms from others in social contacts modify the child's self-image and self-esteem.

When entering adolescence, the child encounters new developmental tasks: changes in the body and in sexuality, increasing need and pressure for independence from parents, finding one's place among peers and making decisions on the future. Thus the exposure to stressful life events increases. At the same time the brain undergoes enormous functional and hormonal changes. Because of the increasing independency, the adolescent must also come through affect regulation with less parental assistance. If the base for development is not stable or previous developmental tasks have not been accomplished e.g. due to traumatic events, the new tasks may become overwhelming (Ebeling, 2002). Adolescence

and early adulthood are developmental phases characterized by increased incidence of many psychiatric problems.

Hence, as early attachment and bonding are the base for emotional and behavioural regulation and the representations for later human relations, the foundations for psychosocial development are laid in the early of life. The development is, however, modified by multiple environmental and child-related factors and forthcoming events, which may alter the developmental pattern towards either maladaptation or adaptation.

2.2 Classification of emotional and behavioural problems

Internalizing problems include emotional problems like withdrawn behaviour, somatic complaints, anxiety and depression. A large cross-cultural multicentre study found that in general, internalizing problems increased with age in five out of 24 countries and that girls in most societies tend to score higher on internalizing problems, especially at ages 12 to 16 (Rescorla et al., 2007a; Rescorla et al., 2007b). According to epidemiological data from WHO World Mental Surveys the age of onset of diagnosed internalizing problems anxiety disorders has two distinct sets; separation anxiety and phobias have very early onset ages (median 7-14 years), while generalized anxiety disorder, panic disorder, and posttraumatic stress disorder have much later age-of-onset distributions (median 25-53 years) (Kessler, Amminger et al., 2007a; Kessler, Angermeyer et al., 2007b). The ages of onset for mood disorders are quite similar to those for late-onset anxiety disorders (Kessler et al., 2007a; Kessler et al., 2007b). Especially in females the incidence of mood disorders has been found to rapidly increase in late adolescence and early adulthood (Roza, Hofstra, van der Ende, & Verhulst, 2003). However, even infants and toddlers experience e.g. depression and anxiety although they express emotional distress more comprehensively. Diagnostic criteria like the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC:0-3) used in infants and toddlers are not as widely used as the Diagnostic and Statistical Manual of Mental Disorders (DSM) or the International Classification of Diseases (ICD) used to diagnose older children and adults with psychiatric problems. One reason for this lesser use of diagnostic criteria could be the rapid and dramatic changes in infant psychological development.

Externalizing problems refers to behavioural problems including oppositional behaviour, conduct problems and also attention deficiency and hyperactivity problems, although the last-mentioned is often categorized as its own entity. The prevalence of externalizing problems has been found to decrease with age and boys in most societies tend to score higher on externalizing problems, especially at ages 6 to 11 than girls (Rescorla et al., 2007a; Rescorla et al., 2007b). Among externalizing problem diagnoses impulse control disorders have been found to have the earliest age-of-onset distributions and also extremely narrow age range of onset risk across countries (Kessler et al., 2007a; Kessler et al., 2007b). In addition, some disorders, such as oppositional defiant disorder, require childhood onset, while some diagnoses, such as antisocial behavioural problems, are not diagnosed until adolescence or late childhood onwards.

Social competence refers to skills in social relations, academic performance and activities. Child's competencies may be as important as problems when evaluating strengths and difficulties and making prognoses as good social competence may also facilitate successful

adaptation (Achenbach, 1991). The developmental cascade model refers to the cumulative consequences of the development of the many interactions and transactions occurring in the developing systems (Masten & Cicchetti, 2010). The cascade model posits that earlier levels and changes in functioning in one domain affect subsequent functioning in a different domain. Studies on the cascade model indicate that early externalizing problems may be a risk for poorer social and academic competence in early school age, which may lead to an increased risk for later internalizing problems (Burt & Roisman, 2010; Masten et al., 2005; Obradovic, Burt, & Masten, 2010; van Lier & Koot, 2010). Poor social competence has also been found to be associated with internalizing problems, in both cascading and bidirectional ways (Burt, Obradović, Long, & Masten, 2008; Cole, Martin, Powers, & Truglio, 1996; Verboom, Sijtsema, Verhulst, Penninx, Brenda W. J. H., & Ormel, 2014).

2.3 Developmental psychopathology

Developmental psychopathology is concerned with the basic mechanisms causing developmental pathways to diverge toward pathological or adaptive outcomes. Longitudinal normal population studies of developmental psychopathology indicate that while most children have a fairly stable pattern of low or moderate levels of emotional and behavioural problems, there is also a high continuity of emotional and behavioural problems from early childhood to young adulthood (Fergusson, 1998; Fergusson, Horwood, & Boden, 2006; Goodwin, Fergusson, & Horwood, 2004; Haavisto et al., 2004; Hofstra, Van der Ende, & Verhulst, 2000; Pihlakoski et al., 2006; Sourander et al., 2005).

The development of emotional and behavioural problems is a complex interplay between risk and protective factors of the child, parents and the environment. In addition, the continuity of psychopathology may be homogenous or heterogeneous, that is, the problem profile may also change in the course of the development. Symptoms and disorders tend to evolve over time as the brain develops before crystallizing into an operational diagnostic entity. Sroufe et al. (Sroufe, Egeland, Carlson, & Collins, 2005; Sroufe, 2005) have proposed the term *Developmental nosology*, which refers to pathways rather than syndromes and is characterized by the following aspects:

- 1) Multiple pathways can lead to the same outcome (*equifinality*) and
- 2) The same initial pathway can lead to multiple outcomes (*multifinality*)

Emotional and behavioural problems have shown complex and multiple pathways and the same mental health diagnoses in adolescence or adulthood may have different developmental pathways in childhood (Reef, Diamantopoulou, van Meurs, Verhulst, & van der Ende, 2011; Roza et al., 2003).

In addition, the same difficulties in childhood may lead to different kinds of difficulties in adulthood. Externalizing problems in childhood, although continuing into adolescence and adulthood have also been found in many studies to be related to anxiety in adolescence or adulthood. Longitudinal studies have identified a subgroup of childhood behavioural difficulties whose later difficulties are not antisocial behavioural problems but social isolation, avoidance of close relationships and susceptibility to anxiety and depressed mood

(Rutter, Kim-Cohen, & Maughan, 2006). A longitudinal study of a Dutch normal population sample indicated that anxiety/withdrawn behaviour in childhood was related to affective problems, while social difficulties and externalizing behaviour were related to anxiety in adolescence and early adulthood (Roza, Hofstra et al. 2003). The authors suggested that affective problems and anxiety may have different developmental pathways. Another study on the same Dutch longitudinal sample found that social problems at school entry were a pathway to overall internalizing problems at preadolescence, but only for boys (Mesman, Bongers, & Koot, 2001). In addition, the study indicated that early oppositional behaviour at home reflected a general susceptibility to psychopathology, especially internalizing problems, in both genders. Thus some children may express emotional distress through behavioural problems and, as the cognitive abilities and emotion expression improve, the identification and expression of anxiety also evolves. The outcome may also be modified by later environmental or child-related factors.

3) Change is possible at many points of development

Brain development was earlier found to have critical periods, which were regarded as a subset of sensitive periods, termed *experience-expectant programming* (Glaser, 2012; Greenough, Black, & Wallace, 1987). The sensitive periods are well established in some areas of brain development, as in the development of eyesight. However, with the proliferation of studies using neuroimaging and the enhanced understanding of brain plasticity the term *experience-adaptive programming* has been proposed (Rutter, 2002). It postulates that neurobiological changes following stress or negative life experiences in early childhood are adaptive to the environment. For example, children living in a threatening environment learn to identify anger preferentially as it is adaptive for their survival (Glaser, 2012; Tottenham et al., 2011). Another aspect of neuroplasticity is ability to learn, termed by Greenough et al. (1987) *experience-dependent* development. This is associated with the formation of new synapses and continues into adulthood, although at a decelerated rate.

Longitudinal studies have identified not only persistently low or high patterns of behavioural problems but also childhood limited and adolescent-onset patterns of emotional and behavioural problems (see Chapters 2.3.1 and 2.3.2), indicating a change in the developmental patterns. The factors associated with these changes in the symptom course, however, are not yet well identified. However, turning points in the developmental patterns of psychopathology do occur, both for better and worse.

4) Change is constrained by prior development

Experiences especially in the early years of human life modify brain structures. For example, the amygdala is the brain structure involved in memory processing and emotional learning reactions. The amygdala undergoes early rapid development and has been found to enlarge under stressful conditions (Pechtel, LyonsRuth, Anderson, & Teicher, 2014; Tottenham et al., 2010). The cost, however, is difficulty in self-regulation and modulations of arousal. Studies on institutionalized and maltreated children have also found differences in the neural circuitry (Moulson, Fox, Zeanah, & Nelson, 2009), structural changes in brain connectivity from the amygdala to the prefrontal cortex (Eluvathingal et al., 2006) as well as altered patterns of EEG power and coherence (Marshall, Reeb, Fox, Nelson, & Zeanah, 2008; Otero, Pliego-Rivero, Fernandez, & Ricardo, 2003; Tarullo, Garvin, & Gunnar, 2011). In addition prefrontal cortex reduction in the size of the corpus callosum (Teicher et al., 2004) and changes in the neural pathways (Choi, Jeong, Rohan, Polcari, & Teicher, 2009; Choi, Jeong, Polcari, Rohan, & Teicher, 2012) have been identified among those

exposed to maltreatment in childhood. The changes in brain structure and functions related to early experiences are only partially reversible, or not at all (Glaser, 2012).

5) Early caregiving is important.

Despite neuroplasticity there are probably changes that are at least to some extent irreversible or possible only during a certain sensitive period. Romanian adoptee studies indicate that institutional deprivation for over six months of life has a major effect on pervasive impairment at the age of 11 years (Kreppner et al., 2007). Those adopted before the age of six months had significantly less impairment at the age of 11 years. In addition, those adopted after the first eight months of life have also been found to have higher cortisol levels than those adopted earlier (Gunnar, Morison, Chisholm, & Schuder, 2001). Thus the longer the pathological pathway is pursued, the more difficult change becomes.

2.3.1 Trajectories of internalizing problems

The studies exploring the developmental trajectories of *internalizing problems* of normal population children have indicated three main patterns: low, moderate-increasing and chronically high, most of the children being assigned to the first two groups (Brendgen, Wanner, Morin, & Vitaro, 2005; Brendgen, Lamarche, Wanner, & Vitaro, 2010; Dekker et al., 2007; Fanti & Henrich, 2010; Sterba et al., 2007; Figure 2.3.1.). The percentages of children assigned to the high trajectory group of internalizing problems in different studies varies from 9% to 18% depending e.g. on the total number of trajectory groups in each study.

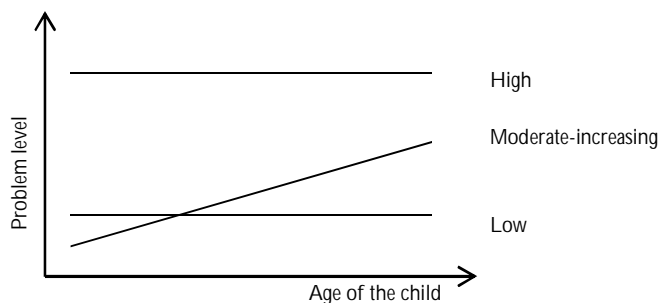


Figure 2.3.1. An illustration of the trajectories of child's internalizing problems identified in longitudinal studies.

As previously mentioned, from adolescence onwards girls have been found to have more internalizing problems than boys, and some trajectory studies have also found gender differences. A study by Jenkins et al. (2008) found boys' internalizing problems to decrease and girls' to increase from late childhood to adolescence. Leve et al. (2005) reported similar gender differences from the age of five to the age of 17). Dekker et al. (2007) reported quite similarly shaped trajectories of low and moderate levels of internalizing problems for both genders between the ages of four and 18 years. However, among boys there was also an inverse u-shaped trajectory of high depressive symptoms peaking in childhood as well as a high-decreasing trajectory of depressive symptoms. Conversely, among girls moderate-increasing and high increasing trajectories were identified (Dekker et al., 2007). On the other hand, Sterba et al. (2007) found no differences in the shapes of children's trajectories

of internalizing problems between ages two and 11. The trajectory groups they identified were low, decreasing-increasing and elevated-stable for both genders. However, there were more girls in the elevated-stable group (21% vs. 13%) and more boys in the decreasing-increasing group (22% vs. 10%). Girls also had a more rapid increase in internalizing symptoms in the decreasing-increasing group (Sterba et al., 2007). In the study by Dekker et al. (2007) six different trajectory groups were identified compared to one to three trajectory groups in other studies, which may explain the different findings. The different age ranges may also explain some of the differences.

2.3.2 Trajectories of externalizing problems

Most studies on the trajectories of externalizing problems have used narrow definitions of behavioural problems, especially disruptive behaviour and physical aggression, and a few studies also ADHD. Externalizing problems have been reported to have low, moderate, chronically high and decreasing trajectories from childhood to adolescence (Brame, Nagin, & Tremblay, 2001; Broidy et al., 2003; S. Cote, Zoccolillo, Tremblay, Nagin, & Vitaro, 2001; Fanti & Henrich, 2010; Leve et al., 2005; Miner & Clarke-Stewart, 2008; Moffitt, 1993; Monahan, Steinberg, Cauffman, & Mulvey, 2009; Odgers et al., 2008; Reef et al., 2011; Shaw, Lacourse, & Nagin, 2005; Tremblay et al., 2004; Zhou et al., 2007; Figure 2.3.2.). Girls and boys have been found to have quite similar patterns of behavioural problems (Cote et al., 2009; Leve et al., 2005). The percentages of children assigned to the chronically high group of behavioural problems vary from 7% to 18% between different studies and different outcome measures. In a study by Shaw et al. (2005) the outcome measure used was “hyperactivity and attention problems” and 20% of the children were assigned to the chronically high trajectory group.

Some trajectory studies have reported trajectories of adolescent-onset externalizing problems, especially antisocial behaviour (Monahan et al., 2009; Odgers et al., 2008; Reef et al., 2011), while others have not (Broidy et al., 2003). The percentages of children assigned to the adolescent-onset behavioural problems vary between 12% and 15%.

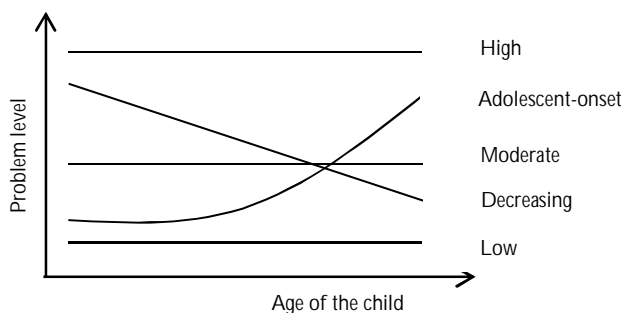


Figure 2.3.2. An illustration of the trajectories of child's externalizing problems identified in longitudinal studies.

The patterns of adolescent-onset behavioural problems are supported by the findings reported by criminologists indicating that offending rates increase through adolescence peaking around the age of 16 or 17 years and drop sharply in young adulthood (Saunders, 2007). Terrie Moffitt's developmental taxonomy of delinquency hypothesizes that there are

two types of offenders: life-persistent offenders and adolescence limited offenders (Moffitt, 1993; Saunders, 2007). Moffitt's theory suggests that the contemporary gap between biological and social maturity encourages some teens to mimic antisocial behaviour in ways that may be more of adaptive social behaviour rather than pathological. Adolescence-limited offenders desist in antisocial behaviour once the behaviour ceases to be rewarding, and thus they can return to the more rewarding prosocial behaviour they learned as children. The theory has been supported by findings indicating that, compared to childhood-onset antisocial problems adolescents with adolescent-onset problems lack the social, familial and neurodevelopmental risk factors from childhood (Moffitt & Caspi, 2001; Odgers et al., 2008). However, both adolescent-onset and childhood-limited behavioural problem types have been found to be associated with various difficulties in adulthood (Odgers et al., 2008; Reef et al., 2011).

Comparing the abovementioned studies, however, is difficult due to the differing definitions of behavioural problems used. A study by Reef et al. (2011) found that there are in fact differences in the adult outcome depending on the type of externalizing problems in childhood. As all types of aggression in childhood were associated with disruptive behaviour in adulthood, status violations like runaways, truancy and obscene language were associated with substance abuse, anxiety and mood disorders (Reef et al., 2011). In addition, oppositional behaviour in childhood was associated with anxiety disorders in adulthood, also found in the studies by Roza et al. (2003) and Meshman et al. (2001) referred to earlier. According to a study by Reef et al. (2011) only status violations showed an adolescent-onset pattern.

2.3.3 Co-occurrence

There is also high co-occurrence between emotional and behavioural problems (Achenbach, 2001; R. Chen & Simons-Morton, 2009; Pihlakoski et al., 2006; Reinke, Eddy, Dishion, & Reid, 2012; Ritakallio et al., 2008; Sourander et al., 2005; Wiesner & Kim, 2006). This co-occurrence has been explained in various ways (Angold et al., 1999; Wolff & Ollendick, 2006). One possibility is diagnostic overlapping, as internalizing and externalizing behaviours may present with similar symptoms, such as irritability. Both internalizing and externalizing problems may also share the same environmental risk factors e.g. parental psychopathology or hostility, which expose the child to maladjustment (Achenbach, 2001). Internalizing problems, such as depression, may also be a risk factor for externalizing problems like conduct problems or vice versa (Pihlakoski et al., 2006; Reinke et al., 2012; Ritakallio et al., 2008; Rutter et al., 2006).

It has also been discussed whether co-occurrence of internalizing and externalizing problems is a distinct syndrome (Fanti & Henrich, 2010; O'Connor, McGuire, Reiss, Hetherington, & Plomin, 1998). It has been argued that behavioural difficulties are a group of problems involving multiple dysfunctions, including behavioural and emotional dysregulation and cognitive disabilities and distortions (Rutter et al., 2006; Wolff & Ollendick, 2006). Nevertheless, comorbidity has been found to worsen the prognosis of later adjustment (Fanti & Henrich, 2010; Sourander et al., 2007; Wolff & Ollendick, 2006).

2.3.4 What predicts child psychopathology?

Family conflict and other environmental stress factors play an important role in the outcome of adolescents' psychopathology (Najman et al., 1997; Shiner & Marmorstein, 1998). A fairly well studied familial risk factor associated with child psychopathology is parental mental health problems (Brennan, Le Brocque, & Hammen, 2003; Goodman, Brogan, Lynch, & Fielding, 1993; Klein, Lewinsohn, Rohde, Seeley, & Olino, 2005; Lewinsohn, Olino, & Klein, 2005). Other familial risk factors include single parenting (Goodman et al., 1993), low marital satisfaction and family discord (Hammen, Brennan, & Shih, 2004), mother's dissatisfaction with her social support (McCarty, McMahon, & Conduct Problems Prevention Research, 2003), paternal substance abuse (Brennan et al., 2003), low family income (Leve et al., 2005), harsh discipline (Leve et al., 2005; Miner & Clarke-Stewart, 2008) and maternal expressed emotion criticism or overinvolvement (Frye & Garber, 2005; Tompson et al., 2010).

Child related risk factors found to impact psychopathology include difficult infant temperament (Miner & Clarke-Stewart, 2008), shy and withdrawn child's temperament (BoothLaForce & Oxford, 2008; Feng et al., 2008; Leve et al., 2005; Miner & Clarke-Stewart, 2008) and neurodevelopmental deficits (Odgers et al., 2008). At adolescence the importance of peer relations in individual's mental health increases (Brendgen et al., 2005; Brendgen et al., 2010; Fanti & Henrich, 2010). In addition, cumulative risk factors have been found to increase the risk for psychopathology (Appleyard et al., 2005).

Genetic studies propose that genetic heredity explains approximately half of internalizing and externalizing psychopathology. In a twin study on a Canadian sample the heritability estimates for externalizing problems ranged between 43% and 62% and for internalizing problems between 28% and 48% for both girls and boys (Haberstick, Schmitz, Young, & Hewitt, 2005). Another twin study on the co-variation between depressive symptoms and antisocial behaviour (O'Connor et al., 1998) found approximately 45% of the observed co-variation to be genetically mediated in a normal to moderate risk sample. Among some individuals externalizing conduct problems and internalizing anxiety/withdrawal have been found to be fairly stable behavioural dimensions and may be seen as generalized behaviour models (Goodwin et al., 2009; Hofstra, van der Ende, & Verhulst, 2002). In a longitudinal twin study the stability of withdrawn behaviour was mainly explained via genetic effect, explaining 74% stability in boys and 65% in girls, while shared environmental effects explained only 7% in boys and 17% in girls (Hoekstra, Bartels, Hudziak, Van Beijsterveldt, & Boomsma, 2008). Thus the genetic heritability of a more stable behaviour dimension could be higher than that of a syndrome or disorder.

In the earlier years of genetic studies there were high hopes of finding an aetiological origin for all psychiatric disorders from genes (Rutter, Moffitt, & Caspi, 2006). The present belief is rather interplay between genes and environment that is multifactorial and probabilistic rather than the deterministic origin of most disorders, also including other than psychiatric disorders (Plomin & Asbury, 2005; Rutter et al., 2006). Epigenetics and studies of brain plasticity imply that the interplay between genes and environment is bidirectional. An example of interplay between genes and environment is the rat studies by Meaney and his colleagues. They reported that the nursing habits of rats are genetically inherited by the offspring. However, adopting a baby rat from one kind of nursing habits

to another also modifies the offspring's gene expression, thus the effect is epigenetic and plastic to changes depending on the environment (Szyf, Weaver, & Meaney, 2007). It has also been suggested that powerful environmental risk factors mitigate the impact of genetic factors (Rutter et al., 2006).

On the other hand, the genetic influence may increase over the environmental influence during adolescence as individuals come more able to control their environment (Kendler & Baker, 2007). Rutter, Moffit and Caspi (2006) suggest in their review that two firm conclusions can be drawn. First, experiences *do* affect gene expression and second, epigenetic effects *do not* constitute the only possible process in psychopathology. Mind, thoughts, personality characteristics and psychosocial experiences influence one's choices and reactions to events in life, and thus individuals also modify the environment and the expression of genes.

2.3.5 Resilience

Why do some adolescents seem to do well despite environmental risk experiences, stress and adversity? Rutter (2006b) considers that resilience and overcoming stress or adversity may depend either on experiences following the risk exposure, or on the genetic effects on susceptibility to the environment, or the physiological and psychological responses to the environmental hazard. Resilience may also be seen as individuals' agency, such as coping skills and strategies, that is, what the person does when encountering a stressful event (Rutter, 2006b). It should be noted, however, that resilience to stress is relative, not absolute and the degree of resistance varies over time and according to circumstances (Rutter, 1985). The timing of the event in light of the developmental phase of the child also matters (Rutter, 1985).

Studies have reported that the individual's ability to work and engage in supportive and intimate interpersonal relationships contributes to the resilient outcomes of children (Beardslee, Versage, & Gladstone, 1998) and adults (Collishaw et al., 2007). In addition, perceived parental care and adolescent peer relations have been shown to be related to adult resilience among those exposed to maltreatment in childhood (Collishaw et al., 2007). In a study by Brennan et al. (2003) maternal warmth and low levels of maternal overinvolvement seemed to predict resilient outcome in adolescents of depressed mothers (Brennan et al., 2003).

The role of intelligence in the concept of resilience is not clear. Although intelligence has been shown to be associated with more favourable psychopathological outcomes, it does not seem to be an important predictor of resilience (Rutter, 2007; Sameroff & Rosenblum, 2006). However, Horowitz and Garber (2003) found that adolescent intelligence was a protective factor against adolescent depression if there was no or less chronic maternal depression but was a risk factor for children of mothers with more chronic depression (Horowitz & Garber, 2003). On the other hand, in a study by Malcarne et al. (2000) children between the ages of 8 and 12 whose mothers were depressed but who had higher levels of verbal ability were significantly less likely to report experiencing depressive symptoms and internalizing problems (Malcarne, Hamilton, Ingram, & Taylor, 2000). Thus the intellectual abilities represented by verbal ability, which could also be seen

partially as an acquired coping skill, may constitute a buffer against distress, particularly the experience of depressive symptoms, at least in childhood.

Hay and Pawlby (2003) found that children exposed to maternal depression evaluated themselves to be more prosocial than their mothers and teachers. The authors discuss whether children's reports are less reliable or whether positive self-perception should be seen as a source of resilience for the child in difficult family circumstances (Hay & Pawlby, 2003). Nevertheless, resilience is not absence of risk factors, but rather a combination of an individual's capacities and environmental risk and protective factors affecting and occurring in an individual's life in a proper force and timing.

The differential susceptibility hypothesis by Belsky and Pluess (2009) and the biological sensitivity to environment thesis by Boyce and Ellis (2011) suggest that individuals characterized by high environmental susceptibility display an enhanced sensitivity to both negative and positive environments. Thus the characteristics of individuals making them disproportionately susceptible to adversity also make them disproportionately likely to benefit from contextual support. Exposure to stressful environments may upregulate biological sensitivity to context, thereby increasing the individual's capacity and tendency to detect and respond to environmental stress (Belsky & Pluess, 2009; Ellis, Boyce, Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2011). In that sense, a reasonable amount of stress may even benefit development in some areas.

2.4 Maternal depressive symptoms and child development

The prevalence of major depressive episodes (MDE) is one and half to three times higher in women than men (Burke, 2003; Goodman, 2007). Approximately five to 21 percent of women experience MDE at some point of their lives (Burke, 2003; Goodman, 2007). Maternal depression is especially common in women in the childbearing years. The rates, however, are strikingly similar throughout the motherhood from pregnancy, postpartum period and overall throughout the childbearing years (Goodman, 2007). The nature of depression is recurrent and ranges from subsyndromal depression or elevated depressive mood to major depressive disorder (Goodman, 2007) and patients' diagnoses also change from one depression subtype to another over time (Chen, Eaton, Gallo, Nestadt, & Crum, 2000; Judd, Akiskal, & Paulus, 1997).

Children of depressed mothers are at risk for abnormal development and subsequent psychiatric problems (Beardslee et al., 1998; Lewinsohn et al., 2005; Weissman et al., 2006). It has been postulated that the harmful effects of maternal depression are rather due to the recurrent and chronic nature of depression or then there are sensitive periods, e.g. pregnancy and the postnatal period, when maternal depression is especially harmful to child development.

Some studies suggest that adolescent girls are more sensitive to maternal depression and distress than boys (Crawford, Cohen, Midlarsky, & Brook, 2001; Davies & Windle, 1997; Duggal, Carlson, Sroufe, & Egeland, 2001; Fergusson, Horwood, & Lynskey, 1995; Jenkins & Curwen, 2008). Contrary to this, boys have been estimated to be more sensitive than girls to maternal depression during pregnancy and infancy (Carter, Garrity-Rokous,

Chazan-Cohen, Little, & Briggs-Gowan, 2001; Essex, Klein, Cho, & Kraemer, 2003; Hay et al., 2001; Hay, Pawlby, Waters, & Sharp, 2008; Murray, Kempton, Woolgar, & Hooper, 1993; Murray, Marwick, & Artech, 2010; Weinberg et al., 2006).

The following sections review the literature on the associations between the timing and the course of maternal depression and depressive symptoms and child development.

2.4.1 Maternal prenatal depressive symptoms

Studies especially on maternal prenatal depression are confounded by moods that are co-morbid with depression, such as anxiety and anger as little is known about the possible differences in the neuroendocrine responses to the various causes of prenatal stress (Field, Diego, & Hernandez-Reif, 2006). Many studies on the biochemical effects of maternal depression on the child in fact talk about maternal stress, which can be considered to include both depression and anxiety. There may, however, be actual differences in the infant's neuroendocrine profile depending on the type of stress exposure, as although depression and anxiety in general have been found to be related to higher cortisol levels, the infants of mothers with post-traumatic stress syndrome have been found to have lower cortisol levels (Glover, O'Connor, & O'Donnell, 2010; Yehuda et al., 2005). Whereas high cortisol levels have been found to be associated, for example, with anxiety and behavioural problems in the offspring, low cortisol levels have been found to be associated with post-traumatic stress (Glover et al., 2010; Yehuda et al., 2005). Longitudinal studies in developmental psychopathology also suggest that depression and anxiety may actually have different developmental pathways in childhood (Roza et al., 2003).

Maternal prenatal depression has been found to have physiological effects on the foetus and the neonate. Foetuses of prenatally depressed mothers have been found to be more active, have higher heart rate, increased physiological reactivity and to be at heightened risk of being born prematurely (Field et al., 2006). Neonates of prenatally depressed mothers are at greater risk for having low birthweight, being small for their gestational age as also for showing greater relative right frontal EEG activity and lower vagal tone (Field et al., 2006; Weinstock, 2008). They also displayed more irritability and less activity, robustness and endurance during the Brazelton neonatal behaviour assessment (Field et al., 2006).

Maternal prenatal depressive symptoms have been found to be associated especially with higher prevalence of externalizing problems but also internalizing problems such as depression in the offspring in childhood and adolescence (Hay et al., 2008; Hay, Pawlby, Waters, Perra, & Sharp, 2010; Luoma et al., 2001; O'Connor, Heron, Glover 2002; O'Connor et al., 1998; Pawlby, Hay, Sharp, Waters, & O'Keane, 2009; Van den Bergh & Marcoen, 2004; van den Bergh et al., 2006). The South London Child Development Study (SLCDS) followed up mothers and children from pregnancy to the 16 years of age of the child. The number of families at the latest data collection point was 137. The researchers found that women with a history of conduct problems were at elevated risk for experiencing prenatal depression (Hay et al., 2010). Further, maternal prenatal depression was associated with offspring's antisocial behaviour in adolescence when other risk factors and later exposures to maternal depressive symptoms were taken into account. In addition, mother's past history of conduct problems increased the child's risk for antisocial

behaviour but did not remove the effect of prenatal depression. Another study on the same sample found the offspring's risk for depression at the age of 16 to be 4.7 times higher if there had been exposure to prenatal depression (Pawlby et al., 2009). The effect of prenatal depression on offspring's depression was mediated by repeated exposures. Each adolescent depressed at the age of 16 had been exposed to maternal depression at some point of their life. However, only 20.7% of the adolescents exposed to maternal depression had depressive disorder at the age of 16. This particular study did not consider prenatal depression as an independent risk factor without the confounding effect of later exposures.

Some longitudinal samples have studied maternal prenatal anxiety rather than depression. The effects of maternal prenatal anxiety on child development are in many ways similar to those of prenatal depression (O'Connor et al., 2002; O'Connor, Heron, Golding, Beveridge, & Glover, 2002; O'Connor, Heron, Golding, Glover, 2003; Van den Bergh & Marcoen, 2004; Van den Bergh et al., 2005; van den Bergh et al., 2006).

'*In utero* programming' was first recognized between the links of low birthweight and health outcomes in adulthood by Barker and colleagues and led to the Fetal Origins Hypothesis (Barker, 1998). It proposes that some diseases, like coronary heart disease, originate through responses to nutrition during foetal life and infancy and these responses permanently change the body's structure, physiology and metabolism. The effects of maternal prenatal depression and anxiety on the newborn have also been considered in light of the Fetal Origins Hypothesis (O'Connor et al., 2003). It postulates that the foetus is preparing itself to the world outside the uterus according to the best of its knowledge. Thus, if the mother is depressed or otherwise stressed with elevated cortisol levels, the foetus assumes that surviving in the outside world demands elevated cortisol levels and high stress reactivity. Evolutionarily this ability has been adaptive, but in a modern world it may result in maladaptive processes and increase the vulnerability to psychopathology (Glover et al., 2010). Maternal prenatal stress may also alter the epigenetic programming of the foetus *in utero* (Szyf et al., 2007).

2.4.2 Maternal postnatal depressive symptoms

Postnatal depression and its effects on child development have been widely studied. Maternal postnatal depression may interfere in the mother-infant relationship and thus infant's well-being, but it may also have a long-lasting impact on the child's development over a longer period of time (Abbott, Dunn, Robling, & Paykel, 2004; Halligan et al., 2007; Hay et al., 2008; Hay et al., 2010; Luoma et al., 2001; Luoma et al., 2004; Maki et al., 2003; Murray et al., 2011; Murray et al., 2010; Pawlby et al., 2009).

A longitudinal study by Murray and colleagues reported that adolescents exposed to maternal postnatal depression showed elevated cortisol levels (Halligan, Herbert, Goodyer, & Murray, 2004), had elevated rates of affective disorders by 13 years of age (Halligan et al., 2007) and more depression at the age of 16 (Murray et al., 2011). Additionally, the academic performance was poorer among 16-year-old boys whose mothers' had experienced postnatal depression (Murray et al., 2010). Hay et al. (2001) also documented with another sample that children of postnatally depressed mothers had poorer cognitive ability at the ages of 11 and 16 and more attention problems than other children. The

impact was found to be greater for boys than for girls (Hay et al., 2001; Hay et al., 2008) and the effect was already apparent at the age of four in the same community sample (Cogill, Caplan, Alexandra, Robson, & Kumar, 1986). In another study on the same sample postnatally depressed mothers' children were reported to be more violent at the age of 11, in addition to having problems in regulating attention and emotion (Hay et al., 2003). Maternal postnatal depression has also been found to increase the risk for poorer social competence (Luoma, 2004) and co-occurring internalizing and externalizing problems (Fanti & Henrich, 2010).

2.4.3 Maternal depressive symptoms at offspring's childhood

There are not many studies exploring exposure to maternal depressive symptoms in childhood and the offspring's subsequent outcome. Most studies consider the concurrent effect of maternal depressive symptoms on child outcome (Chapter 2.4.4). Some studies have found exposure to maternal depressive symptoms after infancy to be associated with more externalizing problems in childhood (Alpern L., 1993; Brennan et al., 2000; Essex, Klein, Miech, & Smider, 2001). A study by Munson et al. (2001) found that children whose mothers reported higher levels of depressive symptoms between child's age of four and nine years had higher levels of externalizing problems at the age of nine years and the problem level increased faster than among children whose mothers reported low level of depressive symptoms (Munson, McMahon, & Spieker, 2001). Miner et al. (2008) confirmed the finding with another sample, but only in maternal reports and not in teachers' reports of externalizing problems.

2.4.4 Maternal concurrent depressive symptoms

Maternal concurrent depression has been found to have an impact on child and adolescent well-being assessed by various measures and evaluators (Luoma et al., 2001; Malcarne et al., 2000; Nelson, Hammen, Brennan, & Ullman, 2003; Pilowsky et al., 2006; Tompson et al., 2010). A study by Malgarne et al. (2000) showed that eight to 12-year-old children of concurrently depressed mothers not only expressed more internalizing and externalizing symptoms in the assessments of their mothers but also had more depressive symptoms according to the self-reported Child Depression Inventory than the children of non-depressed mothers. A study by Nelson et al. (2003) showed that concurrent maternal depression, along with a previous history of maternal depression and emotional expression criticism, had a significant correlation with adolescent's internalizing and externalizing symptoms assessed by both the mother and the adolescent. Expressed emotion criticism was seen as an intervening variable.

Thus maternal concurrent depressive symptoms influence adolescents' present lives. In addition, children of depressed mothers are at higher risk of experiencing a depressive episode in close time to maternal depression (Hammen, Burge, & Adrian, 1991). However, the influence of maternal depressive symptoms may diminish over time, especially if reduction or remission of maternal depressive symptoms is achieved (Gunlicks & Weissman, 2008; Pilowsky et al., 2008; Wickramaratne et al., 2011).

2.4.5 Recurrent maternal depressive symptoms

The recurrent and chronic nature of depression causes most of the children of depressed mothers to be exposed to maternal depression several times or for a long period of time in their lives, especially when the initial exposure has occurred at an early age. Repeated exposures may also be associated with different kinds of developmental risks. Halligan et al. (2007) found in their longitudinal study that maternal postnatal depression was associated with adolescent's anxiety disorder while postnatal depression together with later episodes of maternal depression was a risk for depression in adolescent offspring. Postnatal depression was associated with recurrent episodes of maternal depression in a majority (84%) of cases, which led the authors to suggest that the harmful effect of postnatal depression may be rather based on the recurrent nature of depression than the timing of maternal depression (Halligan et al., 2007).

Later exposures have also been found to mediate the harmful effects of pre- and postnatal depression. Hay and colleagues (Hay et al., 2008; Pawlby et al., 2009) reported maternal prenatal depression to be associated with adolescents' depression and girls' emotional problems when mediated by later exposures. Fihrer et al. (2009) found maternal postnatal depression to increase the risk for child's internalizing problems in early school age while the association between postnatal depression and externalizing problems at the age of 6-8 years was mediated by maternal concurrent depression.

2.4.6 Chronic maternal depressive symptoms

Chronic depressive symptoms refer to a persistently high level of depressive symptoms at multiple assessment points. In longitudinal study settings it may, however, intermingle with recurrent depressive symptoms. Chronic maternal depressive symptoms have been found to be associated with child's emotional and behavioural problems and poorer social competence (Ashman, Dawson, & Panagiotides, 2008; Brennan et al., 2000; Frye & Garber, 2005; Hammen & Brennan, 2003). Campbell et al. (2007) detected different patterns of the evolution of maternal depressive symptoms. They found that mothers having chronic, high-decreasing or increasing levels of depressive symptoms rated their children as having more internalizing and externalizing problems at the age of seven than did mothers with low level of symptoms (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007). Another study by Campbell et al. (2009) found that chronic clinical maternal depressive symptoms, elevated and also chronic subclinical maternal depressive symptoms from infancy to the adolescence of the child were associated with more internalizing and externalizing problems in adolescent self-reports at the age of 15 years (Campbell, MorganLopez, Cox, McLoyd et al. 2009). A surprising finding was that the children of the mothers who had high but decreasing level (yet all the time higher than the chronic subclinical group mothers) of depressive symptoms from the infancy to the adolescence of the child reported no more internalizing problems at the age of 15 years than did the adolescents of never-depressed mothers. The study suggests that the pattern of maternal depressive symptoms throughout development, rather than individual depressive episodes, may be a more important explanatory risk factor affecting child outcome than the actual timing of the exposures. It also suggests that remission and

reduction of maternal depressive symptoms decreases child's emotional and behavioural problem level, as also found in the studies concerning maternal concurrent depressive symptoms (see above).

Chronic depressive symptoms also affect and burden the whole family environment and the interaction of the depressed mother and the child over a long period of time. Frye and Garber (2005) found that more chronic and severe maternal depressions as well as maternal anger, hostility and expressed criticism were associated with more externalizing symptoms in their children. Maternal expressed criticism, although associated with maternal depression did not, however, mediate the negative effect of maternal depression on child's internalizing or externalizing symptoms.

2.4.7 Subclinical maternal depressive symptoms

Some studies suggest that subclinical depression might be as debilitating for both mother and child as major depression (Chen et al., 2000; Field et al., 2008; Field, Diego, Hernandez-Reif, & Ascencio, 2009; Judd, Paulus, Wells, & Rapaport, 1996; Judd et al., 1997; Weinberg et al., 2001). It is also known that after remission from severe depression, residual symptoms may remain. Studies using trajectories of maternal depressive symptoms also indicate that trajectories of decreasing or subclinical depressive symptoms often fluctuate or persist in a slightly elevated level (Ashman et al., 2008; Campbell et al., 2007; Campbell et al., 2009).

Maternal subclinical depressive symptoms also increase the risk for adverse development of the child. According to a study by Hammen and Brennan (Hammen & Brennan, 2003), even a brief maternal major depression or prolonged mild depression was a risk factor for the adolescent's negative outcome. A study by Ashman and colleagues (2008) indicated that although the children of mothers with chronic depressive symptoms were at the highest risk for adverse outcome, the children of mothers with subclinical and decreasing depressive symptoms also had more problems at the age of six years than did the children of nondepressed mothers. The same findings were reported in the studies by Campbell and colleagues at child's ages of seven and 15 years (Campbell et al., 2007; Campbell et al., 2009).

2.5 Intergenerational risk transmission of maternal depressive symptoms

The mediating factors in the risk transmission of maternal depressive symptoms to child development and outcome have been the focus of research in many recent studies (Ashman et al., 2008; Duggal et al., 2001; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Hammen et al., 2004; McCarty et al., 2003). The theory of the intergenerational risk transmission of maternal depressive symptoms to children involves the heritability, biological neuroregulatory systems, cognitive, behaviour and interpersonal

processes, family functioning, as well as other environmental factors (Goodman & Gotlib, 1999).

Genes and environment act together and modify both individuals' genetic phenotype and behaviour. The influence of stress factors on the onset of depression is greater among those individuals with genetically higher risk for depression than among those with genetically lower risk (Kendler et al., 1995). Individuals with juvenile-onset major depression have been found to have significantly more childhood risk factors than those with adult-onset depression (Jaffee et al., 2002; Wilkinson, Trzaskowski, Haworth, & Eley, 2013). Thus, multiple risk factors may increase the risk for earlier onset of depression. In addition, individuals with certain genotypes may be more susceptible to environmental influences than others, as noted earlier (Ellis et al., 2011; Nederhof et al., 2010).

One of the recently studied effects of prenatal depression on the newborn is the *biochemical profile*. The neonates of prenatally depressed mothers show elevated cortisol and norepinephrine levels and lower urinary dopamine levels than the newborns of nondepressed mothers, thus replicating or mimicking their mother's biochemical profile of stress (Field et al., 2006; Weinstock, 2008). However, the excess amount of maternal or foetal stress hormone may impede the formation of neural connections and reduce plasticity and neurotransmitter activity and thus have an impact later on the developing child's abilities in cognitive functioning and behaviour (Weinstock, 2008).

Elevated cortisol levels have been reported in the children of prenatally stressed mothers even at the age of seven years (Ashman et al., 2008) and 14-15 (Van den Bergh, Van Calster, Smits, Van Huffel, & Lagae, 2008) and prenatally anxious mothers' offspring at the age of ten (O'Connor et al., 2005), suggesting a long-term effect of prenatal stress and depression on the neuroendocrine functioning of the offspring. Elevated cortisol levels have been found to be associated with attention and learning deficits (Weinstock, 2008) as well as poorer performance under stressful conditions (Mennes, Bergh, Lagae, & Stiers, 2009; Van den Bergh et al., 2005). This has also been reported to be associated with internalizing symptoms and depression in children and adolescents (Ashman, Dawson, Panagiotides, Yamada, & Wilkinson, 2002; Halligan, Herbert, Goodyer, & Murray, 2007; Van den Bergh et al., 2008), although Van den Bergh et al. (2008) found the association only among adolescent females.

In infancy secure maternal attachment is an important environmental influence that decreases the sensitivity of the HPA-axis (Bergman, Sarkar, Glover, & O'Connor, 2010; Goldberg, 2006). However, building a secure attachment may be disturbed by maternal postnatal depressive symptoms. Maternal depression reportedly increases the risk for an insecure attachment relationship between mother and child (Carter et al., 2001; Murray, Halligan, Adams, Patterson, & Goodyer, 2006; Teti, Gelfand, Messinger, & Isabella, 1995).

In addition, the attachment style has been reported to mediate the effects of maternal depression on child outcome as well as on the developmental pattern of the child (Munson et al., 2001; Murray et al., 2006). In a study by Murray et al. (2006) maternal postnatal depression was associated with different outcomes depending on the attachment style of the mother and the child at infancy: securely attached girls exposed to postnatal depressive symptoms had higher narrative coherence at the age five superior social maturity and good adjustment at the age of 13. Conversely, insecurely attached girls exposed to maternal postnatal depressive symptoms had raised awareness of the emotional environment of the family at the age of five and more depressive symptoms at the age of 13. Surprisingly, boys

exposed to maternal postnatal depression showed the opposite trajectories, namely lower emotional sensitivity and inferior social maturity, but with less strong statistical significance. The results were discussed in terms of modelling the behaviour of the same sex parent and the differences in mother-son and mother-daughter relationships. For example, mothers discuss emotions with their daughters more and reward their emotional displays differently than with their sons. Adolescent girls also spent more time with their family than did boys.

A study by Munson et al. (2001) explored associations between the level of maternal depression symptoms when the child was one to nine years old and child's externalizing problems when the child was from four to nine years old. They found that avoidant and insecure attachment as well as higher levels of maternal depressive symptoms were associated with higher level of externalizing problems at the age of nine. However, changes in maternal depressive symptomatology (in either direction) over time predicted the level of child's externalizing problems only for children with avoidant insecure attachments (Munson et al., 2001). The writers speculated whether insecurely attached children are more reactive to variations in maternal depressive symptomatology or if the mothers of securely attached infants perhaps more able to buffer their children against fluctuations. As the externalizing problems of the child were reported by the mother, the results may also reflect a stronger association between reporting own depressive symptoms and child's externalizing problems among the mothers of insecurely attached children, as the writers speculate.

The parenting style (Burke, 2003) and negative expressed emotions (Frye & Garber, 2005; Nelson et al., 2003; Tompson et al., 2010) of depressed mothers has been shown to have a negative effect on their children, both together and separately. In a study by Thompson et al. (2010) a history of maternal depressive symptoms (non-recurrent, severe or chronic) was associated with both emotional criticism as well as high emotional overinvolvement. Thus depressed mothers may become either more critical or more anxious and overprotective towards their offspring. Maternal perceptions of the child may also be more negative when the mother is depressed (Talge et al., 2007). Maternal sensitivity has also been found to decrease among most mothers when depressive symptoms increase (Campbell et al., 2007). In addition to the mother-child relationship, maternal depression has an impact on the whole family system (Burke, 2003) and women with past or concurrent depression find their environment more stressful (Hammen & Brennan, 2003).

Thus some of the harmful effects of maternal depression can be explained through the changes in interaction and increased family adversity. Children also acquire coping skills and behavioural models through observation and may learn depressive-like behaviour and inefficient coping skills from their depressed mothers, which places them at increased risk for depression. Infant studies consider that babies mimic maternal behaviour and adjust their behaviour to the mother's behaviour in order to be in contact with the mother and thus emotionally balanced (Seifer & Dickstein, 2000). A depressed mother may be less sensitive or either intrusive or withdrawn in interaction with the baby (Cohn & Tronick, 1989). The infants of depressed mothers who constantly deal with emotional overstimulation may learn avoidant, withdrawal or muting coping strategies while, on the other hand understimulated infants must seek experiences and regulate the emotions without the requisite developmental skills (Seifer & Dickstein, 2000).

It is also likely that there is a reciprocal relation between maternal depression and child adjustment problems, especially behavioural problems (Elgar et al., 2007; Gross, Shaw, Burwell, & Nagin, 2009; Gross, Shaw, Moilanen, Dishion, & Wilson, 2008). The study by Frye and Garber (2005) referred to earlier reported that maternal criticism did not mediate the effect of maternal depression on child's externalizing symptoms but child's externalizing symptoms mediated the effects of maternal depression on maternal criticism, thus suggesting that the interaction between mother and child is bidirectional. Reciprocity is also to be found between maternal depressive symptoms and child's internalizing problems (Nicholson, Deboeck, Farris, Boker, & Borkowski, 2011).

2.6 Assessment of child outcome

Parents know their child best, but they often lack the opportunity for comparison to other children of the same age. Parents' ratings of their child may also be influenced by their psychiatric status, e.g. the presence of depression or their perspectives on family life (Hay et al., 1999; Seiffge-Krenke & Kollmar, 1998). There is evidence that mothers' mental state is associated with an observation bias in their ratings of children's problems. Most studies support the theory of depression-distortion, meaning that depressed mothers report more internalizing and externalizing problems than other reporters (Berg-Nielsen, Vika, & Dahl, 2003; Chilcoat & Breslau, 1997; De Los Reyes, Goodman, Kliewer, & Reid-Quinones, 2008; Najman et al., 2000; van der Toorn et al., 2010). There are, however, opposite findings, namely that depressed mothers are more accurate and sensitive in evaluating their children's problems (Conrad and Hammen, 1989). Teachers' reports may even have more consistency with child-reported anxiety and depression than parents' reports (Mesman & Koot, 2000). Nevertheless, multi-informant data enables comprehensive assessment (Achenbach, 2006).

Cross-informant consistency between children and parents has been found to decrease during the adolescent years, probably as independence and preference for peers over parents increases. However, a study by Bergen-Nielsen et al (2003) suggests that agreement on externalizing symptoms increased as adolescents grew older (Berg-Nielsen et al., 2003). In general, adolescents have been found to report more problems than their parents (Achenbach & Edelbrock, 1991).

3. Aims of the study

1. *What are the mother-reported trajectories of child's internalizing and externalizing problems from early childhood to adolescence like? How are they associated with social competence and adolescent's self-reported problems? (III)* The hypothesis was that trajectories of low, moderate and chronic patterns of internalizing and externalizing problems would be identified, with most of the adolescents assigned to the two first groups. It was also hypothesized that poorer social competence would be associated with more chronic patterns of internalizing and externalizing problems.
2. *Does the timing of maternal depressive symptoms matter? (I, II).* The hypotheses were that adolescents exposed to maternal depressive symptoms prenatally would show more externalizing problems, and that those exposed postnatally would show more internalizing problems. In addition, pre- and postnatal depressive symptoms were hypothesized to be more harmful to child development than maternal depressive symptoms occurring in offspring's childhood. According to the literature, maternal concurrent depressive symptoms were expected to be associated with both internalizing and externalizing problems and poorer social competence of the adolescent.
3. *Are there gender differences in the associations between maternal prenatal, postnatal and concurrent depressive symptoms and adolescent outcome? (I).* According to the literature the hypothesis was that boys exposed to early maternal depressive symptoms would show more internalizing and externalizing problems and have poorer social competence in adolescence than girls. Further, maternal concurrent depressive symptoms were assumed be associated with more internalizing and externalizing problems and poorer social competence in both genders.
4. *Is the negative effect of maternal depressive symptoms on adolescent's outcome best explained by the timing, recurrence, or chronicity of maternal depressive symptoms? (I, II).* The hypothesis was that recurrence or chronicity of maternal depressive symptoms would be a stronger predictor of child's internalizing and externalizing problems and poorer social competence than timing. However, the timing of the exposure was expected to be associated with different kinds of psychosocial problems in adolescence depending on the developmental task of the child during the exposure.
5. *What are the associations between the trajectories of maternal depressive symptoms and those of child's internalizing and externalizing problems? (IV).* The hypothesis was that more

chronic patterns of maternal depressive symptoms would be associated with more chronic levels of child's internalizing and externalizing problems.

4. Material and methods

4.1 Subjects and procedure

This dissertation is part of a longitudinal study begun in Tampere, Finland, in 1989. The original sample was collected from Tampere maternity health clinics during the period 1989-1990. At the first study stage data was collected during the last trimester of the pregnancy (T1), postnatally on discharge from the maternity hospital (later first postnatal weeks; T2) and two (T3) and six months from the delivery (T4). The second study stage was conducted at the child's age of four to five years (early childhood; T5) and the third at child's age of eight to nine years (middle childhood; T6). At the latest study stage the children were 16-17 years old (adolescence; T7).

The original sample consisted of 349 consecutively selected normal population mothers expecting their first child. Less than 10% of the mothers invited to the study refused to participate. The sample flow of the study is presented in Figure 4.1.1. Seventy mothers excluded from study points T2-T5 were again included from T6 on. The large number of drop-outs ($n = 69$) between T1 and T2 was due to these mothers not receiving the questionnaires from the maternity hospital because of summer holiday arrangements of the personnel. These 69 mothers and children, and also the drop-outs between study points T2 and T3 ($n = 5$) were again included in the study at stage four (T7). The drop-outs between time points T3-T4 ($n = 4$) and study stages T4-T5 ($n = 1$) were due to the mother's or the child's serious illness or death and were therefore not included in any later stages.

By T7, altogether 22 mothers or children of the original 349 had died or explicitly refused to participate at earlier study stages, leaving 327 mothers and 328 children to be contacted. The address of 14 mothers could not be obtained. Thus at T7 the questionnaires were sent to 313 mothers and their 314 adolescents (one set of twins). The questionnaire on emotional/behavioural problems (Child Behavior Checklist, CBCL for the parents and Youth Self Report, YSR for the adolescent, see later) was returned by 191 mothers (62% of those who received the questionnaires and 55% of the original sample) and by 192 (60%) adolescents. The sample comprised 185 mother-child dyads (184 mothers and 185 children, one set of twins) as six mothers only and seven adolescents only returned the questionnaires. The maternal depressive symptoms screening questionnaire (Edinburgh Postnatal Depression Scale, EPDS, see later) was returned by 183 mothers as in seven cases the questionnaire was completed by the adolescent and in one case only the first side of the questionnaire was filled. One hundred of the 116 drop-outs were mothers not returning the questionnaires despite two reminders, ten mothers and adolescents refused to participate in the study and five mothers and one child had died between study stages T6 and T7 (Figure 4.1.1). The sociodemographic characteristics of the sample are presented in Table 4.1.1.

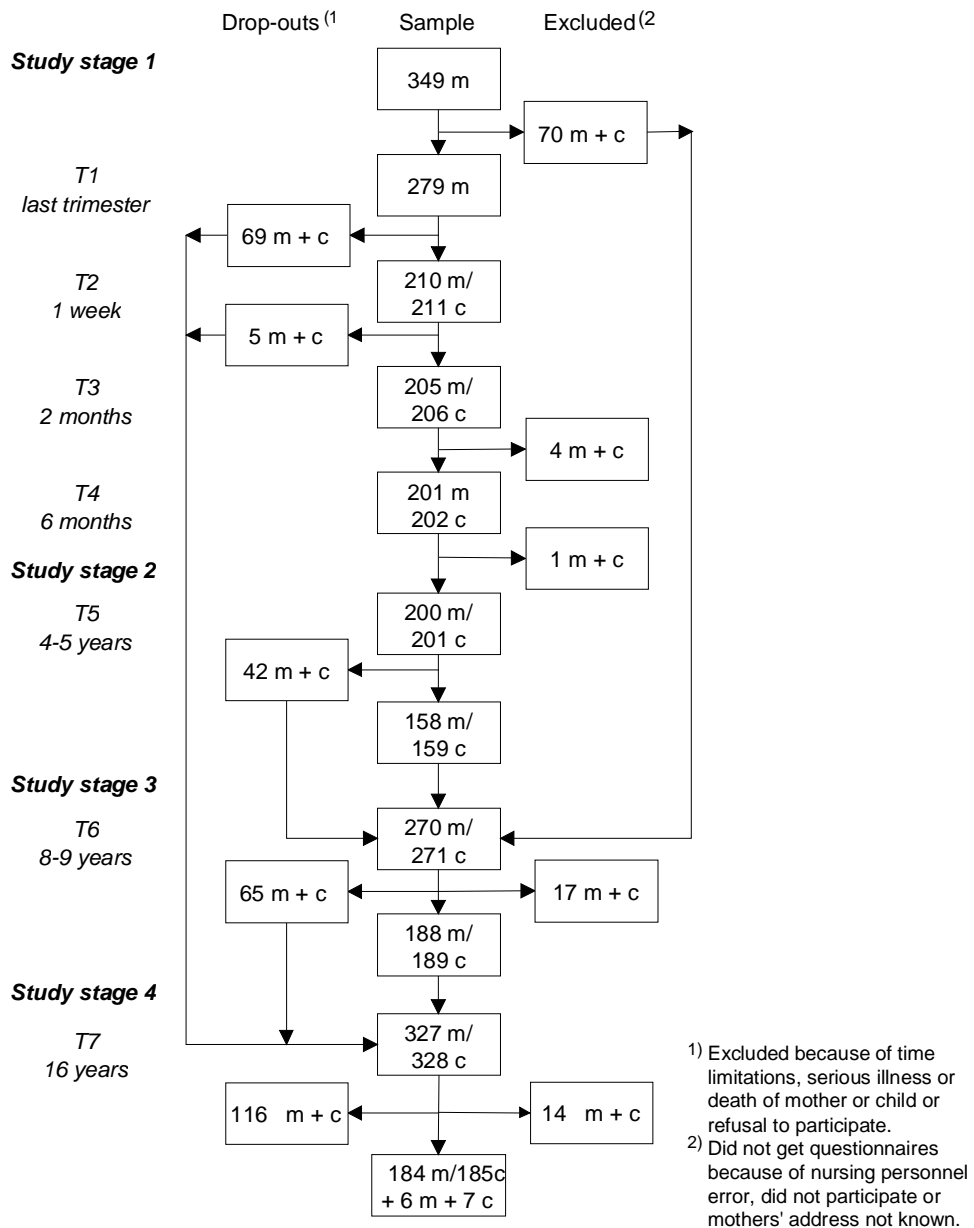


Figure 4.1.1 Flowchart of the sample.

Table 4.1.1. Sociodemographic characteristics of the sample at different data collection points.

	Prenatal (T1)		Early Childhood (T5) n = 159		Middle Childhood (T6) n = 189		Adolescence (T7) n = 191 ²	
	%		%		%		%	
Child's gender ¹								
Female	51		53		56		52	
Male	49		47		44		48	
Mother's marital status								
Married or cohabiting	96		92		86		82	
Single	4		8		14		18	
Mother's education								
Elementary, vocational school	37		37		31		37	
College	51		46		53		47	
Academic	12		17		16		16	
No. of mother's biological children								
One			28		17		13	
Two			62		52		52	
Three or more			10		31		35	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	yrs	yrs	yrs	yrs	yrs	yrs	yrs	yrs
Mother's age	27.1	4.2	31.4	4.1	35.5	4.2	43.7	4.2
Child's age			4.4	0.1	8.5	0.3	16.7	0.2

¹ Prenatally based on the information at child's birth

² Based on information in mother's reports

4.2 Measures

Mothers' depressive symptoms were assessed by the Finnish version of the *Edinburgh Postnatal Depression Scale* (EPDS; Appendices) at each time point. The EPDS is a valid, self-administered questionnaire originally designed to detect postnatal depression, but also valid for detecting depression among non-postnatal women (Cox et al. 1987; Cox et al., 1996). It includes ten questions on depressive symptoms with four response options scored from 0 to 3, giving a maximum sum score of 30. In research EPDS scores have been used as continuous variables as well as with the lower and upper cutpoints. The cutpoint ≥ 10 (lower cutpoint) has been reported to have satisfactory sensitivity and specificity for detecting even minor depression, while the cutpoint ≥ 13 (upper cutpoint) has been found to identify major depression better (Cox, Murray, & Chapman, 1993; Cox, Chapman, Murray, & Jones, 1996). As the EPDS is not a diagnostic questionnaire, in all the studies of this dissertation the term depressive symptoms is used as no clinical evaluations of the maternal depressive symptoms were conducted. In this study both the lower and upper cutpoints as well as continuous EPDS variables were used.

Background information including sociodemographic data as well as data on maternal and child health and well-being at T7 was collected with a questionnaire designed for that study stage (Appendices), and completed by the mother. Background information questionnaires, adapted for each study stage, were also used at time points T1, T5 and T6. The socioeconomic status of the family at T7 was determined according to the guidelines of Statistics Finland (1989). Family SES was determined by the higher value of mother's and father's SESs in two parent families and mother's SES in single parent families.

Child outcome was measured using the Finnish version of the *Child Behavior Checklist* (CBCL; Achenbach, 1991a; Achenbach and Rescorla, 2001) at time points T5, T6 and T7. The CBCL was completed by the mother. At T5 forms for children below school age (in Finland 4-6 years) and at T6 and T7 a form for children of school age (6-18 years; Appendices) were used. The CBCL contains questions and statements for parents to record their child's emotional/behavioural problems. The problem scales for school aged children contain 118 items, each of which is scored on a three-step scale from 0 (item not true) to 2 (item very true or often true). The Total Problems score is a sum score of all the problem items. The Internalizing Problems score is a sum score including items concerning withdrawal, somatic complaints and anxiety/depression. The Externalizing Problems score is a sum score of items concerning social problems, rule-breaking behaviour and aggressive behaviour. The form for school-aged children also includes questions concerning child's social competence. The Social Competence sum score includes scores from activities, social skills and relationships and school performance subscales.

At T7 the adolescents completed the *Youth Self Reports* (YSRs; Appendices) for ages 11-18 (Achenbach, 1991b; Achenbach and Rescorla, 2001). The YSR problem scores as well as the Social Competence sum score are derived from responses to 119 questions similar to those of the CBCL. The problem items also include 16 items involving social desirability, that are not included in the Problem sum score or in the Social Competence score.

The CBCL and YSR Internalizing and Externalizing raw problem scores as well as Social Competence scores can be converted into normalized T-scores. In clinical use scoring between 60 and 63 in Internalizing or Externalizing Problems is considered the subclinical level and ≥ 64 the clinical level. In research both continuous raw Problem scores and normalised T-scores as categorized and as continuous variables have been used. For Social Competence no cutpoints are being set. In this study both dichotomous variables of the Problem scores with the higher cutpoint as well as continuous CBCL and YSR variables were used.

4.3 Attrition

Being a longitudinal process, the group size varied at different time points (Figure 4.1.1). The drop-out analysis was conducted between data collection points a) T1 and T3, T5, T6 and T7, b) T3 and T5, T6 and T7, e) T5 and T6, and f) T6 and T7 (as the number of drop-outs and excluded cases between T3 and T4 was only five, that comparison was not examined, and T2 was excluded from all analyses). These analyses showed no statistically significant differences between the mothers included in the analysis and those who dropped out regarding marital status, education level, family SES (data available at T6 and T7 only) or mother's age. Neither did the drop-outs from T5 to T6 nor from T6 to T7 show differences in Internalizing and Externalizing problem scoring. However, there were more mother-son dyads in the drop-out group at data collection points T5, T6 and T7.

4.4 Statistical methods

In Studies I-IV both categorical and continuous variables of adolescent's problems and maternal depressive symptoms were used. Means, standard deviations (SD) and 95% confidence intervals (95% CI) were calculated for the normally distributed continuous adolescent outcome variables and median and upper and lower quartiles for continuous, skewed maternal depressive symptom variables. Cross-tabulations with Fisher's exact two-tailed significance test were used to examine the categorized adolescent outcome variables by maternal depressive symptoms. Independent samples t-test was used to test for differences in continuous variables between groups. In some analyses Kruskal-Wallis test was used to compare continuous variables when the number of cases in some of the groups was too small for one way analyses of variance.

In Study I the simultaneous effects of various explanatory variables on adolescent outcome were examined using both dichotomous and continuous EPDS sum scores and CBCL and YSR outcome variables. The aim was to explore whether a continuous scale would show a similar or different model than the categorized variables. In the case of dichotomous CBCL and YSR Problems scores and the EPDS sum scores, logistic regression with the enter-method was used. When analysing the continuous CBCL and YSR scores and EPDS sum scores, linear regression was used with EPDS distributions normalised by square root transformation. For Social Competence linear regression was performed using both dichotomous and continuous EPDS scores. For logistic regression, odds ratios (ORs) and their 95% CIs and p-values were reported, and for linear regression, regression coefficients and p-values were represented.

In Study II, to explore whether the association between maternal depressive symptoms and adolescent psychosocial functioning and emotional/behavioural problems was best explained via the initial timing, the recurrence or the pattern of maternal depressive symptoms, both ordinary linear regression and generalized linear regression (with gamma distribution and log link function) were applied. As the results were similar, only those of ordinary linear regression were reported. In both analysis types the enter-method was used. The best models were based on the adjusted R^2 and the p-value of F change between models.

In Studies II-IV group-based trajectory analysis was used to identify the distinctive developmental patterns of maternal depressive symptoms (II, IV) and child's internalizing and externalizing problems (III, IV) over time. These techniques include person-centred models to identify different developmental patterns (Nagin & Tremblay, 2001; Nagin & Odgers, 2010b; Tremblay et al., 2004). In all the trajectory analyses the data collection points were treated as sequential time points instead of using the actual time intervals between time points.

The analyses of maternal depressive symptoms were based on the EPDS data of 329 mothers who had completed the EPDS at least once during T1-T7. Original skewed EPDS values were normalized by square root transformation. The cubic function of time was used for modelling the transformed EPDS scores. The selected four-cluster model had the best fit based on the Bayesian Information Criteria (BIC) values.

The trajectory analyses of the internalizing and externalizing problems of the child were based on the data of 261 children (49 % male) whose mothers had completed the CBCL during at least one of the three assessment points T5-T7. The best fits according to Akaike Information Criteria (AIC) and BIC were contradictory, resulting into a two-cluster model based on BIC and a three or five-cluster model based on AIC. Thus, due to these contradictions and the theoretical framework, a four group model was selected to best fit and characterize the data for both internalizing and externalizing problems.

In all the studies p-values < 0.05 were considered statistically significant and values between 0.05 and 0.10 indicative. Trajectory models were fitted using the flexmix package in statistical program R, version 2.13.0. All other analyses were performed with SPSS 15.0 and 16.0.

5. Summary of the results

5.1 Psychosocial functioning of the child

5.1.1 Cross-section of adolescents' psychosocial adjustment (I, II)

The means, standard deviations and 95% Confidence Intervals (CIs) of the continuous variables of Total (not reported elsewhere), Internalizing and Externalizing Problem T-scores in both the CBCL and YSR, used in Studies I and II are presented in Table 5.1.1. In addition, the proportions of adolescents scoring at or above the clinical level (≥ 64) used in Study I are presented in Table 5.1.2.

For genders separately, the means, standard deviations and 95% CIs of the continuous variables of Total, Internalizing and Externalizing Problems are presented in Table 5.1.1 (not reported elsewhere). The proportions of those scoring above the cutpoint ≥ 64 are presented in Table 5.1.2.

Table 5.1.1. Means, standard deviations and 95% Confidence Intervals of the CBCL and YSR Problem scores and Social Competence scores of the adolescents.

Scale	All			Boys			Girls			
	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI	
CBCL	Total Problems	48	10	47-50	47	9	46-49	49	10	47-51
	Internalizing Problems	51	10	49-52	50	9	48-52	52	10	50-54
	Externalizing Problems	49	9	48-50	49	9	47-51	49	9	47-51
	Social Competence	47	10	45-48	45	9	43-48	48	10	46-50
YSR	Total Problems	50	10	48-51	48	10	46-50	52	10	50-54
	Internalizing Problems	50	11	49-52	48	11	46-50	53	11	50-55
	Externalizing Problems	52	9	51-53	50	9	48-52	54	9	52-55
	Social Competence	46	10	44-48	44	10	41-46	48	10	46-50

High cross-informant consistencies of both internalizing and externalizing problems were detected between self-reported and maternal reported problems ($p < 0.001$ in both; not reported elsewhere). High cross-informant consistency was also detected for the genders separately ($p < 0.05$ in all).

Table 5.1.2 Proportions (%) of adolescents scoring at or above the clinical cutpoint 64 in CBCL and YSR in each Problem score.

Problem Score		All	Boys	Girls
CBCL	Total Problems	8	3	12
	Internalizing Problems	11	9	12
	Externalizing Problems	6	5	6
YSR	Total Problems	9	4	14
	Internalizing Problems	13	8	18
	Externalizing Problems	10	10	10

5.1.2 Trajectories of child's internalizing and externalizing problems (III, IV)

The trajectories of child's emotional and behavioural problems were based on maternal reports. The trajectory groups of *internalizing problems* were low-stable (n = 73, 28%), moderate-decreasing (n = 53, 20%), moderate-increasing (n = 107, 41%) and high-stable (n = 28, 11%; Figure 5.1.1; III, Supplementary Materials, Figure 2.). The biggest proportion of the adolescents thus belonged to the moderate-increasing group. The mean internalizing problems T-score in that group was highest in adolescence yet remained below even the subclinical level. The mean in the chronically high (high-stable) trajectory was at the subclinical/clinical level from early childhood to adolescence.

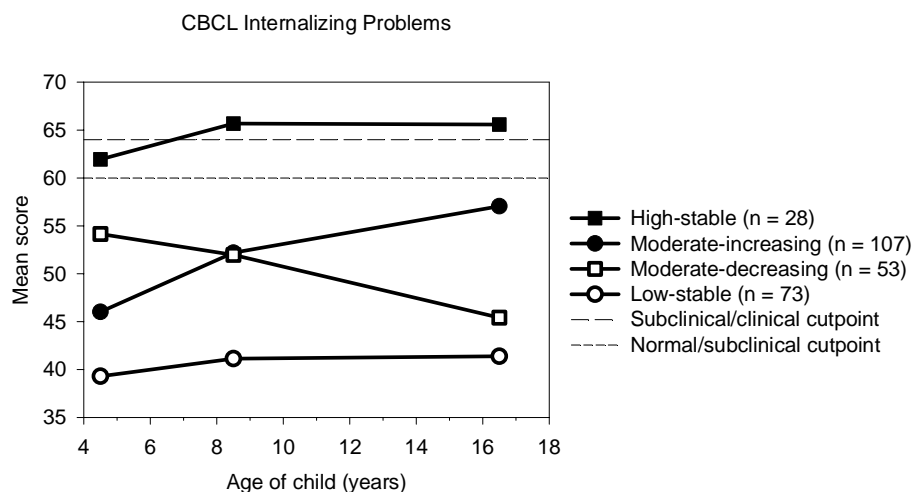


Figure 5.1.1. Trajectories of child's internalizing problems (Korhonen et al., in press).

The trajectories of *externalizing problems* detected were low-stable (n = 53, 20%), moderate-decreasing (n = 151, 58%), high-decreasing (n = 45, 17%) and moderate-to-high (n = 12, 5%; Figure 5.1.2; III, Supplement Materials Figure 2.). Hence most of the children were assigned to the moderate-decreasing trajectory of externalizing problems. The mean externalizing problem T-score in the high-decreasing trajectory was above the subclinical/clinical level in childhood but below the cutpoint in adolescence. The

adolescent-onset (moderate-to-high) trajectory was below even the subclinical level in childhood but significantly above the clinical level in adolescence.

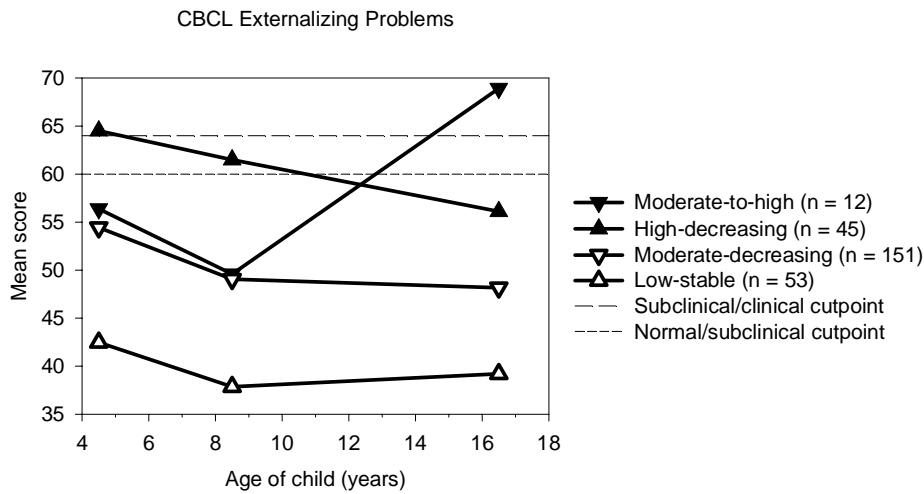


Figure 5.1.2. Trajectories of child's externalizing problems (Korhonen et al., in press).

The trajectory groups were heterogeneous in terms of child's gender and age, the marital status and education level of the mother and the number of siblings of the index child at T7. The trajectories of both internalizing and externalizing problems based on maternal reports were associated with adolescents' self-reported internalizing and externalizing problems at T7 thus indicating cross-informant consistency (III, Supplementary Materials, Figure 3.).

5.1.3 Social competence and the trajectories of internalizing and externalizing problems (III)

Social competence was poorest in middle childhood (according to mothers' reports) and in adolescence (according to mothers' and adolescents' reports) among the children with chronic internalizing problems. In adolescents' self-reports the social competence was also poorer among those assigned to the moderate-increasing trajectory group of internalizing problems than among those with low or moderate-decreasing trajectory of internalizing problems (III, Supplementary Materials, Figure 4.).

In middle childhood social competence was equally good in all the trajectory groups of *externalizing problems*. In adolescence children with adolescent-onset externalizing problems had the poorest social competence. It is noteworthy that the children assigned to the high-decreasing trajectory group who had clinical/subclinical level of externalizing problems in childhood had equally good social competence both in middle childhood and in adolescence as the children assigned to the low or moderate-decreasing trajectory groups of externalizing problems (III, Supplementary Materials, Figure 4.).

5.1.4 Co-occurrence of internalizing and externalizing problems (III)

The associations between the trajectories of internalizing and externalizing problems indicated somewhat high proportions of co-occurrence. Thirty-two percent of the children who had chronically high levels of internalizing problems throughout the study also had high (although decreasing) levels of externalizing problems. Further, 56% of the children with high levels of externalizing problems in childhood had an increasing level of internalizing problems and 20% had chronically high level of internalizing problems from childhood onwards. In addition, over one half of the adolescents with adolescent-onset externalizing problems had increasing and one third had chronically high level of internalizing problems (III, Figure 1.).

There was also a fairly high co-occurrence between the adolescent self-reported problems at T7 and the trajectories of internalizing and externalizing problems. The adolescents belonging to the increasing internalizing problems trajectory group according to mothers' reports reported significantly more externalizing problems in adolescence than did those from the low trajectory group ($p = 0.006$). The adolescents with the adolescent-onset externalizing problems according to mothers' reports also reported significantly more internalizing problems in self-reports than did those from the low trajectory group ($p = 0.048$; III, Figure 1.).

5.2 Maternal depressive symptoms

5.2.1 Timing of maternal depressive symptoms (I, II, IV)

The numbers and proportions of mothers exceeding the lower and upper cutpoint in the EPDS at different timepoints are presented in Table 5.2.1. In Study I, with the upper EPDS cutpoint, only maternal depressive symptoms prenatally, two months postnatally and in child's adolescence (concurrently) were used. However, the numbers and proportions from all timepoints are presented in the abovementioned table. In Study II a new variable indicating the timing of the initial exceeding (first time) of the lower cutpoint of maternal depressive symptoms was defined and the proportions are also presented in Table 5.2.1.

Table 5.2.1. Numbers and proportions of mothers scoring at or above the lower (≥ 10) and upper (≥ 13) cutpoints on the on the Edinburgh Postnatal Depression Scale (EPDS) altogether and those scoring at or above the lower cutpoint for the first time at different data collection points (among those who participated at T7).

Data collection point	Total (n)	EPDS ≥ 10				EPDS ≥ 13	
		All		First time		All	
		(n)	(%)	(n)	(%)	(n)	(%)
Prenatal (last trimester)	190	43	23	43	22	14	7
Postnatal (first weeks)	154	39	25	20	10	20	10
Postnatal (2 mo)	154	26	17	6	3	12	8
Postnatal (6 mo)	155	30	19	9	5	16	10
Early childhood (4-5 yrs)	115	24	21	9	5	8	7
Middle childhood (8-9 yrs)	143	27	19	6	3	9	6
Adolescence (16-17 yrs)	176	36	21	13	7	19	11

5.2.2 Trajectories of maternal depressive symptoms (II, IV)

The model chosen to describe the trajectories of maternal depressive symptoms from pregnancy to child's adolescence consisted of four groups: very-low ($n = 58$; 18%), low-stable ($n = 173$; 53%), high-stable ($n = 88$; 27%) and intermittent ($n = 10$; 3%; Figure 5.2.1.; II, Figure 2.).

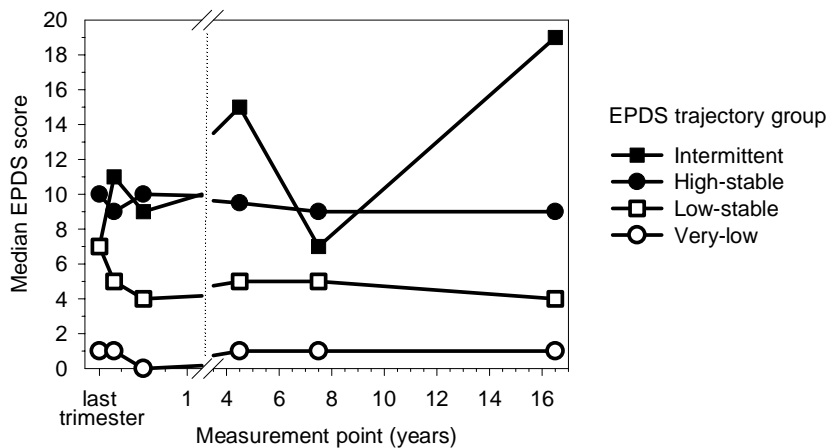


Figure 5.2.1 Trajectories of maternal depressive symptoms from pregnancy to child's adolescence (Korhonen et al. in press).

5.3 Maternal depressive symptoms and adolescent's psychosocial functioning

5.3.1 Timing of maternal depressive symptoms and adolescent's adjustment (I, II)

In Study I the timing of maternal depressive symptoms was determined using the upper ≥ 13 EPDS cutpoint. Maternal depressive symptoms prenatally, two months postnatally and concurrently at child's adolescence were included in the study. The Total, Internalizing and Externalizing problem scores were used with the clinical cutpoint ≥ 64 and the Social Competence score as a continuous variable.

In Study II a variable indicating the initial exceeding of the lower ≥ 10 EPDS cutpoint was defined to rule out the confounding effects of previous depressive episodes. In this study maternal depressive symptoms at all timepoints T1-T7 were included in the analyses. Adolescent Internalizing and Externalizing Problem and Social Competence scores were used as continuous T-scores.

Maternal depressive symptoms prenatally and adolescent outcome

In the YSR there were more adolescents exceeding the clinical cutpoint in Externalizing Problems score among those adolescents whose mothers had depressive symptoms prenatally (9% vs. 29%; $p = 0.041$; Table 5.3.1; I, Figure 3.).

With the lower EPDS cutpoint and continuous CBCL and YSR Problem score variables initial exposure to maternal prenatal depressive symptoms was also associated with higher scoring in Externalizing Problems in the CBCL ($p = 0.037$; Table 5.3.2; II, Figure 3.).

Maternal depressive symptoms postnatally and adolescent outcome

A large proportion of adolescents exceeded the clinical cutpoint in Externalizing Problems in self-reports among those exposed to maternal depressive symptoms two months postpartum (T3; 7% vs. 33%; $p = 0.012$; Table 5.3.1; I, Figure 3.). Social Competence in mothers reports was likewise poorer among the adolescents whose mothers scored above the upper EPDS cutpoint two months postnatally ($p = 0.031$; $M = 44$; 95 % CIs 36-51) than among those who scored below the cutpoint ($M = 48$; 95 % CIs 46-50). The same applied to adolescent self-reports ($p = 0.038$; $M = 42$; 95 % CIs 36-49 vs. $M = 46$; 95 % CIs 44-48).

When considering the initial exposure with the lower EPDS cutpoint and continuous CBCL and YSR Problem score variables there were no statistically significant associations between maternal depressive symptoms during first postnatal weeks (T2) or six months (T4) postnatally and adolescent psychosocial functioning. However, initial exposure to maternal depressive symptoms two months postnatally (T3) was associated with higher scoring in the Internalizing Problems score in the YSR ($p = 0.030$; Table 5.3.2; II, Figure 3.). The findings were parallel in maternal reports but did not reach statistical significance.

Table 5.3.1. Proportions (%) of adolescents scoring high (T-score ≥ 64) on the CBCL or YSR in groups

	Prenatal (T1)		Postnatal (T3)		Concurrent /T7)	
	ND	D	ND	D	ND	D
	n = 170/171	n = 13/14	n = 137/138	n = 11/12	n = 159/153	n = 19/18
ALL						
Total Problems						
CBCL	8	8	10	0	6	26*
YSR	10	7	9	17	6	28**
Internalizing						
CBCL	11	15	10	18	8	37***
YSR	14	14	14	25	10	39**
Externalizing						
CBCL	7	0	6	9	3	21**
YSR	9	29**	7	33*	7	22*
BOYS	n = 82/80	n = 5	n = 60/59	n = 6/6	n = 75/72	n = 9/8
Total Problems						
CBCL	4	0	3	0	1	22*
YSR	5	0	3	17	1	13
Internalizing						
CBCL	9	20	3	17	5	33*
YSR	9	0	7	17	4	25†
Externalizing						
CBCL	6	0	3	17	3	22†
YSR	9	40†	2	50***	6	38*
GIRLS	n = 88/91	n = 8/9	n=77/79	n=5/6	n=81/81	n=10/10
Total Problems						
CBCL	13	13	14	0	11	30
YSR	14	11	14	17	10	40*
Internalizing						
CBCL	13	13	14	20	10	40*
YSR	18	22	19	33	15	50*
Externalizing						
CBCL	7	0	8	0	4	20†
YSR	9	22	10	17	7	10

Note: The number of mothers and children varies because of missing data.

The first number refers to CBCL and the second to YSR.

ND = EPDS sum score <13, D = EPDS sum score >13

† $p \leq .1$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .005$ (Fisher's Exact test)

Maternal depressive symptoms in early and middle childhood and adolescent outcome

With the upper EPDS as well as CBCL and YSR cutpoints maternal depressive symptoms in early or middle childhood were not associated with adolescents' Internalizing or Externalizing Problems or poorer Social Competence (not reported elsewhere).

In Study II, with the lower EPDS cutpoint and continuous CBCL and YSR variables initial exposure to maternal depressive symptoms at the age of four to five years was associated with lower scoring on Social Competence in self-reports ($p = 0.029$; Table 5.3.2; II, Figure 3.). Initial exposure to maternal depressive symptoms at the age of eight to nine years on the other hand was not associated with adolescent psychosocial functioning (II, Figure 3.).

Table 5.3.2. Associations between initial exposure to maternal depressive symptoms and adolescent outcome. Continuous variables of both EPDS and CBCL and YSR variables are used. Only those timing columns with statistically significant associations are included (first weeks and six months postnatally and childhood 8-9 years excluded).

		Prenatal				p	Postnatal two months				p
		non-depressed		depressed			non-depressed		depressed		
		mean	95%CI	mean	95%CI		mean	95%CI	mean	95%CI	
CBCL	int	51	49-52	53	50-56	0.12	51	49-53	56	46-66	0.2
	ext	48	47-50	52	49-55	0.03*	49	48-51	52	42-61	0.42
	sos.comp.	46	45-48	48	45-51	0.4	47	46-49	41	32-50	0.13
YSR	int	50	48-52	51	47-54	0.9	50	49-52	60	52-70	0.03*
	ext	51	50-53	54	51-57	0.12	52	50-53	53	42-64	0.83
	sos.comp.	46	44-47	46	43-49	1.0	46	44-47	41	32-51	0.28
		Childhood 4-5 years				p	Concurrent				p
		non-depressed		depressed			non-depressed		depressed		
		mean	95%CI	mean	95%CI		mean	95%CI	mean	95%CI	
CBCL	int	51	49-52	54	46-61	0.42	51	49-52	52	44-59	0.75
	ext	49	47-51	52	43-61	0.49	49	47-50	54	46-61	0.19
	sos.comp.	48	45-50	45	38-53	0.69	47	45-49	45	38-52	0.62
YSR	int	51	49-53	50	40-60	0.9	50	48-52	55	49-61	0.11
	ext	52	51-54	52	45-58	0.89	51	50-52	60	54-65	0.005**
	sos.comp.	46	44-48	40	35-45	0.03*	46	44-47	47	41-53	0.67

Maternal concurrent depressive symptoms and adolescent outcome

Adolescents whose mothers scored above the upper EPDS cutpoint concurrently had more often high Total ($p = 0.013$ in CBCL and 0.008 in YSR), Internalizing ($p = 0.001$ and 0.003 respectively) and Externalizing ($p = 0.009$ and 0.044 respectively) problems in both self-reports and in maternal reports (Table 5.3.1; I, Figure 3). In maternal reports they also had lower scores in Social Competence ($p = 0.003$; $M = 40$; $95\% \text{ CIs} = 32-47$) than those whose mothers scored below the cutpoint ($M = 48$; $95\% \text{ CIs} = 46-50$). In self-reports Social Competence was also somewhat poorer among those whose mothers scored above the upper cutpoint in the EPDS ($p = 0.066$; $M = 41$; $95\% \text{ CIs} = 34-47$) compared to those whose mothers scored below the cutpoint ($M = 47$; $95\% \text{ CIs} = 45-49$).

With the lower EPDS cutpoint and continuous CBCL and YSR Problem score variables initial exposure to maternal depressive symptoms concurrently (in adolescence) was associated with higher scoring on Externalizing Problems in the YSR ($p = 0.005$; Table 5.3.2; II Figure 3).

5.3.2 Gender differences in the associations of the timing of maternal depressive symptoms and adolescent's adjustment (I)

In Study I the associations between maternal depressive symptoms and adolescent outcome were also examined separately by gender. The CBCL and YSR Problems as well as the EPDS were used with the upper cutpoint.

When analysed by gender, there were statistically indicatively more boys scoring above the cutpoint on Externalizing Problems in self-reports among those exposed to maternal depressive symptoms *prenatally* (40% vs. 9%, $p = 0.083$; Table 5.3.1; I, Figure 3.). Boys whose mothers scored above the upper EPDS cutpoint prenatally also scored significantly lower on Social Competence in the CBCL ($p = 0.009$; $M = 34$; 95% CIs = 15-53) than those whose mothers scored below the cutpoint ($M = 46$; 95% CIs = 44-48). The same applied indicatively in adolescent self-reports ($p = 0.072$; $M = 35$; 95% CIs = 20-49 vs. $M = 44$; 95% CIs = 42-46; I, Figure 2.).

Significantly more boys exceeded the cutpoint of Externalizing Problems in self-reports among those exposed to maternal depressive symptoms *two months postnatally* (50% vs. 2%, $p = 0.002$) than those not exposed (Table 5.3.1; I, Figure 3). No such associations were found among girls. Mothers exceeding the upper EPDS cutpoint two months postnatally also evaluated their adolescent boys to have poorer Social Competence ($p = 0.010$; $M = 37$; CIs = 26-48) than did mothers scoring below the EPDS cutpoint ($M = 47$; 95% CIs 45-50). The same applied to self-reports ($p = 0.010$; $M = 33$; 95% CIs = 21-46 vs. $M = 45$; 95% CIs = 42-47; I, Figure 2.).

In adolescence there were more both boys and girls scoring high on Total, Internalizing and Externalizing Problems among those whose mothers had depressive symptoms *concurrently* (Table 5.3.1; I, Figure 3.) The sons of mothers who concurrently exceeded the upper EPDS cutpoint also had significantly lower Social Competence score in mothers' reports ($p = 0.009$; $M = 37$; 95% CIs = 26-47) than did those whose mothers scored below the EPDS cutpoint ($M = 47$; 95% CIs = 44-49). The same applied indicatively to girls ($p = 0.084$; $M = 39$; 95% CI = 34-43 vs. $M = 44$; 95% CIs 42-47). The sons but not the daughters of concurrently depressed mothers also had lower Social Competence scores in self-reports ($p = 0.031$; $M = 39$; 95% CIs = 34-43 vs. $M = 44$, 95% CIs = 42-47; I, Figure 2.).

5.3.3 Recurrent maternal depressive symptoms and adolescent's adjustment (I)

In Study I, to study whether it was the perinatal, concurrent or recurrent maternal depressive symptoms that best explained the internalizing or externalizing problems or the poorer social competence of the adolescent, a variable with four groups was created, based

on the number of times the mother had scored above the upper cut point in the EPDS: 1) never ($n = 108$), 2) only perinatally, i.e. pre- and/or postnatally ($n = 12$), 3) perinatally and concurrently ($n = 4$) i.e. recurrently, 4) only concurrently ($n = 11$). Continuous variables of CBCL and YSR Problem scores were used, as the number of high-scoring adolescents in the groups would have been too small for categorical analysis.

The highest mean in Total, Internalizing and Externalizing Problems scores both in maternal and adolescent reports were among the adolescents whose mothers had depressive symptoms only concurrently ($p \leq 0.05$ in all; I, Figure 4). In maternal reports the level of Internalizing Problems was also higher among those adolescents whose mothers had recurrent depressive symptoms than those whose mothers had never had depressive symptoms or had had them only perinatally. In maternal reports Social Competence was poorest among the adolescents whose mothers had recurrent depressive symptoms ($p = 0.016$). The mean Externalizing Problem score was also higher among the adolescents whose mothers had depressive symptoms only perinatally than among those whose mothers never exceeded the upper EPDS cutpoint ($p = 0.016$; I, Figure 4.).

5.3.4 Combined effects of initial timing, recurrence and trajectories of maternal depressive symptoms on adolescent's adjustment (II)

As the number of mothers exceeding the upper EPDS cutpoint is some of the groups in the analyses presented in Study I and Chapter 5.3.3 were rather small, in Study II to further examine the combined effects of the various aspects of maternal depressive symptoms, six sets of regression analyses were accomplished, one set for each of the adolescent outcome variables: continuous variables of CBCL and YSR Internalizing and Externalizing Problem scores and Social Competence scores. The explanatory variables in each of the sets were the depressive symptoms trajectory the mother was assigned to, representing the pattern of maternal depressive symptoms (groups see 5.2.2), the recurrence of maternal depressive symptoms ("never", "once", "twice", "three or more times") and the time-point at which the mother had exceeded the lower cutpoint for the first time (time from first exposure).

Internalizing Problems were best explained by recurrence of maternal depressive symptoms, more recurrent symptoms increasing the risk. Further, the high-stable trajectory of maternal depressive symptoms, indicating chronic depressive symptoms, was the best explanatory variable for adolescent's higher scoring in Externalizing Problems and poorer Social Competence (II, Table 3.). In addition, in maternal reports maternal intermittent depressive symptoms also predicted poorer Social Competence and unexpectedly the low-stable trajectory of maternal depressive symptoms was also associated with adolescents' poor Social Competence in self-reports.

5.4 Multiple risk analysis of adolescent's adjustment (I)

In Study I both logistic and linear regression analyses were conducted to determine the sociodemographic and maternal factors predicting the adolescent psychosocial functioning and emotional and behavioural problems (I, Tables 3 and 4). The summary of the results of

the logistic regressions, using dichotomized Problems and EPDS scores is presented in Table 5.4.1.

When using continuous EPDS variables, higher scoring on the EPDS concurrently predicted poorer Social Competence both on the CBCL ($b = -2.2, p = 0.017$) and YSR ($b = -2.2, p < 0.001$; I, Table 4).

Table 5.4.1. Summary of the strongest factors predicting adolescent's Total, Internalizing and Externalizing Problems and Social Competence scores in CBCL and YSR

Adolescent adjust- ment measure	Explanatory variable and its categories	b	OR	95%CI	p
CBCL					
Better Social Competence	Maternal concurrent depressive symptoms above cutpoint	-5.5		-10.2-(-0.8)	0.022
	Maternal higher education	4.5		1.5-7.5	0.004
High Total Problem Score	Maternal concurrent depressive symptoms above cutpoint		5.7	1.6-20.0	0.007
	Female gender of the adolescent		4.3	1.1-16.3	0.032
High Internalizing Problem Score	Maternal concurrent depressive symptoms above cutpoint		5.8	1.8-19.1	0.004
High Externalizing Problem Score	Maternal concurrent depressive symptoms above cutpoint		4.7	1.1-20.5	0.038
YSR					
Better Social Competence	Maternal higher education	3.7		0.5-6.9	0.024
	Female gender of the adolescent	3.6		0.6-6.6	0.021
High Total Problem Score	Maternal concurrent depressive symptoms above cutpoint		4.4	1.1-17.6	0.037
	Female gender of the adolescent		7.0	1.4-34.5	0.016
High Internalizing Problem Score	Maternal concurrent depressive symptoms above cutpoint		5.4	1.6-18.5	0.007
	Female gender of the adolescent		3.8	1.2-11.5	0.019
High Externalizing Problem Score	Mothers older age		0.7	0.6-1.0	0.025

To explore whether the results were the same or different when using continuous variables of CBCL Problem scores and EPDS scores, linear regression analyses were conducted. Continuous CBCL Problem scores as well as EPDS scores indicated that a higher score on the EPDS concurrently was a risk factor for higher scoring in Total ($b = 3.6, p < 0.001$), Internalizing ($b = 3.4, p < 0.001$) and Externalizing ($b = 2.9, p < 0.001$) Problem scores (I, Table 4). Regarding continuous YSR Problem scores and EPDS scores, scoring higher on the EPDS concurrently ($b = 3.1, p \leq 0.001$) and female gender ($b = 5.5, p = 0.001$) were risk factors for scoring higher on Total Problems, whereas mother's older age was a protective factor ($b = -0.5, p = 0.002$). Higher scoring on the EPDS concurrently ($b = 3.0, p = 0.004$) and female gender ($b = 6.9, p \leq 0.001$) were risk factors for scoring higher on Internalizing Problems. Higher scoring on the EPDS concurrently ($b = 2.0, p = 0.001$) was a risk factor and mother's older age (used as a continuous variable) was a protective factor ($b = -0.5, p = 0.002$) for scoring higher on Externalizing Problems. Female gender was indicatively a risk factor for higher scoring on Externalizing Problems ($b = 2.3, p = 0.071$; I, Table 4.).

To summarize, the results between continuous and categorized Problem scores and EPDS scores did not differ significantly. The small differences were probably explained by the different group sizes.

5.5 Summary of the results concerning maternal depressive symptoms and adolescent adjustment

Figure 5.5.1 presents a summary of the results concerning the timing of maternal depressive symptoms and adolescent's psychosocial functioning.

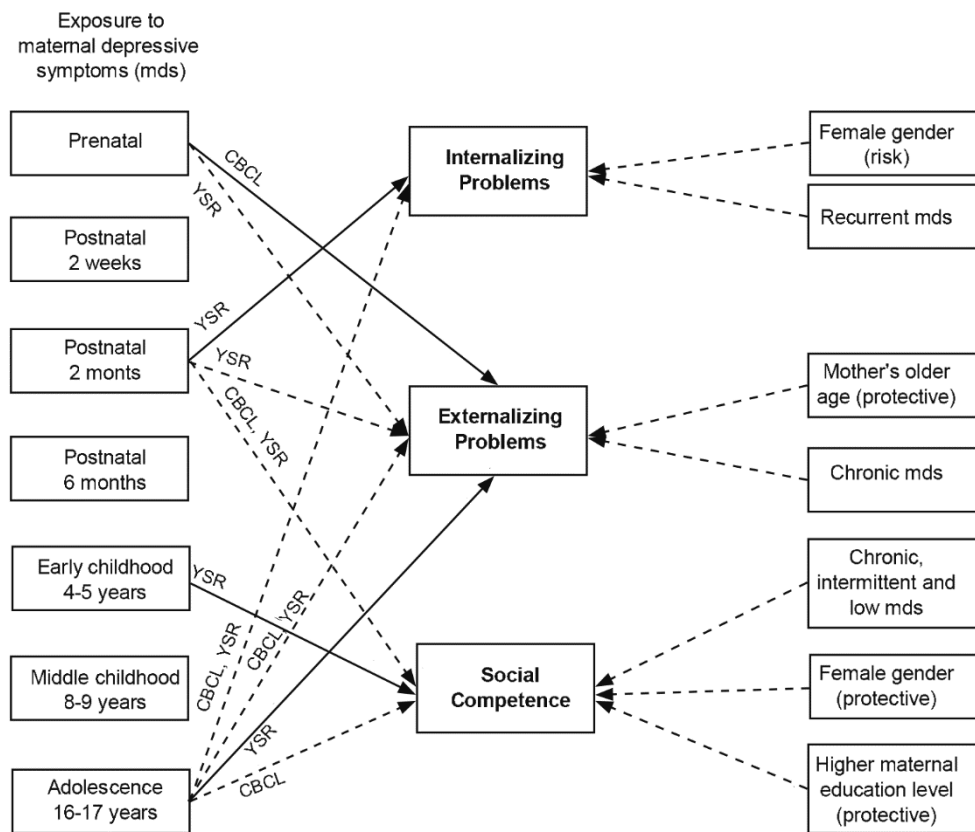


Figure 5.5.1. A summary of the results concerning the effect of the timing of maternal depressive symptoms and other selected explanatory factors on adolescents' internalizing and externalizing problems and social competence. Only statistically significant ($p < 0.05$) associations are shown. The dashed line arrows indicate associations derived by using 1) the ≥ 13 cutpoint of the Edinburgh Postnatal Depression Scale (EPDS) without excluding previous exposures and 2) the ≥ 64 cutpoint of the Child Behavior Checklist (CBCL) and Youth Self report (YSR) Problem scores (Social Competence score as a continuous variable). The continuous line arrows indicate associations between the initial exceeding of the ≥ 10 cutpoint of EPDS and the continuous CBCL/YSR variables. The CBCL/YSR marks attached to the arrows indicate the outcome measure with which each particular association was seen.

5.6 Maternal depressive symptoms and the trajectories of child's internalizing and externalizing problems

5.6.1 Timing of maternal depressive symptoms and the trajectories of child's internalizing and externalizing problems (IV)

In Study IV the associations between the timing of maternal depressive symptoms (T1, T3-T7) used as continuous variables and child's patterns of internalizing and externalizing problems were examined.

Maternal depressive symptoms at each data collection point used were statistically significantly associated with the trajectories of adolescent internalizing problems (T1 $p = 0.029$; T3 $p < 0.001$; T4 $p = 0.006$; T5 $p = 0.040$; T6 $p = 0.003$ and T7 $p = 0.002$; Figure 5.6.1; IV, Figure 4). The highest EPDS median at all time points was among the mothers of the children assigned to the high-stable trajectory group and the lowest median among those assigned to the low-stable group (IV, Figure 4a). Pairwise analyses between the trajectory groups indicated that the level of maternal depressive symptoms was significantly lower among the mothers of the children assigned to the low-stable trajectory group of internalizing problems than all the other trajectory groups (except between the low-stable and moderate-increasing group at T5). In middle childhood (T6) the level of maternal depressive symptoms was also significantly lower among the mothers of the children assigned to the moderate-increasing group than among those assigned to the high-stable group ($p = 0.011$). In addition, in early childhood (T5) the level of maternal depressive symptoms was indicatively higher among the mothers of the children assigned to the moderate-decreasing group than among those belonging to the moderate-increasing group ($p = 0.066$).

Maternal depressive symptoms were statistically significantly associated with the trajectories of adolescent's externalizing problems at T3 ($p = 0.038$), T4 ($p = 0.006$), T6 ($p = 0.012$) and T7 ($p = 0.040$) and indicatively at T5 ($p = 0.074$; Figure 5.6.1; IV, Figure 4). The highest EPDS medians at T3-T5 were in the high-decreasing group and at T6 and T7 in the moderate-to-high group of externalizing problem trajectories. The lowest EPDS median at all the data collection points was in the low-stable trajectory group (at T3 equal to the moderate-decreasing group; IV, Figure 4b). Pairwise associations indicated a statistically significant difference between the high-decreasing and both the low-stable and the moderate-decreasing groups at T3-T6. The discrepancy between the significance of comparing all four groups and pairs of groups at T6 is most likely due to the considerable difference in the size of the trajectory groups (high-decreasing $n = 45$, moderate-to-high $n = 12$) and the differing shapes of the maternal EPDS distributions. At T7 the level of maternal depressive symptoms was significantly higher among the mothers of the children belonging to the moderate-to-high group than among all the other trajectory groups. Pairwise comparison also indicated a statistically significant difference in maternal depressive symptoms at T1 between the low-stable and high-decreasing groups.

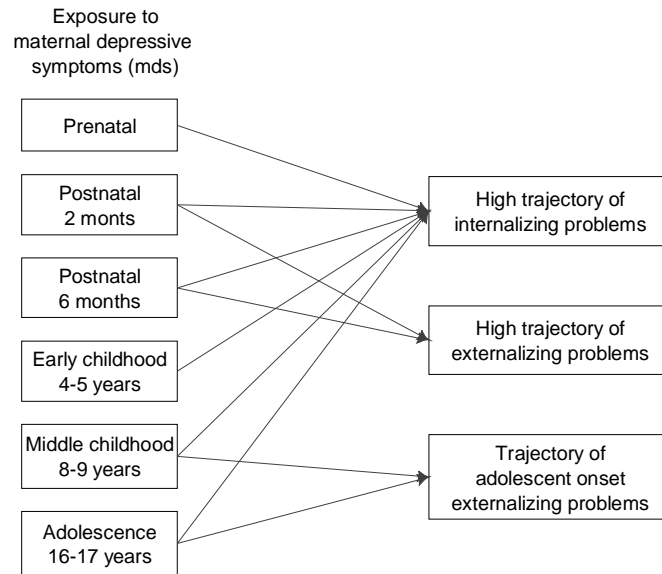


Figure 5.6.1. A summary of the results for the associations of the timing of maternal depressive symptoms (using the continuous EPDS variables) and the trajectory of child's internalizing and externalizing problems (each comprising four groups). The arrows connect each mds time to the trajectory group with the highest EPDS median. Only statistically significant ($p < 0.05$) associations are shown.

5.6.2 Associations between the trajectories of maternal depressive symptoms and the trajectories of child's internalizing and externalizing problems (IV)

The trajectories of maternal depressive symptoms were statistically significantly associated with the trajectory of child's internalizing problems ($p < 0.001$). Fifteen percent of the adolescents whose mothers had chronically high (high-stable) level of depressive symptoms had chronic (high-stable) internalizing problems. In addition, 50% of the children whose mothers had a pattern of intermittent depressive symptoms had chronic internalizing problems and 30% had low level of internalizing problems (IV, Figure 5).

The trajectory of maternal depressive symptoms, on the other hand, was only indicatively associated with child's trajectory of externalizing problems ($p = 0.083$) and did not well explain the child's membership to the different trajectory groups of externalizing problems (IV, Figure 5).

6. Discussion

The five aims of the dissertation can be divided into two larger sections. The first main aim was to draw a picture of the patterns of the child's emotional and behavioural problems from the age of four to five years to the age of 16-17 years (Aim 1). The second main aim was to explore how maternal depressive symptoms from pregnancy to child's adolescence influence the child's well-being in adolescence (Aims 2 to 4) and longitudinally from the child's age of four to five years to 16-17 years (Aim 5). An issue of further interest was whether it is the timing, recurrence or the pattern of maternal depressive symptoms that best explains the harmful effect on child's well-being and development (Aim 4).

The outstanding strength of the study is the extremely long follow-up time also covering the prenatal period. The questionnaires used here are widely used in both research and in clinical practice. In addition, the questionnaires were the same throughout the longitudinal study. Despite the cumulative attrition during the longitudinal process, the sample size remained moderate in size, and the adolescent self-reports are a valuable addition to the data.

Development psychology and psychopathology is multidimensional and complex. This dissertation introduces some aspects of the child's psychosocial development and maladaptation and raises questions to be addressed in future studies.

6.1 Continuity and co-occurrence of psychopathology and competence

6.1.1 Developmental patterns of child's internalizing and externalizing problems

The trajectories of both internalizing and externalizing problems identified were to some extent as hypothesized. Most of the children had moderate level of internalizing problems that increased towards adolescence and moderate level of externalizing problems that decreased towards adolescence. Eleven percent of the children had a high level of internalizing problems from the age of four to five years to the age of 16-17 years and 17% of them had a high level of externalizing problems. The high level of internalizing and to a lesser extent the high level of externalizing problems remained fairly stable from early childhood to adolescence. Although there are longitudinal studies using Finnish samples exploring the continuity and changes in child's emotional and behavioural problems (Pihlakoski et al., 2006; Sourander et al., 2005; Sourander et al., 2007), this is the first study to explore the developmental patterns of the abovementioned problems. The findings in the shapes and proportions of the trajectories are consistent with those of other trajectory

studies from other Western societies referred earlier, except that none of these earlier studies identified a trajectory of adolescent onset externalizing problems.

Five percent of the children were assigned to the trajectory of adolescent onset externalizing problems. As mentioned before, studies that have identified an “adolescent onset–group” of children have used antisocial behaviour as an outcome measure and the proportions vary from 12% to 15% (Monahan et al., 2009; Odgers et al., 2008; Reef et al., 2011). By contrast, a cross-national study conducted by Broidy et al. (2003) from three countries and with five different longitudinal samples explored the trajectories of physical aggression and identified no adolescent-onset trajectory but suggested that the onset of physical aggression occurs in early childhood (Broidy et al., 2003). In fact, the level of physical aggression among individuals was found to be fairly stable. However, they did speculate that this could partially be explained by the age range of the studies samples used: only in one sample were the children over 15 years of age, while all the others included subjects that were not older than 13 years. Thus one explanation for the identification of the adolescent-onset group could be that the sample of this study includes follow-up to the adolescents' age of 16-17 years, which has found to be the peak age for adolescent-onset antisocial behaviour problems. According to Moffitt's theory, most of the children with adolescent onset antisocial behaviour actually have adolescent-limited problems and after the adolescent years they revert to their “natural” behaviour (Moffitt, 1993). Thus, a new follow-up should be conducted to address that question. The number of trajectory groups in the model also alters the findings in different studies.

Surprisingly, no gender differences were identified in the trajectories of internalizing and externalizing problems. This may be due to the statistical method used as the CBCL T-scores are based on separate normative samples for each gender within each age range (Achenbach, 1991). This may prevent the identification of the differences between genders. Thus using the raw scores might be better than using normalized T-scores, as Achenbach (1991a) recommends. However, using the raw problem scores makes it more difficult to compare the results to those of clinical samples. Earlier studies also suggest running separate trajectories for genders (Dekker et al., 2007). However, the sample size restricted the analyses.

According to this study there were no socioeconomic differences between groups although a trajectory study by Lansford et al. (2006) indicated that lower SES was associated with high levels of internalizing and externalizing problems in a sample from the USA. This absence of socioeconomic differences may be due to the Finnish population being relatively homogenous. In addition, in the study by Lansford et al. teachers' reports were used instead of the maternal reports in our study. The mother's evaluation is made from her own perspective while teachers have more experience of children of the same age. The inability to perform trajectory analyses from other reporters' data is a limitation of the present study.

6.1.2 Social competence and the developmental patterns of internalizing and externalizing problems

Social competence is about how an individual gets along with other people, forms close relationships and performs in hobbies and academically. Thus internalizing problems and withdrawn behaviour are likely to influence social competence. According to the findings

of Study III chronically high level of internalizing problems from early childhood onwards was associated with poorer social competence in middle childhood and in adolescence. This study cannot, however, address the causality of internalizing problems and social competence as social competence was measured for the first time in middle childhood and trajectories were based on data from early childhood onwards.

As mentioned before, in addition to somatic complaints and anxious/depressive symptoms the internalizing problem score also includes withdrawal behaviour. Thus the chronic internalizing problems may also indicate withdrawn behaviour, which, as noted above, has been found to be a fairly stable and also more genetically inheritable behavioural dimension. Withdrawn behaviour is also likely to increase the risk of becoming socially isolated and rejected and bullied by peers. Burt et al. (2008) found that social competence in childhood showed negative longitudinal links to internalizing problems in adolescence, and even in adulthood. They also tested ruling out the withdrawn behaviour dimension from the analyses but that did not notably change the results. Thus perhaps all kinds of internalizing problems increase the risk for poor social competence and vice versa.

In addition, according to Study III in adolescence the social competence was also poorer among the children assigned to the moderate-increasing trajectory of internalizing problems compared to those with moderate-decreasing and low-stable. In addition to the peer relations, academic skills and hobbies, the Social Competence score on the CBCL also measures sibling relations and participation in housework. While considering youth and puberty, conflicts, especially at home and with family members, are also to some extent normative. It should also be noted that the level of internalizing problems among those children assigned to the moderate-increasing group remained below the clinical level even in adolescence. A longitudinal study by Hofstra et al (2002) exploring the psychopathological development from the age of 11-18 to the age of 21-28 years found that subjects whose problem level increased towards adolescence reverted to normal level after adulthood. There may, however, be a subgroup of children who continue to have increasing level of internalizing problems that later exceed the clinical cutpoint (Hofstra, Van der Ende, & Verhulst, 2002). Again, a follow-up should be conducted to explore this.

Surprisingly, in middle childhood and in adolescence the social competence of those children with high (decreasing) level of *externalizing problems* from early childhood onwards was just as good as the social competence of those with low or moderate level of externalizing problems. However, in adolescence among those with adolescent-onset externalizing problems the social competence was significantly poorer than among those in all other trajectory groups. No differences between groups were found in middle childhood. Thus, poorer social competence did not precede adolescent-onset externalizing problems but rather accompanied it. Hence the cascading model suggesting that externalizing problems in early childhood increase the risk for poorer social competence later was not supported. The findings rather suggest that the association between social competence and externalizing problems is more likely contemporary than causal, as also reported in a study by Burt et al. (2008).

6.1.3 Co-occurrence of internalizing and externalizing problems

The findings in Study III indicate that there is a high co-occurrence of emotional and behavioural problems. In addition, one problem type increases the risk for the other. It has been hypothesized that high level of internalizing problems might be protective against externalizing problems as internalizing problems are often related to inhibited and low risk-taking behaviours (Burt et al., 2008; Masten et al., 2005; Moffitt, Caspi, Harrington, & Milne, 2002). However, according to this study one third of the children with chronic internalizing problems had high (decreasing) level of externalizing problems and one fourth had adolescent-onset externalizing problems.

An association between increasing internalizing problems and co-occurring externalizing problems was also detected in self-reports in adolescence. As mentioned before, it is to some extent normative that internalizing problems increase towards adolescence. However, the findings of this study suggest that, although externalizing problems are found to decrease towards the adolescence, they may increase among those with increasing level of internalizing problems. Externalizing problems may also express inner malaise.

Joint trajectories of internalizing and externalizing problems would have better described the different patterns of co-occurring problems. However, the sample size restricted the analyses. In future studies it would be interesting to explore the differences in risk factors as well as in future well-being between those with “pure” or co-occurring internalizing and externalizing problems.

6.2 Maternal depression as a risk factor for child psychopathology

6.2.1 Maternal prenatal depressive symptoms and adolescent's adjustment

The findings in Studies I and II show that exposure to maternal prenatal depressive symptoms increases the child's risk for externalizing problems in adolescence. The results thus confirm the hypothesis and earlier findings referred to earlier, including those of this same sample when the children were eight to nine years old (Luoma et al., 2001; Luoma, 2004). As noted earlier, maternal prenatal anxious and depressive symptoms are associated with changes in the HPA-axis activation level and elevated cortisol levels in offspring. The HPA-axis and cortisol are also associated with stress reactivity. The adolescents of prenatally anxious mothers have been found to manage less well and react more impulsively in cognitive testing than unexposed adolescents (Latimer et al., 2012; Mennes et al., 2009; Van den Bergh et al., 2005). Externalizing problems of the child may thus also be accompanied by poorer adaptation and stress control and further increase the child's risk for maladaptation.

The foetus also exposes to the environmental factors via the mother. The health habits of stressed or depressed expectant mothers may be less optimal than those of healthy expectant mothers. For example, exposure to smoking (Ashford, van Lier, Timmermans, Cuijpers, & Koot, 2008; Brion et al., 2010) and alcohol (O'Connor, 2001; Welch-Carre,

2005) *in utero* increase the risk for subsequent externalizing problems and neuropsychiatric as well as neurocognitive problems.

In addition, prenatal depressive symptoms may affect the mother's representations of the child (Luoma, 2004) and later interaction and bonding. Prenatal depressive symptoms have also been found to influence infant's negative reactivity and temperament (Davis et al., 2007), which may further affect the attachment relationship. The findings by Bergman et al. (2010) even suggest that the association between increased cortisol *in utero* and impaired cognitive development is dependent on the quality of the mother-infant relationship (Bergman et al., 2010).

The risk factors increasing the risk for prenatal depression may also mediate or modify the risk of prenatal depression of the externalizing problems of the child. The study by Hay et al. (2010) referred to earlier indicated that previous maternal conduct problems and prenatal depressive symptoms increase the child's risk for conduct problems even more than prenatal depressive symptoms alone.

According to this study, the harmful effects of maternal prenatal depressive symptoms on adolescent's externalizing problems were found only in adolescent self-reports when using the clinical cutpoint. When using the outcome measure as a continuous variable, the difference between the means of those exposed to maternal prenatal depressive symptoms and those unexposed were parallel in maternal reports and in adolescent self-reports, although the differences between means in self-reported externalizing problems did not reach statistical significance. This discrepancy is probably due to the small numbers in groups of those exposed to maternal depressive symptoms. Thus the results should be replicated in other studies.

6.2.2 Maternal depressive symptoms postnatally and adolescent's adjustment

The findings in Studies I and II confirm the previous findings indicating that maternal depressive symptoms two months postnatally increase the child's risk for internalizing problems as well as poorer social competence in adolescence. The postnatal period is an important time for bonding and attachment and, as mentioned before, postnatal maternal depressive symptoms increase the risk for insecure attachment. The difficulties in bonding and attachment may also explain why two months postnatally seems to be a more critical period for maternal depressive symptoms than the first weeks or six months postnatally (Study II). Maternal depressive symptoms in the first weeks after delivery, also called "the baby blues" are also more normative and less severe and are considered to be related to the changes in hormonal levels and adjustment to the new life situation.

Maternal postnatal depressive symptoms were also associated with poorer social competence of the child in this same sample when the children were eight to nine years old (Luoma, 2004). The findings thus suggest stability, although it was not tested. As mentioned before, over- or understimulation of the infant by postnatally depressed mother may prevent the infant from learning the required social and emotion regulation skills. In addition, insecure attachment is associated with poorer social competence throughout childhood (Sroufe, 2005). Children also learn social skills, cognitions and coping styles

through social learning and may thus acquire inadequate coping strategies from their depressed mothers (Taylor & Ingram, 1999).

Maternal depressive symptoms two months postnatally were also associated with more externalizing problems in self-reports (Study I). However, when prenatal exposure was controlled for, no statistical significance was found (Study II). In Study II the EPDS cutpoint was, however, lower and the outcome measure was used as a continuous variable. Thus the results are not entirely comparable.

6.2.3 Maternal depressive symptoms in early or middle childhood and adolescent's adjustment

Another possible indication of the negative influence of maternal depressive symptoms on child's social learning processes are the findings in Study II showing that maternal depressive symptoms initially in child's early childhood (4-5 years) but not at middle childhood (8-9 years) were associated with self-reported poorer social competence in adolescence. If the exposure to maternal depressive symptoms occurs earlier, the risk for recurrent exposures increases.

The discrepancy in the findings might also be explained by the developmental phase of the child. The younger the children are the more fundamental skills they practise. In Finland children start school at the age of six to seven years, after which they become more independent and spend more time with peers and also learn and adjust their social skills more in peer relationships. Thus some of the skills the child has acquired by school age have perhaps become more customary and changes and increased stress in the environment may exert less influence on the child's social competence skills. Appleyard et al. (2005) also claimed that the same risk factors (child maltreatment, family disruption, interparental violence, maternal stress and family SES) in early childhood that predicted maladaptation in adolescence did not predict maladaptation if occurring in middle childhood. The writers speculate that there are perhaps other risk factors, like peer relations, neighbourhood ecology and academic achievements that are more crucial in predicting the risk for later maladaptation in middle childhood.

At an earlier study stage of the same longitudinal sample (Luoma, 2004; Luoma et al., 2004) maternal concurrent depressive symptoms at child's age of eight to nine were associated with child's poorer social competence in maternal reports. However, as the findings in Study II show, the social competence of children exposed to maternal depressive symptoms at the age of eight to nine years was just as good as the social competence of those not exposed in adolescence. Thus some of the psychosocial problems of the child are rather a reaction to the prevailing situation and the child's level of emotional and behavioural problems decreases as the maternal depressive symptoms diminish.

6.2.4 Maternal depressive symptoms concurrently and adolescent's adjustment

Adolescents whose mothers had depressive symptoms concurrently had significantly more internalizing problems and poorer social competence (Study I). However, this was true only if there were previous exposures to maternal depressive symptoms (Study II). Thus those adolescents already previously exposed to maternal depressive symptoms reacted more strongly to maternal concurrent depressive symptoms in adolescence than did those exposed for the first time in adolescence.

However, as in Study I the upper and in Study II the lower cutpoint of maternal depressive symptoms was used, the findings might also suggest that more severe concurrent maternal depressive symptoms may have a more negative effect on adolescent psychosocial functioning than milder depressive symptoms, although this was not examined. Thus more studies are needed.

The findings of the multiple risk analysis indicate that along with maternal concurrent depressive symptoms female gender increased the risk for total and internalizing problems. The findings thus confirm earlier findings (Jenkins & Curwen, 2008; Rescorla et al., 2007a). The pubertal status is suggested to be the trigger for the increasing prevalence among girls of internalizing problems as well as for the decreasing prevalence of internalizing problems among boys in adolescence (Angold, Costello, & Worthman, 1998). However, as mentioned before, females continue to express more internalizing problems (Burke, 2003; Goodman, 2007; Nolen-Hoeksema, 1994; Nolen-Hoeksema & Girgus, 1994). Nolen-Hoeksema (1994) and Nolen-Hoeksema and Girgus (1994) speculate that girls' ruminating coping style, social conditions and negative life events, in addition to hormonal and pubertal changes, may explain the higher prevalence of depression among adolescent girls than among boys. According to findings in Study I girls also evaluated themselves as having better social competence than boys.

Maternal higher education level (which was strongly associated with family SES) was also associated with better social competence both in maternal reports and in self-reports (Study I). The same was found in a Swedish epidemiological study (Larsson, Knutsson-Medin, Sundelin, & Trost von Werder, 2000). The Swedish study also found that children from lower SES families had more emotional and behavioural problems than those coming from upper SES families. In addition, risk factors are known to accumulate in families with lower economic status (Appleyard et al., 2005).

Maternal concurrent depressive symptoms also increased the risk for adolescent's externalizing problems (Study I). This was also found among those offspring exposed to maternal depressive symptoms for the first time in adolescence (Study II). This may suggest a reactive and reciprocal influence of maternal concurrent depressive symptoms and child's problems (see also 6.2.7). Reciprocity is supported by the findings of earlier studies indicating that the level of child's behavioural problems is found to decrease or increase as mother's depressive symptoms improve or deteriorate respectively (Munson et al., 2001; Nicholson et al., 2011). Less sensitive parenting (by depressive mothers) may also lead to children's externalizing behaviour and "acting out" (Cummings & Davies, 1994). However, less is known about adolescents' reactions to maternal concurrent depressive symptoms.

In multiple risk analyses maternal concurrent depressive symptoms was the strongest predictor of adolescent's externalizing problems in maternal reports. However, in adolescents' self-reports mother's age was the only predictive variable in the model. Mother's older age was a protective factor against scoring higher on externalizing problems. It is known that the children of adolescent mothers are at higher risk for psychopathology, especially externalizing problems (Harden & Zoccolillo, 1997). Mothers' young age is often related to poverty, poor education level and child neglect, all of which are reportedly related to externalizing problems of the child (Lounds, Borkowski, & Whitman, 2006). The pregnancy may also be more often unexpected when the mother is very young, and thus the preparation for motherhood may be more difficult and of shorter duration. It should be noted, however, that the age range of the mothers in this sample was quite narrow ($M = 27.1$, $SD = 4.2$ at pregnancy).

6.2.5 Recurrence, chronicity or timing?

Recurrent maternal depressive symptoms were the best predictor of adolescent's internalizing problems when recurrence, chronicity and the timing of the first exposure were considered (Study II). Recurrent depressive symptoms of the mother are likely to increase the family stress and to be accompanied by other risk factors. Although it can be only hypothesized, the genetic inheritability of depressive symptoms probably explains some of the risk transmission, especially among those with recurrent depressive symptoms. The inheritability of depression includes direct inheritability of the predisposition to depression as well as the inheritability of the vulnerabilities to personality or environmental characteristics that increase the risk for the development of depression (Goodman & Gotlib, 1999; Kendler & Baker, 2007; Wilkinson et al., 2013). The diathesis-stress model suggests that the predisposition to depression interacts with subsequent stress responses of the individual. However, both environment and genes are involved in the intergenerational risk transmission of disorders like depression (Wilkinson et al., 2013; Plomin & Asbury, 2005)) and the onset of depression is often triggered by a negative life event.

When recurrence, chronicity and the initial timing of maternal depressive symptoms were combined, chronic subclinical maternal depressive symptoms (the high-stable trajectory) was the strongest variable to predict high scoring on externalizing problems and poorer social competence in adolescence. It is emphasized that when maternal depression is severe, it is perhaps easier for the child to accept and adjust to the illness than to milder depressive symptoms. Mothers with more severe depressive symptoms may also receive more help from others than those with milder, subclinical symptoms. As mentioned before, depressive symptoms often have a negative influence on parenting and on the whole family system (Burke, 2003). Interpersonal conflicts within the family and less effective parenting of the depressed mother have been found to increase the risk for externalizing problems in the child (Buschgens et al., 2010). In addition, parental acceptance has been found to be influenced by parental stress and further, to influence adolescents' self-reported competence (Ohannessian, Lerner, Lerner, & von Eye, 1998; Putnick et al., 2008). Internalizing and externalizing problems are also likely to co-occur and behavioural problems may also reflect emotional distress.

Along with chronic maternal depressive symptoms intermittent maternal depressive symptoms (the intermittent trajectory) also predicted poorer social competence in

adolescence. The intermittent trajectory shows higher peaks two months postnatally, at the child's age of four to five years and also in adolescence. As maternal depressive symptoms at the same time points were also associated with poor adolescent competence in the analyses concerning the timing, the findings could again indicate sensitive periods in the child's social learning process (see below). In addition, mothers with intermittent depressive symptoms had more severe depressive symptoms than did mothers in all the other trajectory groups. The effect of severity of maternal depressive symptoms on child development, however, was beyond the scope of this study and merits further investigation.

6.2.6 Males are more sensitive to maternal perinatal depressive symptoms

As hypothesized, maternal depressive symptoms perinatally were found to be more harmful to boys in adolescence than to girls; boys exposed to maternal depressive symptoms prenatally and/or postnatally had more externalizing problems and poorer social competence in adolescence than those not so exposed. No such associations were found among girls. Although the numbers of both symptomatic mothers and adolescents were relatively small, the results confirmed earlier research findings as noted earlier.

Some studies suggest that male infants are more demanding social partners, have more difficulty in regulating affective states and that mother-son dyads have to work harder to keep the interaction affectively organized than do mother-daughter dyads, especially under stressful conditions (Weinberg et al., 2006; Weinberg et al., 2001). Thus, a cycle of problematic interaction may establish itself with mothers showing more anger towards their sons than to their daughters and the sons showing less positive affect and having greater difficulty maintaining affective regulation (Weinberg & Tronick, 1998). There is also some evidence from studies on rats and mice indicating that maternal prenatal stress has different effect on the developing brains of male foetuses compared to females (Weinstock, 2008). In addition, there may be differences in the brain maturation processes between girls and boys (Glaser, 2012). More studies are, however, needed.

It is also likely that there are differences in the parental practices and in the normative socialization practices applied to girls and boys. Externalizing behaviour is more common and perhaps more accepted in boys than in girls, while girls are encouraged to more emotional and social behaviour (Hops, 1995). Moreover, the sons of postnatally depressed mothers have also been found to achieve poorer academic performance and have lower IQs than the daughters (Hay et al., 2001; Murray et al., 2010). Externalizing problems are often combined with academic problems, partly by interfering in the child's learning processes and preventing the child from meeting academic demands, thereby increasing the risk for maladaptation.

No gender differences were detected among adolescents exposed to maternal concurrent depressive symptoms; both the sons and daughters of concurrently depressed mothers had more internalizing and externalizing problems and poorer social competence. It has even been hypothesized that although boys seem to be more sensitive to maternal perinatal stress, later in childhood and adolescence girls may be more vulnerable to maternal depressive symptoms (Jenkins & Curwen, 2008). However, this was not supported in this study.

6.2.7 Patterns of child's internalizing and externalizing problems and maternal depressive symptoms

Study IV showed that the higher the level of maternal depressive symptoms the higher the problem level in child's pattern of internalizing problems. The findings did not, however, confirm the hypothesis that maternal depressive symptoms prenatally or postnatally are more harmful to the development of child's internalizing problems than maternal depressive symptoms appearing later in child's life as the associations between the level of maternal depressive symptoms and the pattern of child's internalizing problems were similar at all time points.

In addition, 50% of the children whose mothers had a pattern of intermittent depressive symptoms experienced chronic internalizing problems. This is contrary to the findings of another trajectory study by Campbell et al. (2007), which found that the children of mothers with intermittent depressive symptoms had low levels of internalizing symptoms at the age of seven years, although the trajectory of maternal depressive symptoms was quite similar to ours. It is perhaps more difficult for the child to adjust to the fluctuating symptoms and behaviour of the mother. It is noteworthy that 30% of the children of the mothers with intermittent depressive symptoms were assigned to the low-stable group, thus showing resilience. Another study on this sample suggests that the prenatal risk factors among the mothers assigned to the intermittent trajectory group are different from those of the mothers assigned to the chronic (high-stable) trajectory group (Luoma, Korhonen, Salmelin, Helminen, & Tamminen, in press). Thus the risk factors associated with the mothers' intermittent depressive symptoms may themselves make motherhood more difficult, especially when combined with depressive symptoms. The effect of maternal depressive symptoms on child's emotional and behavioural problems is thus likely complex and other maternal or child related risk factors may mediate or moderate the harmful effects of maternal depressive symptoms on child's development.

In addition, as mentioned before, the median of depressive symptom scores among mothers assigned to the intermittent group exceeded the lower cutpoint at two months postnatally and the upper cutpoint in early childhood and adolescence, also indicating a more severe level of depressive symptoms than in those assigned to the chronically high pattern of depressive symptoms. A study by Brennan et al. (2000) found that both prolonged mild maternal depressive symptoms and severe depressive symptoms of short duration had an equally negative effect on child outcome (Brennan et al., 2000). Hence, the severity of depressive symptoms among those assigned to the intermittent trajectory of maternal depressive symptoms may also explain the higher risk for internalizing problems of the child. The severity of maternal depressive symptoms and other risk factors related to maternal depressive symptoms and child development should be further studied.

The high peaks in the trajectory of intermittent maternal depressive symptoms at the child's ages of two months, four to five years and 16-17 years also raise a question as to whether the developmental phase of the child explains on the one hand high maternal depressive symptoms and presumably high levels of stress and on the other hand the negative effect of maternal depressive symptoms on child's development. Infancy and adolescence are considered precarious periods for maternal depressive symptoms due to the developmental tasks of forming an attachment relationship in infancy and on the other hand forming an autonomous identity in adolescence (Beardslee, 1986; Gross et al., 2009; LaRoche, 1989). Child's externalizing problems were also found to be at their highest

among some children at the age of four to five years. Thus these developmental periods may be sensitive and hard times for the mother, too, especially if there is already a predisposition to depressive symptoms. In addition, as the mother was the informant on both her own depressive symptoms and child's psychosocial functioning, the findings may also reflect mother's experiences during the high depressive symptoms period.

The findings concerning maternal depressive symptoms and the pattern of child's externalizing problems on the other hand suggest that the relationship between maternal depressive symptoms and the pattern of child's externalizing problems is reciprocal, as suggested in studies mentioned earlier. There may, however, be more sensitive periods in a child's life (Gross, Shaw, & Moilanen, 2008). According to this study elevated maternal depressive symptoms postnatally, or at child's age of four to five years increased the child's risk for high (decreasing) level of externalizing problems from the age of four to five years onwards. However, as the level of child's externalizing problems decreased towards adolescence, so did the level of maternal depressive symptoms.

Elevated maternal depressive symptoms at the child's age of eight to nine years moreover increased the child's risk for high levels of externalizing problems in adolescence (adolescent-onset). Further, maternal depressive symptoms during offspring's adolescence were also associated with adolescent-onset externalizing problems. Earlier studies on the reciprocity of maternal depressive symptoms and child's externalizing problems have suggested that maternal depressive symptoms in childhood increase the level of child's behavioural problems, while teens' behavioural problems increase maternal depressive symptoms (Allen, Manning, & Meyer, 2010; Gross et al., 2008). Hence the findings of this study support those earlier findings. Such findings may also imply that maternal depressive symptoms in middle childhood may increase the risk for adolescent-onset externalizing problems, although further analyses are needed to address the question.

6.2.8 Limitations

Due to the longitudinal setting the cumulative attrition in this study was rather high, although the drop-out analyses indicated no differences in the socio-emotional characteristics or the status of previous maternal depressive symptoms between the drop-outs and participants. The relative excess of boys among the drop-outs may, however, affect the results. In some of the analyses the numbers of mothers and children with high symptom levels were small and the results should be considered tentative and replicated in other longitudinal samples.

According to this study there was high cross-informant consistency between mothers' reports and adolescents' self-reports concerning both the competence and emotional and behavioural problems of the adolescents. Including teachers' reports on child's problems and competence would have been a valuable viewpoint, as in an earlier stage of this longitudinal study (Luoma, 2004). However, in Finland the children go to upper comprehensive school from the age of 12-13 years to the age of 15-16 years. At the upper comprehensive school the children have many different teachers and thus, perhaps none who teaches them enough to be in a position to evaluate their psychosocial functioning. In addition, as the age of the children in this study stage ranged from 15.3 to 17.2 years, some of the children had already completed comprehensive school. CBCLs from the fathers

were also collected at the middle childhood (T6) and adolescence (T7) study stages, but were not used in any of the studies forming part of this dissertation. These are to be used in future work.

Neither the mothers nor the children were clinically interviewed or diagnosed, which is also a limitation of the study. As a normal population study the findings should be considered more as variations and phenomena of normal life.

The inability to perform trajectory analyses on other authors' data is a limitation of the present study. As both the child's internalizing and externalizing problems and the mother's depressive symptoms were reported by the mother, the findings may be biased by maternal depressive symptoms and express rather the mother's experiences of her and her offspring's problems. Maternal experience is nevertheless important and may have an influence on the interaction between the mother and the child and further influence the child's well-being and development. The findings in Study III, however, indicated that the trajectories of the internalizing and externalizing problems of the child based on mothers' reports were significantly associated with adolescent's self-reported internalizing and externalizing problems at the age of 16-17 years, indicating some degree of cross-informant consistency.

The four-cluster model chosen for this study was not the one with best statistical fits, as mentioned before, but was chosen based on the theoretical framework refereed earlier, to best fit and characterize the sample. Adding the fourth cluster into the model separated the moderate-increasing and moderate-decreasing groups of internalizing problems and generated the adolescent-onset externalizing problems group (other models not represented in this dissertation). Thus the phenomenon exists in this sample, although the model does not offer the best statistical fit. Choosing the five group model might have restricted the analyses by making the group smaller. In general trajectory analyses are a valuable mechanism to explore the patterns of change in longitudinal samples.

The different use of cutpoints and continuous variables complicates the integration of the results. The different use of variables was mostly due to limitations in the number of symptomatic mothers and children, but also made it possible to consider the associations between the different levels of maternal depressive symptoms child's outcome.

7. Conclusions

This study demonstrates that chronic internalizing problems are associated with poorer social competence throughout childhood. However, it also shows that children having a high level of externalizing problems from early childhood onwards have equally good social competence in middle childhood and in adolescence as children with moderate or low level of externalizing problems. Rapidly increasing adolescent-onset externalizing problems, on the other hand, are accompanied by poorer social competence. There is also a high co-occurrence of internalizing and externalizing problems and one problem type increases the risk for the other.

Maternal depressive symptoms are harmful to child's psychosocial development and functioning. Chronic and recurrent depressive symptoms of the mother are more likely to influence child development than a single depressive episode. The timing of the exposure may, however, interfere with the on-going developmental task of the child. More severe, intermittent depressive episodes may also be more harmful to the child than chronic subsyndromal depressive symptoms. The developmental phase of the child may also increase the risk for maternal depressive symptoms, especially if there is a predisposition to depression. The severity and reciprocity of maternal depressive symptoms and child development, however, were not the focus of this study, but these questions ought to be studied further.

Boys are more susceptible to maternal prenatal and postnatal depressive symptoms. According to the findings of this study maternal prenatal and postnatal depressive symptoms increase boys' risk for externalizing problems and poorer social competence in adolescence. The greater vulnerability of boys may be due to higher biological susceptibility to maternal stress prenatally and postnatally or due to more difficult mother-son interaction compared to mother-daughter dyads in infancy, as suggested in some studies. The social norms and expectations are also somewhat different for boys and girls.

In adolescence the children of mothers with concurrent depressive symptoms have more emotional and behavioural problems and poorer social competence, especially if there are previous exposures, than do the children of non-depressed mothers. Some of the emotional and behavioural maladaptation is likely to be reactive and problems diminish as maternal depressive symptoms ease.

Maternal depressive symptoms at any time of child's development increase the child's risk for chronic internalizing problems. The risk transmission may be explained by genetic inheritance and susceptibility to depression, increased environmental stress, by the problems in the attachment and interaction of the mother and the child as well as by other maternal risk factors detrimental to motherhood. It is likely however, that the

intergenerational risk transmission as well as resilience involves multiple risk and protective factors.

The associations between maternal depressive symptoms and the developmental patterns of child's externalizing problems seem to be reciprocal or bidirectional. High level of maternal depressive symptoms may have a negative influence on parenting and on the mother-child interaction, which may further endanger the child's development, for example by interfering with the child's ability for emotion control. Thus a vicious circle may develop.

8. Clinical implications

This study confirms earlier findings on the harmful effects of maternal depressive symptoms on child development and well-being. It is gradually being acknowledged that maternal prenatal and postnatal depressive symptoms may have a long-term effect on child development. In addition, depressive symptoms are recurrent. In adult psychiatric clinics as well as in primary health care systems, concerns about the children of affectively ill parents should be born in mind and support for the family should be offered. The most important clinical implication of this dissertation, however, is the importance of prevention.

As has been noted, children and adolescents exposed to prenatal or postnatal maternal stress or depression have long-term, perhaps permanent dysregulation of the biochemical profile. However, some recent studies suggest that psychotherapeutic interventions, either prenatally or after the birth, may normalize the biochemical profile of either the mother or the child and also improve the interaction within the dyad (Cicchetti, Rogosch, Toth, & Sturge-Apple, 2011; Kaplan, Evans, & Monk, 2008; Richter et al., 2012; Urizar & Munoz, 2011). Prevention at an early age via parent-child psychotherapy or psychoeducational parenting groups might be a cost-effective and long-lasting investment. (O'Connor et al., 2014).

As an individual's coping skills and strategies have been found to be associated with resilience, the effectiveness of group treatments to enhance coping strategies for high-risk children and adolescents should be explored. It is also known that the cumulative risk factors increase the risk for psychopathology. Thus minimising and preventing the risks in all the areas of the child's life is important in preventing alienation and psychopathology.

Although according to this study cross-informant consistency between the mother and adolescent was high, a multi-informant assessment of child's psychosocial functioning is important. It is also important to evaluate the well-being of the parents, if the well-being of the child is a cause for concern.

Child development should be seen as a pathway which is influenced by different child related and environmental risk and protective factors. Understanding the different patterns of emotional and behavioural problems enables us to identify risk groups and plan interventions more precisely and to achieve better results. Not only is there a rather high co-occurrence between emotional and behavioural problems but also one problem type increases the risk for the other type. Thus, when working with children and adolescents with behavioural problems emotional problems should also be screened for. Behavioural problems should not be seen as mere "bad behaviour" or a lack of upbringing. All children taken to custody due to behavioural problems deserve to be evaluated by a child or adolescent psychiatry.

Both chronic and increasing internalizing problems as well as adolescent-onset externalizing problems were associated with poorer social competence. Thus social or academic problems might be seen as reflections of emotional distress or adjustment problems. When working with children experiencing academic problems, emotional problems should also be evaluated. In addition, supporting children in their social contacts and academic achievements in schools might also be beneficial in relieving emotional and behavioural problems.

Among children with clinical level of internalizing problems the problems persisted at the clinical level from early childhood to adolescence. Although it is unknown whether these children received any professional help, it is likely that they will continue to have adjustment problems in adulthood. This means a difficult task for those working in psychiatry as the resources are limited. Thus preventing problems and supporting the child's development in all areas of the child's life is essential for the good of the child and also of the economy.

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11. Appendices

1. Covering letter for mothers
2. Covering letter for adolescents
3. Written consent for mothers
4. Written consent for adolescents
5. General information questionnaire for mothers
6. Child Behavior Checklist for ages 4-18
7. Youth Self Reports
8. Edinburgh Postnatal Depression Scale

Hyvä äiti,

Pyydämme Sinua ja esikoistasi osallistumaan tutkimukseen, jossa selvitetään nuoren käyttäytymisen ja tunne-elämän kehitystä. Pirkanmaan sairaanhoitopiirin eettinen toimikunta on antanut tutkimuksesta myönteisen lausunnon.

Perheenne on jo esikoisenne odotusajasta lähtien ollut mukana seurantatutkimuksessa. Osallistumisenne on mahdollistanut jo kaksi väitöskirjaa (Tuula Tamminen ja Ilona Luoma). Lähestyn Sinua jälleen uuden kyselyn tiimoilta. Esikoisesi on ennättänyt jo murrosikään ja on aika toteuttaa seurantatutkimuksen neljäs vaihe.

Tällä tutkimuskerralla saat tutkimussopimuksen allekirjoitettavaksi, yleistietolomakkeen ja mielialalomakkeen Sinun täytettäväksesi sekä vanhempien kyselylomakkeen (sininen) molempien vanhempien täytettäväksi. Mikäli esikoisesi ei ole tekemisissä oman isänsä kanssa, eikä perheessänne ole isän asemassa olevaa henkilöä, voitte palauttaa isän lomakkeen tyhjänä muiden lomakkeiden kanssa.

Tällä tutkimuskerralla myös esikoisesi saa täytettäväkseen kyselylomakkeen sekä tutkimussopimuksen allekirjoitettavakseen. Hän saa oman palautuskuoren, jolloin hänen ei ole välttämätön näyttää Teille vastauksiaan. Tällä pyrimme saamaan nuoret paremmin vastaamaan kyselyyn.

Pyydän Teidän löytävän hetken näiden lomakkeiden täyttämiseen ja mahdollistavan arvokkaan tutkimuksen jatkumisen. Tutkimustuloksia käsitellään luottamuksellisesti ja nimettöminä. Tutkimukseen osallistuminen on vapaaehtoista, eikä vastaamatta jättämistä tarvitse perustella. Mikäli päätätte olla osallistumatta tutkimukseen, toivoisimme kuitenkin teidän ilmoittavan kieltäytymisestäänne ja kieltäytymisen syystä joko sähköpostitse tai kirjeellä esimerkiksi oheista palautuslomaketta käyttäen. Myös tämä tieto on tutkimuksen kannalta tärkeää.

Pyydämme Teitä palauttamaan vastauksenne 10.02.2006 mennessä. Kiitän Teitä lämpimästi osallistumisestanne.

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Tuula Tamminen
Professori

Hyvä nuori,

Pyydämme Sinua osallistumaan tutkimukseen, jossa kartoitetaan nuoren hyvinvointia, käytöstä ja tunne-elämää. Pirkanmaan sairaanhoitopiirin eettinen toimikunta on antanut tutkimuksesta myönteisen lausunnon.

Et ehkä tiedäkään, että olet jo ennen syntymääsi ollut mukana Tampereen yliopistossa tehdyssä tutkimuksessa. Kun äitisi odotti Sinua ja kun olit vauva, äidiltäsi kyseltiin raskausajan tunteita ja ajatuksia sekä sitä, millainen Sinä olit vauvana. Kun olit 4-5- ja 8-9-vuotias äidiltäsi ja 8-9-vuotiaana myös isältäsi kyseltiin jälleen heidän ajatuksiaan ja kokemuksiaan Sinusta sekä siitä, millainen lapsi Sinä heidän mielestään olit.

Nyt on tullut tutkimuksen neljäs vaihe ja tällä kertaa Sinäkin pääset osallistumaan. Pyytäisin Sinua täyttämään oheisen kyselylomakkeen ja allekirjoittamaan tutkimussopimuksen. Osa kysymyksistä voi tuntua oudoilta tai Sinulle vierailta, mutta on silti tärkeää että vastaat jokaiseen kysymykseen. Saat oman palautuskuoren, jolloin Sinun ei tarvitse näyttää vastauksiasi kenellekään. Voit toki myös palauttaa lomakkeesi samassa kuoressa äitisi ja isäsi täyttämien lomakkeiden kanssa.

Tutkimustuloksia käsitellään luottamuksellisesti ja nimettöminä. Tutkimukseen osallistuminen on vapaaehtoista, eikä vastaamatta jättämistä tarvitse perustella. Toivoisin Sinun löytävän hetken näiden lomakkeiden täyttämiseen.

Pyytäisin palauttamaan lomakkeet 10.02.2006 mennessä.

Kiitos osallistumisestasi!

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Tuula Tamminen
Professori

SUOSTUMUS

LAPSUUDEN KOTI NUORUUDEN LÄHTEENÄ

Olemme saaneet kirjallista tietoa 15-16-vuotiaiden esikoislasten hyvinvointia, käytöstä ja tunne-elämää kartoittavasta tutkimuksesta.

Olemme halukkaita osallistumaan kyseiseen kirjekyselytutkimukseen täyttämällä ja palauttamalla oheiset vanhempien kyselylomakkeet ja tämän suostumuksen. Ymmärrämme, että tutkimukseen osallistuminen on vapaaehtoista ja että meillä on oikeus kieltäytyä siitä milloin tahansa syytä ilmoittamatta. Ymmärrämme myös, että tiedot käsitellään luottamuksellisesti.

_____ .200_
paikka päiväys

Suostun osallistumaan tutkimukseen: Suostumuksen vastaanottaja:

_____ äidin allekirjoitus _____ tutkijan allekirjoitus

_____ nimenselvennys _____ nimen selvennys

_____ syntymäaika tai henkilötunnus

_____ isän (tai isän asemassa olevan) allekirjoitus

_____ nimenselvennys

_____ syntymäaika tai henkilötunnus

_____ osoite

SUOSTUMUS

LAPSUUDEN KOTI NUORUUDEN LÄHTEENÄ

Olen saanut kirjallista tietoa 15-16-vuotiaiden esikoislasten hyvinvointia, käytöstä ja tunne-elämää kartoittavasta tutkimuksesta.

Olen halukas osallistumaan kyseiseen kirjekyselytutkimukseen täyttämällä ja palauttamalla oheisen nuoren kyselylomakkeen ja tämän suostumuksen. Ymmärrän, että tutkimukseen osallistuminen on vapaaehtoista ja että minulla on oikeus kieltäytyä siitä milloin tahansa syytä ilmoittamatta. Ymmärrän myös, että tiedot käsitellään luottamuksellisesti.

_____ .200_
paikka päiväys

Suostun osallistumaan tutkimukseen: Suostumuksen vastaanottaja:

nuoren allekirjoitus

tutkijan allekirjoitus

nimenselvennys

nimen selvennys

syntymäaika tai henkilötunnus

osoite

YLEISTIETOLOMAKE äidin täytettäväksi

Nimi _____

Lomakkeen täyttöpäivä _____

Ole ystävällinen ja vastaa kaikkiin kysymyksiin. Rengasta oikea tai oikeat vaihtoehdot ja/tai kirjoita vastauksesi sille varattuun tilaan.

A. Nykyinen elämäntilanteesi

1. Koulutuksesi (viimeinen päästötodistuksesi)

- 1 kansa-, kansalais- tai peruskoulu
- 2 keskikoulu
- 3 ammattikoulu
- 4 lukio
- 5 opisto, ammattikorkeakoulu
- 6 yliopisto
- 7 muu, mikä? _____

2. Oletko

- 1 kokopäivätyössä kodin ulkopuolella
- 2 osapäivätyössä kodin ulkopuolella
- 3 työttömänä
- 4 työkyvyttömyyseläkkeellä
- 5 itsenäinen yrittäjä
- 6 opiskelija
- 7 työssä kotona
- 8 kotiäiti
- 9 muu, mikä? _____

3. Siviilisäätysi

- 1 Avioliitto
- 2 Avoliitto
- 3 Naimaton
- 4 Eronnut
- 5 Leski

4. Avioliiton (-liittojen) solmimisvuosi (-vuodet) _____

5. Avoliiton (-liittojen) alkamisvuosi (-vuodet) _____

6. Avioliiton (-liittojen) päättymisvuosi (-vuodet) _____

7. Avoliiton (-liittojen) päättymisvuosi (-vuodet) _____

8. Asutko

- 1 yhdessä miehesi ja lapsesi tai lastesi kanssa
- 2 yksinhuoltajana lapsesi tai lastesi kanssa
- 3 yksin

- 4 uusperheenä (sinun lapsiasi ja/tai miehesi lapsia)
- 5 muuten, miten? _____

9. Oletko tyytyväinen tämänhetkiseen taloudelliseen tilanteeseesi?

- 1 kyllä
- 2 en

B. Ihmissuhteet ja tyytyväisyys

10. Millainen on suhteesi mieheesi ollut viime aikoina?

- 1 minulla ei ole miestä
- 2 erittäin hyvä
- 3 melko hyvä
- 4 tavanoimainen
- 5 melko huono
- 6 erittäin huono
- 7 en osaa sanoa

11. Onko esikoisesi murrosikä muuttanut suhdettasi mieheesi?

- 1 minulla ei ole miestä
- 2 ei
- 3 en osaa sanoa
- 4 kyllä, miten? _____

12. Onko sinulla hyvää ystävää tai läheistä ihmistä, jolle voit puhua ja jolta voit pyytää apua?

- 1 kyllä, useita
- 2 kyllä, riittävästi
- 3 liian vähän
- 4 ei ollenkaan
- 5 en osaa sanoa

13. Tunnetko itsesi yksinäiseksi?

- 1 aina
- 2 usein
- 3 joskus
- 4 harvoin
- 5 en koskaan
- 6 en osaa sanoa

14. Onko sinulla mielestäsi tällä hetkellä ongelmia tai vaikeuksia?

- 1 ei
- 2 en osaa sanoa
- 3 kyllä, millaisia? _____

15. Oletko tällä hetkellä elämääsi

- 1 hyvin tyytyväinen
- 2 melko tyytyväinen
- 3 en osaa sanoa
- 4 sekä tyytyväinen että tyytymätön
- 5 melko tyytymätön
- 6 hyvin tyytymätön

16. Oletko tällä hetkellä huolissasi jostakin?

- 1 en
 - 2 en osaa sanoa
 - 3 kyllä, mistä? _____
-

C. Elämäntavat ja harrastukset

17. Onko sinulla itsellesi tärkeää toimintaa kodin ja/tai työn ulkopuolella?

- 1 kyllä
- 2 ei

18. Onko sinulla mielestäsi ongelmia alkoholin kanssa?

- 1 ei
 - 2 en osaa sanoa
 - 3 kyllä, millaisia? _____
-

19. Tupakoitko?

- 1 kyllä
- 2 en

D. Terveystilasi

20. Millainen terveydentilasi on mielestäsi tällä hetkellä?

- 1 hyvä
 - 2 melko hyvä
 - 3 keskinkertainen
 - 4 melko huono
 - 5 huono, miksi? _____
-

21. Onko sinulla jokin pysyvä tai pitkäaikainen sairaus tai vamma?

- 1 ei
 - 2 kyllä, mikä? _____
-

22. Onko sinulla mielenterveydellisiä ongelmia tai psyykkistä sairautta?

- 1 ei
 - 2 en osaa sanoa
 - 3 kyllä, aiemmin
 - 4 kyllä, tällä hetkellä, mitä? _____
-

23. Oletko ollut hoidettavana mielenterveydellisistä syistä?

- 1 en
 - 2 kyllä, missä, milloin ja miksi? _____
-

24. Onko sinulla säännöllistä lääkitystä?

- 1 ei
 - 2 kyllä, mitä? _____
-

E. Lapsuuden perheesi

25. Elääkö äitisi?

- 1 kyllä
- 2 ei, kuolinvuosi _____

26. Millainen on (oli) suhteesi äitiisi?

- 1 erittäin hyvä
- 2 melko hyvä
- 3 tavanomainen
- 4 melko huono
- 5 erittäin huono
- 6 en osaa sanoa

27. Muuttuiko suhteesi äitiisi lapsesi/lastesi syntymän jälkeen?

- 1 ei
- 2 kyllä
- 3 en osaa sanoa

28. Millainen äitisi oli mielestäsi äitinä?

- 1 hyvä
- 2 melko hyvä
- 3 keskinkertainen
- 4 melko huono
- 5 huono
- 6 en osaa sanoa

29. Elääkö isäsi vielä?
- 1 kyllä
 - 2 ei, kuolinvuosi? _____
30. Millainen on (oli) suhteesi isääsi?
- 1 hyvä
 - 2 melko hyvä
 - 3 keskinkertainen
 - 4 melko huono
 - 5 huono
 - 6 en osaa sanoa
31. Muuttuiko suhteesi isääsi lapsesi/lastesi syntymän jälkeen?
- 1 ei
 - 2 kyllä
 - 3 en osaa sanoa
32. Millainen isäsi oli mielestäsi isänä?
- 1 hyvä
 - 2 melko hyvä
 - 3 keskinkertainen
 - 4 melko huono
 - 5 huono
 - 6 en osaa sanoa
33. Millaisena näet nyt aikuisena oman lapsuutesi?
- 1 hyvänä
 - 2 melko hyvänä
 - 3 keskinkertaisena
 - 4 melko huonona
 - 5 huonona
 - 6 en osaa sanoa
34. Kuinka paljon lapsuuden perheessäsi mielestäsi riideltiin?
- 1 vähän
 - 2 melko vähän
 - 3 jonkin verran
 - 4 melko paljon
 - 5 paljon
 - 6 en osaa sanoa
35. Oliko lapsuuden perheessäsi avioero tai avioeron uhka?
- 1 ei
 - 2 kyllä, avioeron uhka
 - 3 kyllä, avioero

F. Nykyinen perheesi

36. Kuinka monta biologista lasta sinulla nyt on? _____
37. Onko sinulla lapsia, joilla on eri isä kuin esikoisellasi?
1 ei
2 kyllä
38. Onko sinulla lapsia, jotka eivät asu luonasi?
1 ei
2 kyllä
39. Kuuluuko perheeseesi muita lapsia kuin omia lapsiasi?
1 ei
2 kyllä, kuinka monta? _____
40. Onko miehelläsi aikaisempia lapsia, jotka eivät asu kanssanne?
1 minulla ei ole miestä
2 ei
3 kyllä
41. Mikäli perheessäsi on muita lapsia kuin esikoisesi, onko heillä terveyteen, käyttäytymiseen tai kehitykseen liittyviä ongelmia?
1 esikoisen lisäksi perheessä ei ole muita lapsia
2 ei
3 kyllä, millaisia? _____

42. Millainen miehesi on mielestäsi isänä?
1 minulla ei ole miestä
2 hyvä
3 melko hyvä
4 kohtalainen
5 melko huono
6 huono
7 en osaa sanoa
43. Millainen Sinä olet mielestäsi äitinä?
1 hyvä
2 melko hyvä
3 kohtalainen
4 melko huono
5 huono
6 en osaa sanoa

G. Esikoisesi

44. Kuinka esikoisesi murrosikä on mielestäsi mennyt?

- 1 hyvin
- 2 melko hyvin
- 3 kohtalaisesti
- 4 melko huonosti
- 5 huonosti, miksi? _____

- 6 en osaa sanoa

45. Onko suhteesi esikoiseesi muuttunut murrosiän myötä?

- 1 ei
- 2 kyllä, miten? _____

46. Miten sinä olet mielestäsi pärjännyt esikoisesi kanssa hänen murrosikänsä aikana?

- 1 hyvin
- 2 melko hyvin
- 3 kohtalaisesti
- 4 melko huonosti
- 5 huonosti, miksi? _____

- 6 en osaa sanoa

47. Millainen mielestäsi on sinun ja esikoisesi suhde tällä hetkellä?

- 1 erittäin hyvä
- 2 hyvä
- 3 melko hyvä
- 4 kohtalainen
- 5 melko huono
- 6 huono
- 7 erittäin huono
- 8 en osaa sanoa

48. Onko esikoisellasi jokin pitkäaikainen sairaus tai vamma?

- 1 ei; *siirry kysymykseen 50*
- 2 kyllä, millainen? _____

49. Jos esikoisellasi on pitkäaikainen sairaus tai vamma, miten hän on mielestäsi sopeutunut sairauteensa tai vammaansa?

- 1 hyvin
- 2 melko hyvin
- 3 kohtalaisesti
- 4 melko huonosti
- 5 huonosti
- 6 en osaa sanoa

50. Jos esikoisellasi on nuorempia sisaruksia, millaiset välit esikoisellasi mielestäsi on nuorempiin sisaruksiinsa?

- 1 ei ole nuorempia sisaruksia
- 2 hyvät
- 3 melko hyvät
- 4 kohtalaiset

- 5 melko huonot
- 6 huonot, kuvaile _____
- _____
- 7 en osaa sanoa

51. Jos perheessänne on tapahtunut avio- tai avoero, miten esikoisesi on mielestäsi sopeutunut tähän?

- 1 ei avo-/avioeroa
- 2 hyvin
- 3 melko hyvin
- 4 kohtalaisesti
- 5 melko huonosti
- 6 huonosti, kuvaile _____
- _____
- 7 en osaa sanoa

52. Onko esikoisesi kokenut läheisen ihmissuhteen menetystä?

- 1 ei
- 2 kyllä, minkä ja milloin? _____
- _____

53. Onko esikoisellesi tapahtunut jotakin muuta erityisen merkittävää?

- 1 ei; *siirry kysymykseen 55*
- 2 kyllä, mitä ja milloin? _____
- _____
- 3 en osaa sanoa

54. Jos esikoisellesi on tapahtunut jotain merkittävää, miten hän on mielestäsi sopeutunut siihen?

- 1 hyvin
- 2 melko hyvin
- 3 kohtalaisesti
- 4 melko huonosti
- 5 huonosti, kuvaile _____
- _____
- 6 en osaa sanoa

55. Jos esikoisesti isä ei kuulu nykyiseen perheeseen, onko esikoisesi yhteydessä isäänsä?

- 1 esikoisen isä kuuluu nykyiseen perheeseen
- 2 tapaavat säännöllisesti tai usein
- 3 ovat muutoin yhteydessä säännöllisesti tai usein
- 4 ovat yhteydessä tai tapaavat silloin tällöin
- 5 eivät ole lainkaan yhteydessä

56. Millainen mielestäsi esikoisesi ja hänen isänsä välinen suhde tällä hetkellä on?

- 1 eivät ole tekemisissä/isä kuollut
- 2 erittäin hyvä
- 3 hyvä
- 4 huono
- 5 erittäin huono
- 6 en osaa sanoa

57. Onko esikoisesi tällä hetkellä

- 1 peruskoulussa
- 2 lukiossa
- 3 ammattikoulussa
- 4 työssä
- 5 muuta, mitä? _____

58. Kuinka esikoisesi on mielestäsi pärjännyt koulussa?

- 1 erittäin hyvin
- 2 hyvin
- 3 melko hyvin
- 4 kohtalaisesti
- 5 melko huonosti
- 6 huonosti
- 7 en osaa sanoa

59. Oletko huolissasi esikoisesi tulevaisuudesta?

- 1 en
 - 2 en osaa sanoa
 - 3 kyllä, miksi? _____
-

KIITOS VASTAUKSESTASI!

KYSELY VANHEMMILLE
6-18-vuotiaista koululaisista
Luottamuksellinen

Lapsen nimi:			Vanhempien työ ja ammatti (Mahdollisimman tarkasti- esim. automekaanikko, yläasteen opettaja, sairaanhoitaja, kotirouva, merkonomi, myyjä, myös vaikka vanhemmat eivät olisi juuri nyt työssä):			
Sukupuoli: <input type="checkbox"/> Poika <input type="checkbox"/> Tyttö	Ikä:	Äidinkieli: <input type="checkbox"/> Suomi <input type="checkbox"/> Ruotsi <input type="checkbox"/> Muu, mikä?	Isä: _____			
Päiväys: pv kk v			Lapsen sosiaalitytönnus: pv kk v tunnus		Lomakkeen täyttäjä: <input type="checkbox"/> Äiti <input type="checkbox"/> Isä <input type="checkbox"/> Muu, kuka? _____	
Käykö lapsi koulua? <input type="checkbox"/> Ei <input type="checkbox"/> Kyllä, mikä luokka?						

Ole ystävällinen ja vastaa tämän lomakkeen kysymyksiin laittamalla rasti siihen kohtaan, joka parhaiten kuvaa, miten *Sinä itse* koet ja näet lapsen, vaikka muut saattavat olla toista mieltä. Voit lisäksi kirjoittaa omia kommenttejasi.

I. Luettelisitko urheilulajeja, joita lapsesi mieluiten harrastaa (esim. uiminen, jääkiekko, voimistelu, jalkapallo jne): <input type="checkbox"/> Ei mitään urheilulajeja	Kuinka paljon aikaa lapsi käyttää lajiin muihin samanikäisiin verrattuna?				Kuinka hyvä hän on lajissa muihin samanikäisiin verrattuna?			
	Keskimääräistä vähemmän	Keskimääräisesti	Keskimääräistä enemmän	En tiedä	Keskittasoa huonompi	Keskittasoinen	Keskittasoa parempi	En tiedä
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

II. Luettelisitko lapsesi muita lempiharrastuksia, tekemisiä ja leikkejä (esim. lukeminen, pelit, musiikki, käsityöt, postimerkkeily jne. - tv:tä ei lasketa): <input type="checkbox"/> Ei tällaisia harrastuksia	Kuinka paljon aikaa lapsi käyttää siihen muihin samanikäisiin verrattuna?				Kuinka hyvä hän on siinä muihin samanikäisiin verrattuna?			
	Keskimääräistä vähemmän	Keskimääräisesti	Keskimääräistä enemmän	En tiedä	Keskittasoa parempi	Keskittasoinen	Keskittasoa huonompi	En tiedä
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III. Luettelisitko mihin joukkueisiin, kerhoihin, yhdistyksiin tai ryhmiin lapsi kuuluu (esim. urheiluseura/joukkue, harrastuskerho, kuoro jne): <input type="checkbox"/> Ei mihinkään	Kuinka aktiivinen hän on niissä muihin samanikäisiin verrattuna?			
	Ei yhtä aktiivinen kuin muut	Yhtä aktiivinen kuin muut	Aktiivisempi kuin muut	En tiedä
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. Luettelisitko mitä töitä ja tehtäviä lapsella on (esim. oman huoneen siivous, muut kotityöt, mainosten jakaminen, lastenhoito jne):		Kuinka hyvin hän itsenäisesti suoriutuu tehtävistään muihin samanikäisiin verrattuna?			
		Keskitasoa huonommin	Keskitasoisesti	Keskitasoa paremmin	En tiedä
<input type="checkbox"/> Ei mitään					
a.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

V.1. Kuinka monta läheistä ystävää lapsella on? (Sisaruksia ei lasketa mukaan) Ei yhtään 1 2 tai 3 4 tai enemmän

2. Kuinka monta kertaa viikossa lapsi tapaa ystäviään koulun ulkopuolella? Vähemmän kuin kerran 1 tai 2 3 tai useammin

VI. Verrattuna muihin samanikäisiin kuinka hyvin lapsesi:

	Huonommin	Keskitasoisesti	Paremmiin	
a. Tulee toimeen sisarustensa kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Ei ole sisaruksia
b. Tulee toimeen muiden lasten kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Tulee toimeen vanhempiensa kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. Leikkii tai työskentelee omin päin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VII. Lapsen koulumenestys
Kuinka lapsi menestyy seuraavissa aineissa verrattuna muihin samanikäisiin:

	Ala-arvoisesti	Keskitasoa huonommin	Keskitasoisesti	Keskitasoa paremmin
<input type="checkbox"/> Ei käy koulua, miksi?				
a. Äidinkieli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Ympäristöoppi, uskonto, historia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Matemaattiset aineet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Biologia, fysiikka, kemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Muut aineet:</u>				
e. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Käykö lapsi erityisluokkaa tai -koulua? Ei Kyllä, minkälaista?

3. Onko lapsi käynyt jonkun luokan kahteen kertaan? Ei Kyllä, minkä ja miksi?

4. Onko lapsella ollut vaikeuksia jossain kouluaineessa tai muita kouluvaikeuksia?
 Ei Kyllä, minkälaisia? Milloin nämä vaikeudet alkoivat?
 Ovatko nämä ongelmat loppuneet? Ei Kyllä, milloin?

Onko lapsellasi joku sairaus, ruumiillinen vamma tai mielenterveysongelma?
 Ei Kyllä - kertoisitko tarkemmin:

Mikä huolestuttaa Sinua eniten lapsessasi?

Kuvailisitko lapsesi parhaita puolia:

Seuraavassa on joukko lapsilla joskus esiintyviä ominaisuuksia ja ongelmia. Arvioi miten mikin väittämä sopii lapseesi, kun ajattelet tätä hetkeä ja viimeksi kulunutta puolta vuotta. Ympyröi sopivin vaihtoehto. Ole ystävällinen ja vastaa kaikkiin kysymyksiin, myös vaikka joku väittämä ei oikein sovi tälle lapselle.

0 = Ei sovi lainkaan

1 = Sopii jossain määrin tai toisinaan

2 = Sopii erittäin hyvin tai usein

- 0 1 2 1. Lapsi käyttäytyy ikäistään nuoremmalla tavalla
- 0 1 2 2. Juo alkoholia ilman vanhempien lupaa
-
- 0 1 2 3. Väittää usein vastaan
- 0 1 2 4. Ei pysty tekemään aloittamiaan asioita loppuun saakka
- 0 1 2 5. Hän nauttii vain harvoista asioista
- 0 1 2 6. Ulostaa muualle kuin vessaan, esim. housuihin
- 0 1 2 7. Kerskailee, leuhkii, mahtailee
- 0 1 2 8. Ei pysty keskittymään / olemaan tarkkaavainen pitkää aikaa
- 0 1 2 9. Ei saa pois mielestään tiettyjä ajatuksia. (Kuvaile):
-
- 0 1 2 10. On levoton, ei pysty istumaan hiljaa
- 0 1 2 11. On liian riippuvainen, takertuu aikuisiin
- 0 1 2 12. Valittaa yksinäisyyttä
- 0 1 2 13. On hämmentynyt ja ymmällään
- 0 1 2 14. Itkee paljon
- 0 1 2 15. On julma eläimille
- 0 1 2 16. On julma tai ilkeä, kiusaa muita
- 0 1 2 17. Unelmoi tai vaipuu ajatuksiinsa
- 0 1 2 18. Vahingoittaa itseään tahallisesti tai yrittää itsemurhaa
- 0 1 2 19. Vaatii paljon huomiota
- 0 1 2 20. Rikkoo tai tuhoaa omia tavaroitaan
- 0 1 2 21. Rikkoo perheelleen tai muille kuuluvia tavaroita
- 0 1 2 22. On tottelematon kotona
- 0 1 2 23. On tottelematon koulussa
- 0 1 2 24. Syö huonosti
- 0 1 2 25. Ei tule toimeen muiden lasten kanssa
- 0 1 2 26. Ei näytä tuntevan syyllisyyttä käyttäytyttyään huonosti
- 0 1 2 27. On helposti kateellinen
- 0 1 2 28. Ei noudata sääntöjä kotona, koulussa tai muualla
- 0 1 2 29. Pelkää tiettyjä eläimiä, tilanteita tai paikkoja - muuta kuin koulua. (Kuvaile):
-
- 0 1 2 30. Pelkää kouluun menoa
- 0 1 2 31. Pelkää ajattelevansa tai tekevänsä jotain pahaa. (Kuvaile):
-
- 0 1 2 32. Tuntee, että hänen on oltava täydellinen
- 0 1 2 33. Tuntee tai valittaa, että kukaan ei rakasta häntä
- 0 1 2 34. Tuntee toisten uhkaavan tai vainoavan itseään
- 0 1 2 35. Tuntee olevansa arvoton tai huonompi kuin muut

- 0 1 2 36. Satuttaa itsensä usein, on tapaturma-altis
- 0 1 2 37. Joutuu usein tappeluun
- 0 1 2 38. Joutuu usein kiusatuksi
- 0 1 2 39. Liikkuu sellaisten kavereiden kanssa, jotka joutuvat usein vaikeuksiin
- 0 1 2 40. Kuulee ääniä, joita ei ole olemassa. (Kuvaile):
-
- 0 1 2 41. Toimii hetken mieltäjohteesta tai ajattelematta
- 0 1 2 42. On mieluummin yksin kuin muiden kanssa
- 0 1 2 43. Valehtelee tai petkuttaa
- 0 1 2 44. Pureskelee kynsiään
- 0 1 2 45. Lapsi on hermostunut, kireä tai jännittynyt
- 0 1 2 46. Hermostuneita liikkeitä tai nykimistä. (Kuvaile):
-
- 0 1 2 47. Näkee painajaisia
- 0 1 2 48. Muut lapset eivät pidä hänestä
- 0 1 2 49. Hänellä on ummetusta
- 0 1 2 50. On liian pelokas tai ahdistunut
- 0 1 2 51. Tuntee huimausta
- 0 1 2 52. Tuntee jalkaa syyllisyyttä
- 0 1 2 53. Syö liikaa
- 0 1 2 54. On liian väsynyt
- 0 1 2 55. On ylipainoinen. Paino: _____ kg. Pituus: _____ cm.
56. On ruumiillisia vaivoja ilman todettua lääketieteellistä syytä
- 0 1 2 a. Särkyjä tai kipuja (ei päänsärky)
- 0 1 2 b. Päänsärky
- 0 1 2 c. Pahoinvointia, sairaaloinen.
- 0 1 2 d. Silmävaivoja (Kuvaile):
-
- 0 1 2 e. Ihottumaa tai muita iho-ongelmia
- 0 1 2 f. Vatsakipu
- 0 1 2 g. Oksentelua
- 0 1 2 h. Muuta (Kuvaile):
-
- 0 1 2 57. Hyökkää toisten kimppuun, esim. lyö toisia
- 0 1 2 58. Nyppii ihoaan, nenäänsä tai muita ruumiinosiaan. (Kuvaile):
-
- 0 1 2 59. Leikkii sukupuolielimillään julkisesti
- 0 1 2 60. Leikkii sukupuolielimillään liian paljon
- 0 1 2 61. Selviytyy huonosti koulutyöstä
- 0 1 2 62. On kömpelö, liikkeiden koordinaatio on huono

0 = Ei sovi lainkaan

1 = Sopii jossain määrin tai toisinaan

2 = Sopii erittäin hyvin tai usein

- 0 1 2 63. On mieluiten itseään vanhempien lasten kanssa
- 0 1 2 64. On mieluiten itseään nuorempien lasten kanssa
- 0 1 2 65. Kieltäytyy puhumasta
- 0 1 2 66. Toistaa tiettyjä toimintoja uudelleen ja uudelleen, on pakko toimintoja. (Kuvaile):
-
- 0 1 2 67. Karkaa kotoa
- 0 1 2 68. Huutaa paljon
- 0 1 2 69. Vaitelias, pitää asiat itsellään
- 0 1 2 70. Näkee asioita, joita ei ole. (Kuvaile):
-
- 0 1 2 71. On vaivautunut, menee helposti hämilleen
- 0 1 2 72. Syyttelee tulipaloja
- 0 1 2 73. Seksuaalisuuteen liittyviä ongelmia. (Kuvaile):
-
- 0 1 2 74. Yrittää tehdä vaikutuksen tai pelleilee
- 0 1 2 75. On ujo
- 0 1 2 76. Nukkuu vähemmän kuin useimmat lapset
- 0 1 2 77. Nukkuu päivällä ja/tai yöllä enemmän kuin useimmat lapset. (Kuvaile):
-
- 0 1 2 78. Ei pysty keskittymään, häiriintyy helposti
- 0 1 2 79. Puhevaikeuksia. (Kuvaile):
-
- 0 1 2 80. Tuijottaa ilmeettömästi
- 0 1 2 81. Varastaa kotoa
- 0 1 2 82. Varastaa kodin ulkopuolelta
- 0 1 2 83. Kerää tavaroita, joita ei tarvitse. (Kuvaile):
-
- 0 1 2 84. Outoa käyttäytymistä. (Kuvaile):
-
- 0 1 2 85. Outoja ajatuksia. (Kuvaile):
-
- 0 1 2 86. On itsepäinen, juro tai ärtyisä
- 0 1 2 87. Mielialat tai tunteet vaihtelevat äkillisesti
- 0 1 2 88. Murjottaa paljon

- 0 1 2 89. On epäluuloinen
- 0 1 2 90. Kiroilee tai käyttää rivoa kieltä
- 0 1 2 91. Puhuu itsensä tappamisesta
- 0 1 2 92. Puhuu tai kävelee unissaan. (Kuvaile):
-
- 0 1 2 93. Puhuu liian paljon
- 0 1 2 94. Kiusaa paljon muita
- 0 1 2 95. Saa raivokohtauksia tai on kiivasluontoinen
- 0 1 2 96. Ajattelee liikaa seksiasioita
-
- 0 1 2 97. Uhkailee muita ihmisiä
- 0 1 2 98. Imee peukaloaan
- 0 1 2 99. Tupakoi tai käyttää nuuskaa
- 0 1 2 100. Nukkumisongelmia. (Kuvaile):
-
- 0 1 2 101. Pinnaa koulusta
- 0 1 2 102. On vetämätön, hidasliikkeinen ja voimaton
- 0 1 2 103. On onneton, surullinen tai masentunut
- 0 1 2 104. On epätavallisen änekäs
- 0 1 2 105. Käyttää alkoholia tai muita huumaavia aineita
- 0 1 2 106. Tuhoaa ja rikkoo paljon
- 0 1 2 107. Päiväkastelua
- 0 1 2 108. Yökastelua
- 0 1 2 109. Marisee ja kitisee
- 0 1 2 110. Toivoisi olevansa vastakkaista sukupuolta
- 0 1 2 111. On vetäytyvä, ei liity muiden seuraan
- 0 1 2 112. On huolestunut
- 0 1 2 113. Jos lapsellasi on muita kuin edellä lueteltuja ongelmia, kirjoittaisitko ne tähän:
-
- _____
-

Ole ystävällinen ja tarkista, että olet vastannut kaikkiin kysymyksiin. Alleviivaa niitä kohtia, joista olet huolissasi, jos sellaisia on!

KIITOS VASTAUKSISTA!

Mikäli vielä haluat kertoa jotain lapsestasi, voit käyttää alla olevaa tilaa siihen

KYSELY 11-18-vuotiaille NUORILLE**Luottamuksellinen**

Harrastukset, koulunkäynti ja ongelmat

Sinun nimesi:			Vanhempien työ ja ammatti (Mahdollisimman tarkasti - esim. automekaanikko, yläasteen opettaja, sairaanhoitaja, kotirouva, merkonomi, myyjä, myös vaikka vanhemmat eivät olisi juuri nyt työssä):		
Sukupuolesi: <input type="checkbox"/> Poika <input type="checkbox"/> Tyttö	Ikäsi:	Äidinkieleni: <input type="checkbox"/> Suomi <input type="checkbox"/> Ruotsi <input type="checkbox"/> Muu, mikä?	Isä: _____		
Päiväys: _____ pv _____ kk _____ v			Sinun syntymäaikasi: _____ pv _____ kk _____ v tunnus _____		
			Äiti: _____		
			Jos itse olet työssä, kerro minkälaisessa:		

Koulunkäynti tai opiskelu:

Oppilaitos: _____

Luokka: _____

 En käy koulua, en opiskele

Vastaa seuraaviin kysymyksiin Sinun oman näkemyksesi mukaan, vaikka toiset olisivat toista mieltä. Voit tarvittaessa kirjoittaa lisäkommentteja!

I. Luettelisitko urheilulajeja, joita mielelliten harrastat (esim. uiminen, jääkiekko, voimistelu, jalkapallo jne): <input type="checkbox"/> En harrasta yhtään urheilua	Kuinka paljon aikaa käytät siihen muihin samanikäisiin verrattuna?			Kuinka hyvä olet siinä muihin samanikäisiin verrattuna?		
	Keskimmä- räästä vähemmän	Keskimmä- rääsesti	Keskimmä- räästä enem- män	Keskitasoa huonompi	Keskita- soinen	Keskitasoa parempi
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

II. Luettelisitko muita lempiharrastuksiasi, tekemisiä ja leikkejä (esim. lukeminen, pelit, musiikki, käsityöt, postimerkkeily jne. - tv:n katselua ei lasketa mukaan): <input type="checkbox"/> Ei tällaisia harrastuksia	Kuinka paljon aikaa käytät siihen muihin samanikäisiin verrattuna?			Kuinka hyvä olet siinä muihin samanikäisiin verrattuna?		
	Keskimmä- räästä vähemmän	Keskimmä- rääsesti	Keskimmä- räästä enem- män	Keskitasoa huonompi	Keskitasoi- nen	Keskitasoa parempi
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III. Luettelisitko mihin joukkueisiin, kerhoihin, yhdistyksiin tai ryhmiin kuulut (esim. urheiluseura/joukkue, harrastuskerho, kuoro jne): <input type="checkbox"/> Ei kerhoa tai seuraa	Kuinka aktiivinen olet niissä muihin samanikäisiin verrattuna?		
	Ei yhtä aktiivinen kuin muut	Yhtä aktiivinen kuin muut	Aktiivisempi kuin muut
a. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. Luettelisitko mitä töitä ja tehtäviä teet kotona (esim. oman huoneen siivous, muut kotityöt, mainosten jakaminen, lastenhoito jne):	Kuinka hyvin teet ne muihin samanikäisiin verrattuna?		
	Keskitasoa huonommin	Keskitasoisesti	Keskitasoa paremmin
<input type="checkbox"/> Ei mitään			
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- V.1. Kuinka monta läheistä ystävää sinulla on? Ei yhtään 1 2 tai 3 4 tai enemmän
(Sisaruksia ei lasketa mukaan)
2. Kuinka monta kertaa viikossa tapaat ystäviäsi koulun ulkopuolella? (Sisaruksia ei lasketa) Vähemmän kuin kerran 1 tai 2 3 tai useammin

VI. Verrattuna muihin samanikäisiin kuinka hyvin mielestäsi:

	Huonommin	Keskitasoisesti	Paremmiin	
a. Tulet toimeen sisarustesi kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Ei ole sisaruksia
b. Tulet toimeen muiden lasten kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Tulet toimeen vanhempiesi kanssa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. Teet asioita omin päin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VII. Koulumenestys

En käy koulua. Selitä miksi: _____

Kuinka menestyt seuraavissa aineissa verrattuna muihin samanikäisiin:

(Jos et käy enää koulua, niin vastaa sen tilanteen mukaan, kun viimeksi kävit koulua!)

	Ala-arvoisesti	Keskitasoa huonommin	Keskita-soisesti	Keskitasoa paremmin
a. Äidinkieli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Yleiset aineet esim. historia, uskonto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Matematiikka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Biologia, fysiikka, kemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Kuvaamataito	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Voimistelu, urheilu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Joku muu, mikä?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Onko Sinulla joku sairaus, ruumillinen vamma tai terveysongelma?

Ei Kyllä - kertoisitko tarkemmin:

Onko Sinulla joku ongelma tai huoli koulussa tai opiskelussa?

Ei Kyllä - kertoisitko tarkemmin:

Onko Sinulla joku muu ongelma tai huoli?

Ei Kyllä - kertoisitko tarkemmin:

Kuvailisitko parhaita ominaisuuksiasi:

Kerro vapaasti lisää itsestäsi tai elämäntilanteestasi:

Seuraavassa on lueteltu lapsilla ja nuorilla joskus esiintyviä ominaisuuksia ja ongelmia. Arvioi miten mikin väittäämä sopii sinuun, kun ajattelet tätä hetkeä ja viimeksi kulunutta puolta vuotta. Ympyröi sopivin vaihtoehto (0, 1 tai 2). Ole ystävällinen ja vastaa kaikkiin kysymyksiin, myös vaikka joku väittäjä ei oikein sovi sinulle.

0 = Ei sovi lainkaan

1 = Sopii jossain määrin tai toisinaan

2 = Sopii erittäin hyvin tai usein

- 0 1 2 1. Käyttäydyn ikäistäni nuoremmalla tavalla
- 0 1 2 2. Juon alkoholia ilman vanhempieni lupaa (Kuvaile):

- 0 1 2 3. Väitän usein vastaan
- 0 1 2 4. En pysty tekemään loppuun aloittamiani tehtäviä
- 0 1 2 5. Vain harvat asiat tuottavat minulle nautintoa
- 0 1 2 6. Pidän elämistä
- 0 1 2 7. Kerskailen, leuhkin, mahtailen
- 0 1 2 8. Olen huono keskittymään
- 0 1 2 9. En saa pois mielestäni tiettyjä ajatuksia. (Kuvaile):

- 0 1 2 10. Olen levoton, en pysty istumaan hiljaa
- 0 1 2 11. Olen liian riippuvainen aikuisista
- 0 1 2 12. Tunnen olevani yksinäinen
- 0 1 2 13. Olen hämmentynyt tai ymmälläni
- 0 1 2 14. Itken paljon
- 0 1 2 15. Olen rehellinen
- 0 1 2 16. Olen ilkeä, kiusaan muita
- 0 1 2 17. Unelmoin ja haaveilen paljon
- 0 1 2 18. Vahingoitan itseäni tahallisesti tai häluaisin yrittääkseni murhaa
- 0 1 2 19. Yritän saada paljon huomiota
- 0 1 2 20. Rikon omia tavaroitani
- 0 1 2 21. Rikon muiden tavaroita
- 0 1 2 22. Olen tottelematon kotona
- 0 1 2 23. Olen tottelematon koulussa
- 0 1 2 24. Syön liian huonosti
- 0 1 2 25. Tulen huonosti toimeen muiden lasten tai nuorten kanssa
- 0 1 2 26. En tunne syyllisyyttä, kun olen tehnyt jotain, mitä ei olisi pitänyt tehdä
- 0 1 2 27. Olen kateellinen muille
- 0 1 2 28. En noudata sääntöjä kotona, koulussa tai muualla
- 0 1 2 29. Pelkään tiettyjä eläimiä, tilanteita tai paikkoja - muuta kuin koulua. (Kuvaile):

- 0 1 2 30. Pelkään kouluun menoa
- 0 1 2 31. Pelkään ajattelevani tai tekeväni jotain pahaä tai huonosti. (Kuvaile):

- 0 1 2 32. Koen, että minun on oltava täydellinen
- 0 1 2 33. Minusta tuntuu, että kukaan ei pidä minusta
- 0 1 2 34. Minusta tuntuu, että toiset uhkaavat tai vainoavat minua
- 0 1 2 35. Tunnen olevani arvoton tai huonompi kuin muut
- 0 1 2 36. Joudun usein vahinkoihin, joissa satutan itseni

- 0 1 2 37. Joudun usein tappeluun
- 0 1 2 38. Minua kiusataan paljon
- 0 1 2 39. Liikun sellaisten kavereiden kanssa, jotka joutuvat usein vaikeuksiin
- 0 1 2 40. Kuulen ääniä, joita muiden mielestä ei ole olemassa. (Kuvaile):

- 0 1 2 41. Toimin hetken mielijohteesta tai ajattelematta
- 0 1 2 42. Olen mieluummin yksin kuin muiden kanssa
- 0 1 2 43. Valehtelen tai petkutan
- 0 1 2 44. Pureskelen kynsiäni
- 0 1 2 45. Olen hermostunut, kireä tai jännittyhyt
- 0 1 2 46. Minulla on hermostuneita liikkeitä tai nykimistä. (Kuvaile):

- 0 1 2 47. Näen painajaisia
- 0 1 2 48. Muut nuoret eivät pidä minusta
- 0 1 2 49. Tiettyjä asioita teen paremmin kuin useimmat nuoret
- 0 1 2 50. Olen liian pelokas tai ahdistunut
- 0 1 2 51. Tunnen hiihtäystä
- 0 1 2 52. Minulla on liian voimakkaita syyllisyydentunteita
- 0 1 2 53. Syön liikaa
- 0 1 2 54. Olen liian väsynyt
- 0 1 2 55. Olen ylipainoinen. Paino: _____ kg. Pituus: _____ cm.
56. Minulla on seuraavia vaivoja ilman tunnettua sairautta:
- 0 1 2 a. Särkyjä tai kipuja (ei päänsärky)
- 0 1 2 b. Päänsärkyä
- 0 1 2 c. Pahoinvointia
- 0 1 2 d. Silmävaivoja. (Kuvaile): _____
- 0 1 2 e. Ihottumaa tai muita iho-ongelmia.
- 0 1 2 f. Vatsakipu
- 0 1 2 g. Oksentelua
- 0 1 2 h. Muuta (Kuvaile):

- 0 1 2 57. Käyn herkästi toisten kimppuun (esim. tönäisen, lyön)
- 0 1 2 58. Nypin ihoani tai muita ruumiinosiani. (Kuvaile):

- 0 1 2 59. Osaan olla ystävällinen
- 0 1 2 60. Minusta on hauska kokeilla uusia asioita
- 0 1 2 61. Selviydyn huonosti koulutyöstä
- 0 1 2 62. Olen kömpelö
- 0 1 2 63. Olen mieluiten itseäni vanhempien lasten tai nuorten
- 0 1 2 64. Olen mieluiten itseäni nuorempien lasten kanssa

0 = Ei sovi lainkaan

1 = Sopii jossain määrin tai toisinaan

2 = Sopii erittäin hyvin tai usein

- 0 1 2 65. Kieltäydyn puhumasta
- 0 1 2 66. Toistan tiettyjä toimintoja uudelleen ja uudelleen. (Kuvaile):
-
- 0 1 2 67. Karkailen kotoa
- 0 1 2 68. Huudan paljon
- 0 1 2 69. Olen vaihtelias, pidän asiat itselläni
- 0 1 2 70. Näen asioita, joita muut eivät näe. (Kuvaile):
-
- 0 1 2 71. Menen helposti hämilleni
- 0 1 2 72. Sytyttelen tulipaloja
- 0 1 2 73. Osaan tehdä hyvin asioita käsilläni. (Kuvaile):
-
- 0 1 2 74. Pelleilen ja yritän tehdä vaikutuksen
- 0 1 2 75. Olen ujo
- 0 1 2 76. Nukun vähemmän kuin useimmat muut lapset tai nuoret
- 0 1 2 77. Nukun päivällä ja/tai yöllä enemmän kuin useimmat muut lapset tai nuoret. (Kuvaile):
-
- 0 1 2 78. En pysty keskittymään, häiriinnyn helposti
- 0 1 2 79. Minulla on puhevaikeuksia. (Kuvaile):
-
- 0 1 2 80. Puolustan oikeuksiani
- 0 1 2 81. Varastan kotoa
- 0 1 2 82. Varastan kodin ulkopuolelta
- 0 1 2 83. Kerään tavaroita, joita en tarvitse. (Kuvaile):
-
- 0 1 2 84. Teen asioita, joita muut pitävät outoina. (Kuvaile):
-
- 0 1 2 85. Minulla on ajatuksia, joita muut pitävät outoina. (Kuvaile):
-
- 0 1 2 86. Olen itsepäinen
- 0 1 2 87. Mielialani tai tunteeni vaihtelevat äkillisesti
- 0 1 2 88. Pidän tai nautin muiden seurassa olemisesta
- 0 1 2 89. Olen epäluuloinen
- 0 1 2 90. Kiroilen tai käytän rivoa kieltä
- 0 1 2 91. Ajattelen itseni tappamista
- 0 1 2 92. Minusta on mukava saada muut nauramaan
- 0 1 2 93. Puhun liian paljon
- 0 1 2 94. Kiusaan aika paljon muita
- 0 1 2 95. Olen kiivasluontoinen
- 0 1 2 96. Ajattelen liikaa seksiasioita
- 0 1 2 97. Uhkailen satuttavani muita ihmisiä
- 0 1 2 98. Minusta on mukava auttaa muita
- 0 1 2 99. Tupakoin tai käytän nuuskaa

- 0 1 2 100. Minulla on nukkumisongelmia. (Kuvaile):
-
- 0 1 2 101. Pinnaan eräiltä tunteilta tai koulusta
- 0 1 2 102. Minulla ei ole paljon energiaa
- 0 1 2 103. Olen onneton, surullinen tai masentunut
- 0 1 2 104. Olen äänekkäämpi kuin muut lapset tai nuoret
- 0 1 2 105. Käytän alkoholia tai muita huumaavia aineita. (Kuvaile):
-
- 0 1 2 106. Yritän olla reilu muita kohtaan
- 0 1 2 107. Pidän hyvästä pilasta
- 0 1 2 108. Haluan ottaa elämän kevyesti
- 0 1 2 109. Yritän auttaa muita kun pystyn
- 0 1 2 110. Toivoisin olevani vastakkaista sukupuolta
- 0 1 2 111. Välttelen läheisiä suhteita toisiin
- 0 1 2 112. Minulla on aika paljon huolia

Ole ystävällinen ja kirjoita vielä lisää itsestäsi ja elämästäsi, jos haluat:

NÄYTEKAPPALE

Ole ystävällinen ja tarkista, että olet vastannut kaikkiin kysymyksiin.

Alleiviivaa niitä kohtia, joista olet huolissasi, jos sellaisia on!

KIITOS VASTAUKSISTA!

Mikäli vielä haluat kertoa jotain, voit käyttää alla olevaa tilaa siihen.

Appendix 8.

MIELIALALOMAKE

Ole hyvä ja alleviivaa se vaihtoehto, joka eniten vastaa Sinun tuntemuksiasi viimeisen kuluneen viikon aikana, ei vain tämänhetkisiä tuntemuksiasi.

Viimeisten seitsemän päivän aikana

1. Olen pystynyt nauramaan ja näkemään asioiden hauskan puolen

Yhtä paljon kuin aina ennenkin
En aivan yhtä paljon kuin ennen
Selvästi vähemmän kuin ennen
En ollenkaan

2. Olen odotellut mielihyvällä tulevia tapahtumia

Yhtä paljon kuin aina ennenkin
Hiukan vähemmän kuin aikaisemmin
Selvästi vähemmän kuin aikaisemmin
Tuskin ollenkaan

3. Olen syyttänyt tarpeettomasti itseäni, kun asiat ovat menneet vikaan

Kyllä, useimmiten
Kyllä, joskus
En kovin usein
En koskaan

4. Olen ollut ahdistunut ja huolestunut ilman selvää syytä

Ei, en ollenkaan
Tuskin koskaan
Kyllä, joskus
Kyllä, hyvin usein

5. Olen ollut peloissani tai hädissäni ilman erityistä selvää syytä

Kyllä, aika paljon
Kyllä, joskus
Ei, en paljoakaan
Ei, en ollenkaan

KÄÄNNÄ!

6. Asiat kasautuvat päälleni

Kyllä, useimmiten en ole pystynyt selviytymään niistä ollenkaan
Kyllä, toisinaan en ole selviytynyt niistä yhtä hyvin kuin tavallisesti
Ei, useimmiten olen selviytynyt melko hyvin
Ei, olen selviytynyt yhtä hyvin kuin aina ennenkin

7. Olen ollut niin onneton, että minulla on ollut univaikeuksia

Kyllä, useimmiten
Kyllä, toisinaan
Ei, en kovin usein
Ei, en ollenkaan

8. Olen tuntenut oloni surulliseksi ja kurjaksi

Kyllä, useimmiten
Kyllä, melko usein
En kovin usein
Ei, en ollenkaan

9. Olen ollut niin onneton, että olen itkeskellyt

Kyllä, useimmiten
Kyllä, melko usein
Vain silloin tällöin
Ei, en koskaan

10. Ajatus itseni vahingoittamisesta on tullut mieleeni

Kyllä, melko usein
Joskus
Tuskin koskaan
Ei koskaan

KIITOS LOMAKKEEN TÄYTTÄMISESTÄ!

12. Original Communications