Preventive Psychosocial Parental and School Programmes in a General Population

Hans O. Löfgren

Child and Adolescent Psychiatry
Department of Clinical Science
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“... Explanations for the differing prevalence rates of psychiatric morbidity must be sought in the characteristics of their parent populations; and control measures are unlikely to succeed if they do not involve population-wide changes.”

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ABSTRACT

Introduction

Numerous preventive programmes have emerged, and need to be investigated to determine their effects on the normal population. Earlier studies have shown a decrease in depressive symptoms, positive effects on children's disruptive behaviour problems, and an improvement in parental competence. About a fifth of the parents in previous studies had problem-oriented (targeted) reasons for enrolment, whereas the rest of the parents had general (universal) reasons. The results of those studies suggest that the programmes are cost effective in terms of Quality-Adjusted Life Years.

Aim

Four sub-studies were performed, and their aims were to investigate the effect of parental training programmes (PTPs) in a naturalistic setting on parents' mental health in the general population, to investigate how PTPs affect parents' sense of parental competence, to investigate how PTPs affect parental stress and analyse the parents open questions about the PTPs, and to investigate the feasibility and to measure the effect on depression, anxiety, and social problems of two preventive school programmes for pupils in grade 7.

Method

In a longitudinal quantitative study in a real-world setting, 279 parents from the general population in northern Sweden participated in five PTPs. A comparison group of 702 parents without intervention was included. Simultaneously, a community sample of 59 pupils in grade 7 participated in two preventive school programmes. Both studies were conducted from 2010 to 2013. Parents were assigned to professionally supported interventions that included 5-10 two-hour sessions. Respondents filled in a web-based questionnaire with the General Health Questionnaire (GHQ), the Parents Sense of Competence (PSOC) for parents who had children aged 0-17 years, and the Swedish Parenthood Stress Questionnaire (SPSQ) for parents who had children aged 0-10 years. The intervention groups' results were compared to comparison group of 702 parents from northern Sweden that had not participated in any parental training programme. In the school study, one of the preventive programmes was an ongoing programme called “Life-Skills”, and the other was an implemented Canadian programme called “Choosing Healthy Actions and Thoughts” (CHAT). The pupils completed a test battery including the Sense of Coherence (SOC), the Children’s Depression Inventory (CDI), and the Youth Self-Report (YSR) instruments. Follow up of the parental programme study was done six months after the post-intervention measure, and follow up of the school study was at one year.
Results

The improvements in GHQ were statistically significant for the mean of the 279 parents in the intervention group compared to the mean of a comparison group of the 702 parents who did not receive any intervention. This suggests that evidence-based PTPs enhance parental well-being even for parents without problems. The intervention group showed a statistically significant improvement in parental competence compared to the comparison group over time. The intervention itself had a significant effect on parental satisfaction, but the efficacy effect was not sustained when taking into account potential confounders. In the SPSQ, the intervention group was smaller due to the fact that the instrument was not validated for children over the age of 10 and one of the parental training groups was only for parents of teenagers. A reduction of stress in the sub-scale of health problems was detected, but no other subscale showed the intervention to have a significant effect when controlling for confounding variables.

In the school study, both programmes had good feasibility according to the stakeholders and had several positive mental health outcomes over time. Compared to Life-Skills, CHAT had more significant positive effects on reducing anxious/depressive symptoms and girls experienced significant positive effects on reduced anxious/depressive behaviour, while boys reduced their aggressive behaviours.

Conclusions

Earlier studies indicate that PTPs enhance perceived parental competence among referred parents. The present study shows that PTPs applied in the general population might also enhance perceived parental benefits such as improved health and satisfaction, suggesting that PTPs can be an important preventive strategy to enhance parenthood. The results suggest that parents who feel a need to increase their parenting competence might participate in PTPs based on lower scores than the comparison control group both before and after the intervention. The school-based programme shows that schools may be a suitable arena for preventive programmes because there was a significant short-term improvement in depression symptoms. Further studies need to explore how parents’ participation in PTPs affects children’s mental health in the general population in quantitative longitudinal studies in real-word settings. There is also a need for bigger studies and RCTs on school preventions and on how children’s health develops naturally in the population.

Keywords: Parental training program, parenting, universal prevention, parental stress, CHAT, Life-Skills, General Mental Health, Parental Sense of Competence, General Health Questionnaire, Swedish Parenthood Stress Questionnaire, Sense of Coherence, Children’s Depression Inventory, Youth Self-Report
SAMMANFATTNING PÅ SVENSKA

Studierna bestod av både tvärsnitts- och uppföljningsstudier med kvantitativa data och en mindre del av kvalitativa data. Studierna undersökte förebyggande föräldraprogram som är tänkta att påverka föräldraförmågan och skolbaserade program för högstadieselever med mål att påverka psykisk hälsa.

I föräldrastudien inbjöds 5 655 föräldrar och vi undersökte föräldrars upplevda föräldrakompetens, före och efter deltagande i föräldraprogram, samt samma undersökning igen efter sex månader. Undersökningen riktade sig till föräldrar som deltagit i Umeå kommuns satsning ”Familjepeppen” (2011) som gav föräldrakurser som hade en direkt anknytning till föräldraplan. I denna redovisning ingår de 279 som tackade ja till att delta i studien mellan den 29 april 2010 och den 15 januari 2013. De effekter som var av intresse i föräldrastudien var förändring av föräldrarnas hälsa som mättes med General Health Questionnaire (GHQ); föräldrakompetens och föräldrarnas känsla av tillfredsställelse i föräldrarollen som mättes med - Parents Sense Of Competence (PSOC); samt stress relaterad till föräldrarollen som mättes med Swedish Parenthood Stress Questionnaire (SPSQ). Mätningarna utfördes med forprogrammerade surfplattor i första och andra mätningen och med e-post i uppföljningsmätningen. Dessa data jämfördes med en kontrollgrupp av 702 föräldrar som inte hade deltagit i en föräldra-utbildning och som fick pappersversioner av frågeformulären som skannades in.

I utbudet ingick fem olika kurser som alla inriktades på att hjälpa föräldrar till att känna sig mer kompetenta i sin föräldraroll. Utbildningarna hade något olika fokus när det gäller pedagogik, förhållningssätt eller att stärka föräldrabarnanknytning men samtliga var gruppverksamheter och hade en gemensam målsättning i att förstärka föräldrarollen.

Resultatet var att stresssymptomen för föräldrarna som deltog i föräldrakurser minskade tydligt (15 %) jämfört med en marginell minskning i kontrollgruppen. De föräldrar som deltog i föräldrakurserna var också mer nöjda med föräldrarollen, och den sociala isoleringen minskade. Däremot visade sig ingen förändring i relationer, eller hur dugliga de kände sig som föräldrar jämfört med kontrollgruppen. Studien har betydelse för kunskapen kring föräldrar som av eget intresse går föräldratödskurs. Tidigare studier har visat på liknande resultat för föräldrar som har blivit rekommenderade att gå föräldrakurser. Studien visar också att föräldraprogram är en lämplig preventiv åtgärd för verksamheter som önskar förbättra förutsättningar för föräldrar. Föräldrar som har något behov av förbättrad föräldrakompetens eller välmående kommer enligt denna studie att själva söka sig till föräldraprogram om föräldraprogrammen annonseras på samma sätt som i studien.
I skolstudien undersöktes 59 elever före och efter deltagande i två förebyggande program i skolmiljö i två grupper av 7-klass elever i en skola i Umeå kommun. Ett av de preventiva programmen var ett lokalt anpassat program som bygger på ett ordinarie vetenskapligt prövat program som används mest frekvent i Sverige (SET), och efter anpassningen kallades livskunskap (Life-Skills), det andra var ett kanadensiskt depressionsförebyggande program (CHAT) med kognitiv struktur, översatt och implementerat av undertecknad.


Resultatet var att förbyggande program som utförs av utbildade ledare är bättre för dem med större behov, medan de med små behov visar på mindre förbättringar. Resultaten visade också på förbättrade resultat för det kanadensiska programmet (CHAT) för depression och förbättrade resultat för det Socio-emotionella träningsprogramet (Life-Skills) när det gäller socialiseringsproblem.

Programet CHAT hade fler kortsiktiga fördelar än Life-Skills även om Life-Skills i denna studie också visade på positiva resultat.

Om behov av ett preventivt depressionsförebyggande program på någon skola föreligger så är CHAT programmet mer strukturerat och klart för att användas.

Detta kan vara till stöd för beslutsfattare och pedagoger som är intresserade av ämnet psykisk hälsa för elever. Studien kan också förhoppningsvis öka intresset för andra studier i samma ämne och också inspirera till fortsatt forskning och programutveckling.
ORIGINAL PAPERS


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## OVERVIEW OF THE ARTICLES

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<th>Data and method</th>
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<td>To investigate the effects on parents' mental health after participating through their own interest in one of five parental training programmes.</td>
<td>Intervention group n = 279, control group n = 709. Instrument = GHQ. Pre- and post-measure. Descriptive statistics, initial correlation, regression, and differential statistics were conducted.</td>
<td>The improvements in GHQ were statistically significant for the mean of the intervention group compared to the mean of comparison group suggesting that parent training programmes enhance parental well-being even for parents without problems.</td>
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<td>To investigate the effects on parents' satisfaction and efficacy in a general population sub-sample from paper I.</td>
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<td>The intervention group showed greater improvement in parental competence compared to the comparison group over time. The intervention itself had a significant effect on parental satisfaction, but the efficacy effect was not sustained in the ANOVA when taking into account potential confounders.</td>
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<td>A reduction of stress in the sub-scale of health problems among parents in the intervention group with an effect size of 0.33 was detected; however, no other subscale showed the intervention to be a significant variable when controlling for confounding variables.</td>
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<td>IV. First-level trial of two school-based prevention programmes for depression, anxiety, and social problems in adolescents.</td>
<td>To test the feasibility and to measure effects on depression, anxiety, and social problems of two preventive school programmes for pupils in grade 7.</td>
<td>A community sample of 59 pupils in grade 7. Instruments were Sense of Coherence, the Children's Depression Inventory, and the Youth Self Report at pre- and post-intervention and at six months after the intervention.</td>
<td>a) Both programmes had several positive mental health outcomes across time. b) Compared to Life-Skills, CHAT had more significant positive effects on reducing anxious/depressive symptoms. c) Girls saw significant positive effects on reduced anxious/depressive symptoms while boys reduced their aggressive behaviours.</td>
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Appendix

A. The appendix is a list of preventive school programmes by popularity in Sweden.
## ABBREVIATIONS

<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>PTP</td>
<td>Parental Training Programmes</td>
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<tr>
<td>PEPS</td>
<td>Programme for Early Parent Support, a US network</td>
</tr>
<tr>
<td>CBT</td>
<td>Cognitive Behaviour Therapy</td>
</tr>
<tr>
<td>DSM-5</td>
<td>Diagnostic and Statistical Manual of Mental Disorders, fifth edition</td>
</tr>
<tr>
<td>CHAT</td>
<td>Choosing Healthy Actions and Thoughts, a Canadian preventive school programme</td>
</tr>
<tr>
<td>GHQ-12</td>
<td>General Health Questionnaire, twelve-item version</td>
</tr>
<tr>
<td>PSOC</td>
<td>Parent Sense of Competence</td>
</tr>
<tr>
<td>SPSQ</td>
<td>Swedish Parenthood Stress Questionnaire</td>
</tr>
<tr>
<td>YSR</td>
<td>Youth Self-Report</td>
</tr>
<tr>
<td>SOC</td>
<td>Sense of Coherence</td>
</tr>
<tr>
<td>CDI</td>
<td>The Children’s Depression Inventory</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of variance (statistical models used to analyse the differences among group means and their associated procedures)</td>
</tr>
<tr>
<td>N</td>
<td>Number of subjects in the whole study population</td>
</tr>
<tr>
<td>n</td>
<td>Number of subjects in a subpopulation</td>
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</table>
DEFINITIONS

Parent Training Programmes (PTP): Programmes with a curriculum and a purpose to teach and train parental behaviour by professionals or by peers. ¹

Parent support: Programmes without a curriculum but with the purpose of supporting parents by professionals or peers. ¹

Manual-Based PTPs: PTPs that have a copyrighted manual that is maintained and/or updated by an organisation. ¹

Child: A young human being below the legal age of maturity. ²

Parent: A person who brings up and cares for a child.

Health: A state of complete physical, social, and mental well-being, and not merely the absence of disease or infirmity (WHO, 2016b).

Problem: A matter or situation regarded as unwelcome or harmful and needing to be dealt with and overcome. ²

Health gain: A way to express improved health outcomes. It can be used to reflect the relative advantage of one form of health intervention over another in producing the greatest health gain (WHO, 2016b).

Risk factor: A factor that is causally related to a change in the risk of a relevant health process, outcome, or condition. The causal nature of the relationship is established on the basis of scientific evidence. ²

Practitioners: Teachers or leaders of the methods in both PTPs and school interventions. ¹

Prevention: The action of stopping a health threat from happening or arising. Divided into universal prevention (for all) and high-risk prevention (for those exposed to a high level of risk). ²

¹ Author
² Oxford dictionary. 2017 Oxford University Press
1. PROLOGUE

When I started to work in a psychiatric hospital when I was 18 years old, I was struck by the burden of mental health problems in the psychiatric wards and in forensic psychiatry.

The question of “why” and the question of causal phenomena of “what happened before” thrilled me. I left the “why” question hanging for those that are better skilled to solve it, but I always carried the “what happened before” question with me. Destiny took me over and over again to workplaces with patients who had less severe conditions. I was sort of backing down the track of a health care chain in the deterioration of mental problems.

Soon I was working in emergency wards, then on a psychiatric mobile team where patients sought help when their psychiatric symptoms became acute or when referred to the mobile team by health care centres. To start working with the most severe mental disorders gave a clue to what might happen if the right help for the right cause was not given at the right time to those who needed it.

Finally, I was offered a job at health centres where patients sought help for psychiatric conditions at the moment when the problems appeared. In the health centres, I worked with young patients and their parents, which was a very nice experience considering the young ones’ recuperation and resilience, but often it was the parents who were in despair and in need. I searched for different forms of treatments and intervention programmes. I came across the CHAT programme, and I contacted McMaster University in Ontario, Canada, in order to contact the developer of the programme. My search for intervention programmes also led me to make contact with Unit of Child and Adolescent Psychiatry at Umeå University. I was presented with a number of measurement instruments by Professor Hägglöf that was suitable for my purposes. A research grant gave me the opportunity to start an investigation on parental programmes.

I feel very lucky to have had the opportunity to investigate the effects of programmes that were meant to help families before problems, either mental or social, can occur.
2. INTRODUCTION

The mental health of children is of great concern, and there are two definitive arenas of children, at home and at school, and these differ in terms of time and Swedish legal jurisdiction. In the home, the parents may or may not indirectly contribute to healthy development. In the school, children’s development is of an academic concern, but any mental problems might be more exposed. The school may or may not have a direct contribution to a healthy mental development. The work in this thesis sought to investigate the effects of preventive family and school intervention programmes in a general population. This was done in both arenas, including one for parental training programmes (PTPs) and one for school programmes to study the effect on depressive symptoms for pupils in grade 7.

2.1 Preventive Objectives

Universal prevention includes effective preventive methods for the whole population where the individual cost becomes low, or as the WHO defines it, universal prevention “seeks to stop or inhibit existing disorders and their effects through early detection and appropriate treatment; or to reduce the occurrence of relapses through, for example, effective rehabilitation” (WHO, 2016b).

This thesis is about universal prevention. Selective prevention targets the strata of the population that has an identified risk, or as the WHO defines it, selective prevention “seeks out possible environments for unhealthy conditions”. Indicated prevention is directed towards individuals who have some kind of risk behaviour, or as the WHO defines it, indicated prevention is “preventing the initial occurrence of an unhealthy condition”.

Disorder or disease prevention in this context is considered to be an action that usually emanates from the health sector, dealing with individuals and populations identified as exhibiting identifiable risk factors and often associated with different risk behaviours (WHO, 2016a).

The theoretical framework of this thesis comes from Geoffrey Rose’s Preventive Medicine (2008). Rose popularised the population health approach. Overall population change was the goal, rather than individual outcomes. His research emerged from that of George Pickering, who developed the revolutionary proposal that a sharp distinction between yes/no and healthy/sick is a medical artefact (Pickering, 1956).

Rose proved that the proportion of people with high blood pressure was directly related to the mean blood pressure in the population in the project INTERSALT (Marmot et al., 1994). The other major insight was that the overall burden of heart disease in a community was dependent on the number of people who were exposed to a particular risk factor. A large number of people who are exposed to
small risk factors lead to higher incidence of diseases than a few people who are exposed to significant risk factors. In populations where mean plasma cholesterol levels are high, a great number of people have elevated levels of plasma cholesterol and the rate of coronary heart disease tends to be high (Rose, 2008).

Rose's main point was that the population mean predicts the frequency of the illness, which in his study was the number of heart attacks. If the negative consequence comes at the end-point of the normal distribution curve, it takes a large number of subjects to detect the positive effect of prevention. The same finding was shown in behavioural factors such as alcohol intake, and the proportion of alcoholics was in direct relationship with alcohol intake in the population (Rehm et al., 2003). Similar findings were also reported in a mental health setting (Anderson et al., 1993). This phenomenon, called "the prevention paradox", means that an individual might not be benefit from the intervention at all, but the population as a whole will. An example of this is seat belts in vehicles, where the population is willing to pay for this equipment, but the chance of needing it is very slim (Rose, 2008).

2.2 History of Parental Training

Documentation of parental training courses goes back to 1815 in Portland, Oregon, through importation from Europe in the form of workshops. The oldest official organisation of parenting was the Child Study Association of America, which was founded in 1888 (Croake & Glover, 1977). Prior to 1820, there were also workshops, so-called "maternal societies," whose members were interested in religious and moral questions. The first White House conference, "The welfare of children", was held in 1909, and the Children's Bureau was created in 1912. The US Public Health Service began to actively support parent PTPs in 1918, which led to a plethora of different programmes, which in turn resulted in The National Society for the Study of Education publishing a book that summarised the key sources collected by educators and professionals in the social sector. In November 1930, there was another White House conference held on "Child health and protection" (Shamburger, 1979). This was important for Sweden because the Swedish activist Alva Myrdal also visited the US, taking home ideas, pamphlets, and inspiration about parenting programmes. Back home in Sweden in 1931, she started a parent support programme in the form of structured workshops at the facilities of the ABF (the Workers’ Educational Association). On an envelope containing a note about the workshops, she has written "first ever in Sweden" (Halldén, 1986). Her exhortation is valid even today:

"This applies not only to going through some literature and ingesting some titbits of knowledge. This applies instead to refashioning the entire approach to the children and letting the new theories grow into one's whole way of seeing. To obtain such vibrant knowledge, you must discuss and exchange experiences with other guardians."
In Sweden, we have had 80 years to use the parenting programmes developed in the US and the UK. The US programmes have, since the White House conference on "Child health and protection" in 1930, developed into four main branches: a) Parent Effectiveness Training (PET); b) Filial Therapy; c) Adlerian groups; and d) Behaviour-modification groups (Shamburger, 1979). The first PET group formed by Thomas Gordon (1970) was used as a basis for Michael Popkin (Popkin, 1988) to video-tape material, and they called the programme "Active Parenting". Adlerian groups were further developed through Rudolf Dreikur's ten-week programme, and this programme has merged with many parenting programmes in use today (Robertson & Paterson, 1979).

In the following section, I describe the theoretical framework of the preventive programmes included in the present study. The theories stress two main developmental domains, the home and the school, and I start by giving an overview of the preventive parental programmes followed by the school programmes.

2.3 Overview of the PTPs

The US non-profit organisation PEPS (Programme for Early Parent Support) has an agreeable definition of universal parenting programmes claiming that universal prevention programmes include parent education programmes that focus on child development, age-appropriate expectations, and the roles and responsibilities of parenting. In Sweden, this class-like education might be provided in more of a workshop setting according to Myrdal's intention.

PTPs are easy to find and voluntary, and participants, which in Sweden include not only parents, but also grandparents and stepparents, choose to participate and are usually highly motivated. PTPs are non-stigmatising because they serve everyone, which means families are more willing to seek them out (Ulfsdotter et al., 2014). They are health-promoting or salutogenic oriented in that they show respect for all parents as vital contributors to their children's growth and development, assume all parents want to do well, and help to give them the skills to do so (Alfredsson & Broberg, 2016). They promote resilience and flexibility in problem solving (Punamaki et al., 2013), and they empower parents to act on their own behalf and to advocate for their own needs. They might also inform about the community support systems that are available, and they deal with the child as a competent part of the family and with the family as part of the community (Webster-Stratton & Herbert, 1993).

Family wellness is about decreasing risk factors (Scott et al., 2010; Wang et al., 2014) and increasing protective factors (Chu et al., 2015) so that the sum of protective factors is appropriate and larger than the sum of the risk factors (Aktan et al., 1996). Family wellness is a state where the needs of every family member are being met. Examples of risk factors are poverty, stressful life events, physical or mental illness, substance use, children with special needs, isolation, lack of
knowledge of child development, and domestic violence. Examples of protective factors include self-esteem, coping skills, social supports, material resources, and knowledge of child development (Dryfoos, 1990). Discussions and the sharing of experiences at meetings allow parents to learn parenting skills from each other and to find ways to take care of themselves at the same time as they are caring for their children. Participants might discuss skills for managing day-to-day challenges (budgeting, daily routines, time management, finding child care, juggling work and family), reducing stress, problem-solving, and preparing for and managing crises using solid decision-making rather than quick fixes (Alfredsson & Broberg, 2016). Programmes might include discussions about how the quality of relationships in real life is more important than the quantity of relationships. The healthiest relationships for parents to pursue are those that are characterised by trust, reciprocity, flexibility, child-friendly values, and a balance of independence and mutual assistance (PEPS, 2017).

2.4 Parent’s Wellness

The high rate of mental illness in the children of depressed parents is one of the most replicated findings in this field (Goodman et al., 2011; Hammen et al., 1990; Klein et al., 2001; Lieb et al., 2002; Weissman et al., 2016). The parent’s wellness is believed to be hampered, and distress or stress occurs due to the child’s behaviour, but the real source is normally a dysfunctional parent-child interaction, not the parental symptoms (Putnick et al., 2010). The mechanisms behind the high rate of mental illness in these children are still unknown, and it is not known if such problems are associated to problems in parent child interaction, inherited through genetic transmission or by gene-environment interaction or through epigenetic processes.

The global prevalence of depression in adults is 5% outside of war-torn countries (Smith, 2014), but the prevalence of depressed parents in the general population in the study area of this thesis is unknown. According to the WHO, the largest global burden of disease will be depression by 2030 (Mathers et al., 2008).

The health benefits for parents who participate in PTPs are reported in an increasing number of studies, especially in indicated programmes (Stattin, 2014). About a fifth of the parents in Alfredsson & Broberg’s study (2016) had problem-oriented (targeted) reasons for enrolment, but most parents had general (universal) reasons. Therefore, it is a good idea to reduce unhealthy parental conditions by promoting universal parent support (Barlow et al., 2014; Deater-Deckard, 2004) because general social support has shown lower effectiveness (Bonds et al., 2002) than PTP’s. It is plausible that the programmes are cost effective in terms of Quality-Adjusted Life Years (Ulfsdotter, 2016).
2.4.1 Parental Competence and Self-efficacy

These two constructs are often used interchangeably as a definition of “parents’ self-referent estimations of competence in the parental role” (Coleman & Hildebrandt-Karraker, 2003), and three formulations have been delineated in the literature of self-efficacy (Coleman & Hildebrandt-Karraker, 2000). The first approach to studying parenting self-efficacy focuses on parents’ perceptions of their own competency at specified tasks within the domain of parenting, which is an instrumental dimension reflecting competence, problem-solving ability, and capability in the parenting role (Johnston & Mash, 1989). The second approach involves combining task-specific measures of self-efficacy and, (by principal components factor analysis, (Bandura et al., 1996) calculating a single measure of self-efficacy within the wider domain of parenting), in Bandura’s study parents task with children’s’ academic achievements. The third approach also considers self-efficacy in the overall area of parenting, distinct from other domains of self-efficacy, and assesses it through global competency expectations that are not particularly linked to parenting tasks (Abidin, 1990; Wells-Parker et al., 1990). For example, instruments with statements such as “I am doing a fine job as a parent” are often used. According to this perspective, general self-efficacy represents a relatively stable personality trait with broad applicability to human functioning, such as behavioural change, with parenting representing only one such domain (Bandura et al., 1977; Coleman & Hildebrandt-Karraker, 2000, 2003; de Haan et al., 2009; Mash & Johnston, 1983; Prinzie et al., 2012).

Parenting competency is a multidimensional construct with diverse behaviours. Factor analyses of parents’ behaviour typically yield two orthogonal factors, demandingness and responsiveness. Demandingness refers to the requests parents make on children by behaviour regulation, direct confrontation, maturity demands (behavioural control), and monitoring of children’s activities. Responsiveness refers to warmth, autonomy support, and reasoned communication (Baumrind, 2005).

2.5 History of Preventive School Programmes

In the late 1960s, James Comer began a program that focused on his theory that "the contrast between a child’s experiences at home and those at school has a profound impact on the child’s psychosocial development, which in turn represents academic achievement.” His work included academic achievement at two primary schools in New Haven, Connecticut, in the early 1980s, which had the worst attendance and lowest academic achievement in that city. As a result of their work, in the early 1980s, the schools exceeded the national average in terms of academic achievement and truancy and behavioral problems, which had significantly decreased and accelerated the emerging social and emotional learning (SEL) movement (Comer, 1980). By that time the emotional skills necessary for emotional competence was defined as "managing, expressing,
identifying and labelling feelings, assessing the intensity of feelings, delaying gratification, controlling impulses, and reducing stress."

Other active researchers who would become key figures in the SEL movement include R. P. Weissberg, a professor of psychology at Yale, and T. Shriver, who worked together closely between 1987 and 1992 to establish the K-12 New Haven Social Development programme. A new organisation, the Collaborative for Academic, Social, and Emotional Learning (CASEL), also emerged from this work, and it has the goal of establishing high-quality, evidence-based school programmes (Maurice et al., 1997). Since then, countries have agreed upon standards for SEL, and scientists has continue to study its impact on children’s academic and personal success (Edutopia, 2011).

2.6 Overview of Preventive School Programmes in Sweden

Appendix A shows the combined results of a web search and data from National Board of Health and Welfare from 2008 for mental health preventive school programmes in use in Sweden (National Board of Health and Welfare, 2009). The list is based on the popularity of the programmes, with Life-Skills at the top with 221 schools reporting the use the programme, down to GMb with three schools reporting its use. At the bottom of the list are programmes developed after 2008, and these have in common that they target depression or suicide attempts.

2.7 Children’s Wellness

While the prevalence and time trends in mental health problems among children need to be studied in more detail using proper epidemiological methods in order to obtain more valid results (Petersen et al., 2010), an increasing number of high-quality studies in recent years have increased our knowledge in this area. Polanczyk (2015) and colleagues performed a meta-analysis of the worldwide prevalence of mental disorders in children and adolescents, including 41 studies conducted in 27 countries. The worldwide pooled-prevalence of mental disorders was 13.4%. The worldwide prevalence of any anxiety disorder was 6.5%, any depressive disorder was 2.6%, any attention-deficit hyperactivity disorder was 3.4%, and any disruptive disorder was 5.7%.

In an international systematic review from 2014 (Bor et al., 2014), which was the year in which the studies for this thesis were finished, the conclusions were that internalised symptoms increased for teenaged girls from 1985 to 2011, but in Finland (Sourander et al., 2012) and Holland (Duinhof et al., 2015) there were stable levels of mental health problems among youth from 2000 to 2010.
Bremberg (2015) conducted a literature study that showed a greater increase in adolescent mental health problems in Sweden compared to Holland and to the other Nordic countries (Iceland excluded). The risk of having at least one psychiatric disorder by age 16 is much higher than point estimates would suggest (Costello et al., 2003). Annual school surveys reveal a steady increase of somatic problems from the 1980s to today among Swedish 15-year-olds, including headache, stomach pain, back pain, and dizziness, especially among girls. More than every third 15-year-old girl in Sweden reports a negative mood at least once a week.

The WHO ranks depression as the top cause of illness and disability among adolescents and suicide as the third most common cause of death in this population (WHO, 2014). Psychiatric disorders that debut in childhood have a high risk of relapses later in life in the form of a more severe state with high suicide rates and comorbidity with other psychiatric diseases, and even sub-threshold problems seem to predict long-term problems (Balazs et al., 2013; Cuijpers & Smit, 2004; Fergusson et al., 2005).

Still, the vast majority of children seem to do just fine according to self-rated scales (Inchley & Currie, 2013; Swedish National Institute of Public Health, 2014; WHO, 2014). The Gaussian curve of psychiatric problems seems to trend towards platy-kurtosis with more children doing well and more children being in need of help. The problem domains are generally categorised as externalising problems, internalising problems, substance-related problems, learning and mental disabilities, and pervasive psychopathology (Kazdin, 2005). Kazdin stated in 2005 that there were over 550 forms of therapy in use for children, but that according to Kazdin, there was probably no other treatment with such strong evidence for its effectiveness as PTPs.

Comorbidity among childhood mental disorders is high, and school-based intervention programmes are likely to promote positive mental health and reduce the risk of psychological distress (Collins et al., 2013; Greenberg, 2003, 2010). These intervention programmes also have the potential to go beyond their impact on the deficits and skills that they specifically target. Thus, it is conceivable that focusing on the reduction of, for example, internalised problems might lead to improvements in externalised problems or to better mental health overall (Bandy & Moore, 2010; Collins et al., 2013; Forkmann et al., 2014; Gustavsson et al., 2010; Hrbáčková & Vávrová, 2014; Petersen et al., 2010; Roughan & Hadwin, 2011).

One recognised crosscutting principle underpinning good practice and successful programme implementation is the promotion of mental health rather than the prevention of mental ill health. For example, programmes focusing on improving coping skills in general as well as in specific situations are one such aspect that caters to the needs of all pupils (Barry et al., 2009; Weare & Nind, 2011; Weems, 2008; von der Embse & Hasson, 2012).
In choosing between the prevention of possible problems and the treatment of already existing problems, universal prevention of internalised problems (Weems et al., 2010) and externalised problems (McClowry et al., 2010) potentially has more benefits compared to indicated interventions that are provided to selected pupils (Weems et al., 2010). Overall, very few adverse effects of school-based prevention and promotion programmes have been reported (Weare & Nind, 2011).

In next section, I present theories that are often used in parenting and school preventive programs.

### 2.8 Attachment Theory

Warm feelings and beneficial responsiveness towards the child create a core of stability that is available throughout development regardless of changes that come with cognitive and socio-emotional developmental acquisitions (Ainsworth, 1979). Attachment (and its underlying pattern of information processing) is a unique, enduring, and effectively loaded relationship - as in the case of attachment figures - and it is a strategy to protect oneself and one’s offspring (Crittenden, 2011). Attachment is not firm and static, but is a dynamic and changing process that creates a secure base for the child, and a healthy parent-child bond is not only vital for well-being, but is an essential part of what it means to be human (Bowlby, 2005). Attachment theory describes both the problems that need attention and need to be dealt with and the consequences that might occur if the problems are not resolved. How children react to perceiving discomfort or danger and how the attachment figure will respond is important. If the response is hostile, it can alter the child’s future reactions in order to avoid separation or humiliation, and this can harm the child’s development. In addition, dissatisfaction with life in young adulthood is predictive of low-quality partner relationships in midlife (Overbeek et al., 2007).

### 2.9 Individual Psychological Theory

Alfred Adler (1870-1937), a physician and psychotherapist, is considered the first community psychologist because his work brought attention to community life, prevention, and epidemiology. This theory emphasises the human need and ability to create positive social change and impact. The core values are equality, civil rights, mutual respect, and the advancement of democracy. He was one of the first practitioners to make family and group counselling available and to use public lectures as a way to address community health. He was also a pioneer in investigating and reporting on the social determinants of physical and mental health (Ansbacher & Ansbacher, 1956).
2.10 Behaviourism

The theory behind behaviourism is “The law of effects” established by Edward Thorndike (1898) and the continuation of this work by B. F. Skinner as described in his book “Science and Human Behaviour” (1953). There is a clear path from behaviourism to the skill training in the PTPs where homework that test the subjects discussed (Webster-Stratton & Hammond, 1997). There is also a direct operant that conditions the component of negative reinforcement to stressful situations that develops by taking the child away (putting them in time-out) or withdrawing attention from a child who is repeatedly asking for something inappropriate (SBU, 2010).

2.11 Cognitive Behavioural Theory

Aaron Beck is considered to be the founder of CBT. When he was working with depressed patients, Beck found that they frequently experienced negative thoughts. He referred to these thoughts as “automatic” and realised that they could be separated into negative ideas about themselves, the world, and the future (Beck, 1979). CBT is one of the most studied psychotherapy treatments (Cuijpers et al., 2014), and it is now a first-line choice of treatment for depression. The effect seems to be that antidepressant drugs repress activity in the amygdala, while CBT both reduces the volume of the amygdala and increases activity in the prefrontal cortex (McGrath et al., 2013; Månsson et al., 2013). Evidence-based thinking and empirical hypothesis testing to change or accept one’s thinking is the basis for CBT (Beck, 1979; Freeman et al., 2004; Perris & McGorry, 1999), and evidence-based thinking (and acting) is central in the CHAT programme used as part of the school study in this thesis.

2.12 Stress Theory

In 1930 H. Seyles defined the response to stress as a physical adjustment by the hormonal system to cope with factors that challenge one’s harmony and physical homeostasis. Homeostasis is a complex dynamic equilibrium that is constantly provoked by internal or external strains, so-called stressors. The most important part of this hormonal system is the hypothalamic-pituitary-adrenal-axis (HPA), which balances the physical resources from inaction to action to stability. An acute and/or chronic malfunction in the HPA can have negative health consequences. Such malfunctions are believed to develop from the accumulation of dysfunctional reactions such that the HPA remains active when it ought to be inactive or cannot react when needed (Maripuu, 2015). It is important to point out that the stressors do not need to be real, and the mere thought of stressors activates the HPA for physical or emotional responses, and it can very well overreact if such thoughts are too strong or pervasive.
The stress theory is better explained in an individual, but it can occur in systems as well. A recent review studied the most recent evidence for the family stress model by looking for articles that supported the Conger model (Conger & Conger, 2002). The Conger model explains how economic hardship influences child adjustment problems through various mediating pathways. Economic hardship produces economic pressure that creates parental psychological distress that (because inter-parental relationship problems are bidirectionally linked) directly causes disruptive parenting that in turn initiates adjustment problems in their children. Several commonly occurring risk and protective factors have a main effect on the mediating factors and on the interactive effect on the pathways between the factors (Masarik & Conger, 2017). Masarik and Conger found numerous articles that supported the family stress model and its inherent factors. Many surveys indicate that stress among teenagers is rising (Löfstedt et al., 2014; National Board of Health and Welfare, 2009; Swedish National Institute of Public Health, 2014) not only due to family stress, but also because of educational demands and time pressure, an increase in single-parent families, and reduced social contact with adults due to more time being spent on social media (APA, 2014; Bremberg, 2006).

The connection between children’s wellness and parenthood has been thoroughly explored, but we are still seeing an increase in mental health problems among adolescents. More exploration is needed in the research field of preventive methods for children’s mental health and parental function in general populations. Therefore, the current research projects aimed to contribute to existing knowledge by studying the effects of the PTP and school interventions in a naturalistic research using modern information-processing techniques.
3. AIMS

The overall aim of the work in this thesis was to determine the effects of psychosocial preventive parental and school programmes in a general population. Four sub-studies were performed, and their individual aims were as follows:

- To investigate how PTPs delivered in general populations in a naturalistic setting affect parents’ mental health.

- To investigate how PTPs delivered in general populations in a naturalistic setting affect parents’ satisfaction and efficacy.

- To investigate how PTPs delivered in general populations in a naturalistic setting affect parental stress.

  o To analyse the parents’ answers to open questions about the PTP’s.

- To investigate the feasibility and to measure the effect on depression, anxiety, and social problems of two preventive school programmes for pupils in grade 7 in a naturalistic setting.
4. MATERIALS AND METHODS

4.1 Study Context

Umeå region was one of ten regions in Sweden that were granted funds from the Swedish Institute of Public Health to implement and perform research on existing PTPs or parental support programmes.

The data collection period for the project was between 2010 and 2014, and half of the funds went to the municipality to arrange PTPs and related activities. The organisation of the project consisted of the project’s executive board, the research team, the project team, and the regional administration group. The project’s executive board controlled the project according to the funding application, and was represented by the Västerbotten county council, the Umeå municipality office, the municipal districts in Umeå municipality, educational associations and social and school offices in the municipality of Umeå, and the Umeå crime-prevention council.

The project team had the overall responsibility for the PTP project and for providing information and meeting the demands of the different stakeholders. The project team’s task was also to maintain the long-term development and implementation of the PTPs within the cooperating municipalities.

Participating parents in the study were self-selected and were recruited through a broad advertisement about the project aimed towards families in the Swedish region of Bothnia and its surrounding municipalities. Recruitment started in April 2010. Baseline data from the respondents were collected at the first meeting (T1), data were collected immediately after the last meeting (T2), and data were collected by e-mail at 6 months after the end of the intervention (T3), data collection of the PTPs ended in September 2014.

Ads in local newspapers, information at meetings, flyers, and personal visits to schools and kindergartens from public relations staff contributed to spreading information about the project along with a website.

The school study was initiated by social services in the municipality, which had heard of the Canadian cognitive-based school intervention Choosing Healthy Actions and Thoughts (CHAT). The school, the municipal social services, and Umeå University cooperated closely in creating the study design.

The study was conducted between June 2010 and June 2013. The CHAT intervention started in January 2011 with one lecture a week and lasted for 20 weeks. One class was randomly picked as the CHAT intervention group, and another other class was chosen as the Life-Skills intervention group. Two teachers who were trained by professionals and passed an exam at a Child and Adolescent
Psychiatric Unit at Umeå University administered the CHAT programme. These teachers also received a basic course in suicide prevention. The Health and Sports teacher was responsible for some lessons, including relaxation techniques.

Baseline data from the respondents were collected in November 2011 (T1), data were collected immediately after the intervention (T2), and data were collected at 12 months after the end of the intervention (T3).

A weekly newsletter informed the parents in the CHAT intervention group about what skills the intervention was focusing on and the alternative behaviours and coping strategies that were being taught, and the parents were requested to encourage their children to practice and use those skills at home.

Attendance reports from all classes were also collected. The Life-Skills intervention programme continued as usual, and no further information was sent to parents in that group.

4.2 Pilot Study

A pilot study was performed before the start of the parental study programme to test the feasibility of using electronic tablets and to test the programming, the number of instruments, the time requirement, and other intervening factors. The pilot study revealed that invited parents thought it was important to ensure that invitations consider parents’ preferences for attending (for example, location, costs, time of day and day of the week). The naming of the programme was also a matter of debate, and “parental training”, “parental support”, “parental management”, “parental groups”, and “parental programmes” did not sit well for all the parents, and the project was finally named “Familjepeppen” (family-pep). The pilot study group also helped the research team to narrow the demographic questions, to avoid integrity-sensitive questions, and to arrange the programme in such a way as to prevent dropouts. The pilot group also rejected the use of personal numbers (social security numbers) as identifiers on the questionnaire and preferred to use e-mail addresses.

4.3 Ethical Consideration

The ethical consideration of these studies was to avoid harm, but consideration was given to possible negative consequences of the interventions. Each programme in both arenas was either previously investigated or was thoroughly examined for harmful intervention effects. No negative consequences of the interventions emerged. The Regional Ethical Review Board supported the standard ethical demands (APA, 2002; World Medical Association, 2001) and approved the PTP study (reg. no. 2010-249-31) and school study (reg. no. 2011-403-31M).
4.4 Parental Study

4.4.1 Participants

The selected populations differed in the studies depending on the age limits of the included instruments and if there was follow-up or not. Due to low activity in the PTP “Family Lab”, one parent from a group in Solleftea and 23 parents from Gothenburg were also studied.

Inclusion criteria were that participants were Swedish-speaking parents or guardians (hereafter referred to collectively as parents) of at least one child up to 18 years of age. The only exclusion criterion for parents was the inability to read Swedish. The PTPs were offered on a web site (Familjepeppen, 2011) where the parents could register and choose between eight PTPs. Three PTPs were excluded from this study, including one PTP that targeted immigrants and was excluded because of literacy concerns, one PTP that focused on spousal relations and not parenting, and one PTP that additionally focused on massage and not just on parenting.

![Flowchart of participation.](image)

It is important to note that the invited number differed between the studies due to the different inclusion criteria of the instruments. In both the intervention and comparison groups, a total of 5,655 families were invited to participate in the study. Based on other studies (Lindsay et al., 2011), we calculated a massive dropout for the comparison group and ordered 5,000 addresses for families to
include in the comparison group. The addresses were randomly selected from a
government database from the surrounding municipalities of the intervention
area and were chosen according to the same distribution curve of the children’s
ages as for the intervention group. The child that the parent had most in mind
when thinking about parenting is hereafter called the focus child.

Participants in the intervention group included 658 parents, including 28
couples, who signed up to participate in the study of PTPs, and this meant that at
least one parent of 3.3% of all families with children in the region (N = 16,329
April 2010) was included in the study group. For the parental competence study
described in paper II, there were longitudinal follow-up measures where 115
parents participated. For the stress study described in paper III, 215 parents were
excluded because the Swedish Parenthood Stress Questionnaire (SPSQ) is only
validated for children younger than 11 years of age, hereafter called the focus
child, meaning the child that the parent had most in mind when thinking about
parenting.

In the studies totally, nine parents in the intervention group were excluded. One
child turned 18 years old during the study. Four parents had another child in
focus during the post-intervention measurement, as detected by a different sex or
age of the child in the demographic questions. Four parents were disqualified due
to having some kind of connection to the study. The external losses from T1 to T2
were 155 participants (24%), which means that 279 (41%) remained in the
intervention group for subsequent analysis.

In the comparison group, there were five children who had turned 18 years old
during the study period, and 23 parents had the wrong focus child in mind at T2.
Nine parents had already participated in the same parental support programme
that we were investigating, and 66 parents had too much internal missing data to
participate in the study, and their data were deleted from the study. The external
losses from T1 to T2 were 385 (8%) participants, which means 709 (14%) remained in the
comparison group. Combined with the intervention group, this meant that 981 (17%) of the originally invited parents were included in the data
analysis.

4.4.2 Parental Training Programmes

The PTPs included the following five programmes, Active Parenting (Aktivt
föräldraskap), the Community Parent Education Programme (COPE), The
Family Workshop (Familjeverkstan), Family Lab, and the programme “I Love
You But You Drive Me Nuts” (Älskade förbannade tonåring). All five PTPs
targeted the general population and had similar delivery times (about 20 hours)
and intervention themes. The PTPs were mostly delivered on a weekly basis at the
leader’s workplace during the evening. All leaders of the PTPs had completed the
education requirements for each programme that were provided through the
organisations responsible for the programmes.
Active Parenting was the first manual-based parenting programme to use videotapes. This programme is delivered in three versions: Active Toddler Parents (0-2 years), Active Parenting Today (2-12 years), and Active Parenting Today for Parents of Teens (13-17 years). Active Parenting was developed by Michael Popkin and is based on Adler’s theories of development and learning (Popkin, 2014).

COPE is a manual-based education programme with videotapes and problem-solving discussions in “fish-bowls”, i.e. small groups. COPE was developed by Professor Charles Cunningham in Canada and is available for parents of toddlers (0-2 years), children (3-12 years), and teenagers (13-17 years). The programme is based on social learning theory, social cognitive psychology, and family system theory (Dubow et al., 2010).

The Centre of Prevention for Stockholm City developed the Family Workshop, which is a manual-based communication programme using videotapes that targets parents of children between 3 and 12 years of age. It has been observed that the discussions are less guided than other PTPs, although the programme is based on the same common theories mentioned above and on clinical experiences (Bremberg, 2004).

Family Lab was developed by the family therapist Jesper Juul and includes lectures and discussions based on Kempler’s gestalt family theory (Kempler, 1974). The programme is dominated by dialog enhancement between the responsible parent and the competent child, according to the programme (Schill, 2013).

“I Love You But You Drive Me Nuts” is a PTP for parents of teenagers. The programme is based on a Swedish manual that focuses on guided group discussions and practical homework tasks (Kimber & Molgaard, 2009). This programme is based upon the Iowa Strengthening Families Programme (Cui & Donnellan, 2009).

4.4.3 Instruments and Additional Questions

General Health Questionnaire

The General Health Questionnaire (GHQ) was developed by Goldberg in 1972 as a self-administrated screening test to detect mental illness in general health care settings (Murphy, 1973).

The GHQ comes in five versions with 60, 30, 28, 20, or 12 items and consists of a question asking whether the respondent has recently, in terms of weeks, experienced a particular symptom, for example, “Have you recently lost much sleep due to worry?” or behaviour, for example, “Have you recently been able to face up to your problems?” In this study, we used the 12-item version. The items are rated on a four-point scale (Banks et al., 1980), and responses are given
compared with the individual’s “usual state of mind”. The options are “no more than usual”, “the same as usual”, “more than usual”, and “much more than usual” (or linguistically appropriate synonyms). A higher score indicates more mental health problems.

There are four main scoring methods used. The first is the “GHQ method” (Murphy, 1973) where individuals score 0 if endorsing either of the first two categories, or 1 for endorsing either the third or fourth category (0, 0, 1, 1). Sometimes a second modified scoring method, called the “Goodchild and Duncan-Jones” method, is suggested because it is possible to omit long-standing disorders in the classical version of GHQ scoring. In this scoring, the answer “the same as usual” depends on the consideration of whether the positive answer to a question indicates illness (the so-called negative items of the questionnaire) or health (the positive items). Among the negative items, e.g. “feeling unhappy and depressed” a respondent gets 1 point for an answer “no more than usual”. Therefore, in this second method, the scoring of answers for such questions is 0, 1, 1, and 1. Among positive items, such as “been able to concentrate on whatever you’re doing”, the reply “same as usual” has a zero value. The scoring of positive items is then the same as the standard scoring in the GHQ (0, 0, 1, and 1). The Goodchild and Duncan-Jones (1985) method is a relatively specialised method and is useful only when it is important not to miss cases with long-standing disorders. The third method is the “Likert method” where responses are given scores of 0, 1, 2, and 3. There is also a fourth method, the “Modified Likert” with scores of 0, 0, 1, and 2, but Goldberg found that it is inferior to simple Likert and may therefore be discarded (Banks et al., 1980). The Likert scoring gives a minimum score of zero and a maximum score of 36.

In this study, we used the Likert method upon Banks’ recommendation that the “Likert-method might be preferable in that it is likely to produce a wider and less skewed distribution of scores more appropriate for correlational analyses and intergroup comparisons based on parametric statistics” (Ibid). In general, it is best if the user specifies their required threshold value of mental illness, based on research evidence relevant to their assessment circumstances. However, we had no clinical assessments or gold standard to compare the scores with; we used earlier studies’ threshold values of 11 points as default options. These were derived from information in the original GHQ Manual, the User’s Guide, and Goldberg’s WHO study of mental illness.

Banks and colleagues (1980) reported a Cronbach’s alpha value for the GHQ between 0.82 and 0.90 and considered the internal consistency of the instrument to be good. In our study, the Cronbach’s α was 0.88 for the comparison group and 0.90 for the intervention group. In Banks’ study of mental health and un-/employment the minimum mean score of 8.53 was for employed females with a standard deviation of 3.65. The maximum mean score was 15.29 with a standard deviation of 6.85 for unemployed single persons.
Parents Sense of Competence

The Parents Sense of Competence (PSOC) instrument was developed by Gibaud-Wallston and Wandersman (Johnston & Mash, 1989) and is currently in use worldwide. The PSOC as used in the current study has 16 assertions that reflect parental self-perceptions of skills and knowledge regarding parental functions. These assertions yield the two subscales of Satisfaction, which is defined as how much the parent is satisfied with their parenting role, and Efficacy, which is defined as the parent’s perceived competence in their parenting role (Ohan et al., 2000).

The assertions are worded towards a non-specific child, and the items are graded on a Likert scale ranging from 1 to 6. The nine items about frustration in the Satisfaction subscale are negatively scored from 1 (“strongly agree”) to 6 (“strongly disagree”). The seven items about positive parental esteem in the Efficacy subscale are positively scored from 1 (“strongly disagree”) to 6 (“strongly agree”). The Satisfaction factor has been shown to be strongly correlated with measures of the child’s behaviour and the wellbeing of the parent (Rogers & Matthews, 2004).

Earlier studies of the PSOC used a 17-assertion version with three factors - Efficacy, Interest, and Satisfaction - but based on recommendations from researchers (Johnston & Mash, 1989), the 16-assertion version with two factors was chosen for the work in this thesis.

In a psychometric study, the normative mean score of 586 non-clinical mothers and 615 non-clinical fathers on the Satisfaction subscale was 23.34 points with a standard deviation of 5.82 points. On the Efficacy subscale, the mean score was 21.49 points with a standard deviation of 4.17 points. Cronbach’s α ranged from 0.68 to 0.76 (Gilmore & Cuskelly, 2009). In our study, the Cronbach’s α of the Satisfaction subscale was 0.80 for fathers and 0.77 for mothers at T1. In the Efficacy subscale, the Cronbach’s α was 0.70 for fathers and 0.77 for mothers at pre-test. Higher scores on the PSOC indicate higher efficacy and satisfaction in the role of being a parent.

Swedish Parenthood Stress Questionnaire

The Swedish Parenthood Stress Questionnaire (SPSQ) is a Swedish instrument based on parts of the Parent Domain in the Parenting Stress Index-short form, and it was used in this thesis as a measure of stress in the parenting role (Östberg & Hagekull, 2000). The SPSQ measures parents’ perceptions of stress in their parenting role using a total stress scale and the five subscales of Incompetence, Role restriction, Social isolation, Spousal relationship problems, and Health problems. The SPSQ contains 34 items that are scored on a 5-point Likert-type scale from “not at all true” to “very true”. The assertions are worded towards multiple children. One third of the items are positively formulated, as in “I enjoy being a parent”. These items are reversed-scored, and both the subscales and the
total stress scales are then mean-scored. An earlier study confirmed the validity of the scales in a Swedish context (Lagerberg et al., 2011). In the current study, we estimated Cronbach’s alpha to be 0.85 for the total stress scale and 0.54-0.83 for the subscales.

This instrument was the most difficult to convert into an online version with one third of the items reversed and five subscales plus one total scale. A higher score indicates higher parental stress.

Additional questions

The demographic questions included the ages of the fathers, mothers, and children. The questions were worded towards the focus child. Family variables were sex of the parent, marital status, sex of the focus child, number of siblings, and the siblings’ ages. Socio-economic variables included parents’ and spouse’s education and kind of work they did categorised according to the system used by Statistics Sweden. Working time was answered in percentages. Respondents were asked about the origins of birth of their parents, their spouse, and the focus child.

In addition to the questions of the instrument and demographic questions, we asked additional questions about the parents’ perspectives of their family during the data collection time. In the post-test, we asked, “Did anything happen that had a big impact upon your family from the time you started parental training (e.g., change of work, money gain, or death)? Please specify.” We also asked whether the parent “had more trouble concerning the focus child than what they think is normal” with response options of yes or no.

For the comparison group, the question was, “Did anything happen that had a big impact upon your family from the time you started this survey (e.g., change of work, money gain, or death)? Please specify.”

We also included the following perceptual questions about the parents’ evaluation of their relationship with the focus child. “Has the contact with the child changed?” “In what way?” (providing a qualitative answer). “How concerned were you over the relationship before the parental training group?” “How concerned were you over the relationship after the parental training group?” “How concerned were you over your parental ability before the parental training group?” “How concerned were you over your parental ability after the parental training group?” “How concerned were you for your child before the parental training group?” “How concerned were you for your child after the parental training group?” The scoring and answering options on all relationship questions were 1 = “Not at all”, 2 = “Not so much”, 3 = “A little”, 4 = “Rather much”, and “Very much”. A higher value means more concerns. For the PTP parents, the additional questions were asked before and after the PTP. For the comparison group, the additional questions were asked before the first and at the second questionnaires.
4.4.4 Statistical Analysis

We used Cronbach’s alpha coefficient to assess the internal consistency of the GHQ, PSOC, and SPSQ questionnaires. To examine the differences between continuous and categorical independent variables between the intervention and comparison group, the respective bi-variate analyses used the t-test and chi-square test. The paired t-test was used to compare changes between T1 and T2 within the groups.

An analysis of the interaction between intervention and time was performed to assess the intervention effect at T2. We used simple linear regression to assess the correlation between the change in T2 scores and the T1 scores. Cohen’s effect size measure was used to quantify the change between the pre- and post-intervention between the two groups, in which 0.2 is defined as a small effect size, 0.5 as a medium effect size, and 0.8 as a large effect size (Cohen, 1988).

The number of participants might differ in the tables because of missing values and age limitations of the instruments. To deal with missing value, we used expectation-maximisation in SPSS. Univariate descriptive statistics were used to describe the sample and a p-value of <0.05 was considered significant. All analyses were performed in SPSS version 24 (SPSS, Released 2017).

4.4.5 Open Question Analysis

The content analyses of the open question “Do you have something to add about the parental training programme that we have not asked about?” was performed according to (Dahlgren et al., 2007), chapter one, where the analysis was undertaken in five steps with the goal of identifying the themes in the responses.

All answers were read through to get a basic understanding of the material. Central meaningful words were then identified and indicated in the text. The meaningful words were rewritten in the authors’ own vocabulary into themes. The themes were counted, and all meaningful words were inserted into a map generator available on the Internet (Lepi, 2014) that transformed them into a word map in which larger words indicated their more common appearance in the parents’ opinions of the PTPs.

4.5 School Study

4.5.1 Participants

The present study is based on a sample of 59 pupils. There were 38 pupils (21 boys and 17 girls) in the CHAT intervention group, and 21 pupils (12 boys and 9 girls) in the Life-Skills intervention group in one municipality in northern Sweden. No exclusion criteria were applied, and the various ethnic groups, ability levels, and potential learning disabilities typical for Swedish grade 7 classes (12-13 year olds) were present in the sample. Informed consent was obtained from
both the pupils and the parents. The local policy authority and school officials also approved the study. The social services of the municipality initiated and partly financed the study. The pupils received a small gift at every measurement point (in total approximately 20 €). Parents were thoroughly informed and prepared for the intervention, and all involved individuals received weekly reports from the teachers.

The study was conducted between June 2010 and June 2013. The CHAT intervention started in January 2011 with one lecture a week and lasted for 20 weeks. One class was randomly picked as the CHAT intervention group, and the other class was the Life-Skills intervention group.

4.5.2 Preventive School Programmes

Being the most popular programme in Sweden, the Life-Skills intervention had been ongoing in the current study school for two years prior to the study, and the teachers were well educated in the method. The method has been studied and supported by research in Sweden (Kimber, 2011). Life-Skills includes discussions, group tasks, and individual work that problematize themes of love, sorrow, peer pressure, influences of social media and advertisements, immigration and racism, tobacco and alcohol risks, positive motivation, and future plans.

The CHAT intervention gives psychoeducative tools and coping strategies. At every lesson the pupils watched a short video and then were asked to discuss the shown situation from the perspective of their own understanding and to discuss alternative behaviours for the actors in the video vignette. The pupils also received homework assignments to enhance the learning of these skills.

4.5.3 Instruments

Children's Depression Inventory (CDI)

The CDI (Kovacs, 1992) has typically been used in epidemiological studies of childhood depression in relation to social and scholastic difficulties. The CDI is sensitive to changes in depressive symptoms over time and assesses the progress of treatment. The CDI is a useful index of the severity of depressive symptoms in clinical and general populations and has been shown to be reliable in a general Swedish adolescent population (both ethnic Swedes and those born abroad) with Cronbach’s α = 0.86 (Ivarsson et al., 2006). The CDI is a 27-item, self-rated, symptom-oriented scale suitable for youths aged 7 to 17.

In our study, the total sample Cronbach’s α was = 0.94. The 27 items are grouped into the following five subscales: Negative Mood (irritability or anger); Interpersonal Difficulties (difficulty making and keeping close relationships); Negative Self-Esteem (belief that you are not good at anything); Ineffectiveness (lack of motivation or inability to complete tasks); and Anhedonia (inability or decreased ability to experience joy).
The CDI measures depression as a multidimensional construct in which individual differences might appear (Aluja & Blanch, 2002). Each item has three statements that are graded in severity and are assigned numerical values from 0 to 2, and the child is asked to select the one answer that best describes his or her feelings over the past two weeks. The instrument has a total score ranging from 0 to 54, with higher values indicating more clinically severe depression (Rivera, Bernal, & Rossello, 2005).

**Sense of Coherence (SOC)**

The SOC (Antonovsky, 1987) is a widespread health measure addressing an individual’s optimism and control and how he or she manages stressful situations and maintains a sense of wellbeing. Low SOC has, for example, been related to life dissatisfaction and increased fatigue, loneliness, anxiety, and depression, and it is useful for studying the effects of interventions (Efrati-Virtzer & Margalit, 2009; Myrin & Lagerström, 2008).

Although inconsistent results have been reported, in a long-term perspective high scores on the SOC have been shown to predict a positive outcome. Recently, Henje Blom and colleagues (2010) found that the SOC scale better captures persistent depressive symptoms and generalised social anxiety than specialised scales do and that it does not measure distinctly salutogenic constructs. The SOC encompasses the three components of Comprehensibility (i.e., events are perceived as making logical sense and they are ordered, consistent, and structured), Manageability (i.e., a feeling that one can cope with a situation), and Meaningfulness (i.e., life makes sense and challenges are worthy of overcoming).

Depending on the version the questionnaire, Cronbach’s $\alpha$ range from 0.70 to 0.95. The SOC questionnaire was originally developed to measure the entire concept of coherence and not to assess the three subscales separately. The three-factor solution had a lower explanatory power of less than 40% of the variance. The SOC seems to be a multidimensional rather than a unidimensional concept, thus the construct validity of the three dimensions has not yet been confirmed (Eriksson & Lindström, 2005). In our study, the Cronbach’s alpha was 0.93.

**Youth Self Report (YSR)**

The YSR (Achenbach & Edelbrock, 1987) and its Swedish version (Broberg et al., 2001) offer a multi-dimensional conceptualisation of children’s psychiatric problems that are described along a continuum, which is particularly appropriate for the study of psychiatric problems in general populations.

The YSR measures social skills, and it offers both a dimensional symptom perspective and a perspective of DSM-oriented diagnostic criteria (i.e., following the Diagnostic and Statistical Manual of Mental Disorders-IV). The YSR is divided into the following nine subscales: Withdrawn, Somatic complaints, Anxious/Depressed, Social problems, Thought problems, Attention problems,
Delinquent behaviour, and Aggressive behaviour. The subscales Withdrawn, Somatic complaints, and Anxious/Depressed together comprise a rather broad internalising dimension, whereas the Delinquent behaviour and Aggressive behaviour subscales together constitute an externalising dimension; thus the instrument’s scores can be categorised as Internalised problems or Externalised problems, as well as a total problems score.

The instrument consists of 112 problem items covering different symptoms/behaviours, and each is rated on a three-point scale ("2" means that the statement is present most of the time or applies well, "1" means it is present some of the time or applies to some extent, and "0" means no symptom or problem behaviour is present). All ratings refer to symptoms or problems experienced during the preceding 6 months.

The YSR has been translated into Swedish and back into English to ensure congruence with the original. The Swedish version has been used with more than 5,000 Swedish adolescents, and Swedish norms have been published (Broberg et al., 2001).

The study by Broberg and colleagues found that the internal consistency of the Swedish YSR was adequate for the syndrome subscales and good for the two broad dimensions of “Internalising problems” and “Externalising problems”, and this was consistent with previous international validations of the YSR (Doepfner et al., 1995; Steinhausen & Metzke, 1998). The validity of the Swedish YSR and its subscales was also found to be good (Broberg et al., 2001) and in line with international studies.

Because the YSR is extensive and has more subscales than the other instruments, we calculated the internal consistency for every subscale, as shown in table 1.

| Table 1. Cronbach’s α of the YSR subscales for the total sample. |
|-------------------|--------|--------|-------------------|-------------------|
|                   | N     | Items | Cronbach’s α     | Cronbach’s α based | Cronbach’s α if the item was deleted one at the time |
|                   |       |       |                   | on standardised    |                                                                 |
|                   |       |       |                   | items              |                                                                 |
| Total scale       | 46    | 110   | 0.900             | 0.911              | 0.896 up to 0.904                                           |
| Anxious/depressed | 62    | 13    | 0.918             | 0.921              | 0.906 up to 0.920                                           |
| Withdrawn/depressed | 65  | 7     | 0.792             | 0.798              | 0.750 up to 0.789                                           |
| Somatic complains | 62    | 11    | 0.675             | 0.643              | 0.602 up to 0.706<sup>a</sup>                               |
| Social problems   | 66    | 11    | 0.747             | 0.749              | 0.679 up to 0.772<sup>b</sup>                               |
| Thought problems  | 62    | 12    | 0.836             | 0.844              | 0.797 up to 0.847                                           |
| Attention problems | 66  | 7     | 0.741             | 0.740              | 0.665 up to 0.758<sup>c</sup>                               |
| Rule Breaking behaviour | 62 | 12 | 0.709             | 0.803              | 0.656 up to 0.723                                           |
| Aggressive behaviour | 61 | 15   | 0.763             | 0.756              | 0.721 up to 0.791                                           |

Note: <sup>a</sup> Eye problem. <sup>b</sup> Prefers younger friends. <sup>c</sup> Acts young for her/his age.
4.5.4 Statistical Analysis

We used the Cronbach’s alpha coefficient to assess the internal consistency of all questionnaires. The other internal consistency assessment method included the item rest correlation coefficient (the correlation of the item score with the composite score that excludes the item from the equation) with an acceptable value between 0.5 and 0.7 (Ferketich, 1991).

To compare pre-post intervention differences, the paired t-test was used. In addition to the comparison of pre- and post-test intervention scores, a calculation of the absolute change was added, which is a comparison of the mean change between the measurement points (T2-T1 and T3-T1).

With repeated-measures analysis of variance (RM-ANOVA), differences within and between subjects were compared using the measurement points (T1, T2 and T3) and the programmes (CHAT and Life-Skills), respectively. A time-programme interaction analysis was applied to assess the programme effect at T3. To check for moderating effects, gender was subsequently added as a fourth independent variable in the RM-ANOVA. The analyses were conducted using STATA version 13.1 (StataCorp. 2013). A p-value of 0.05 was set to detect significant changes.
5. RESULTS

5.1 Parental Study

The improvements in GHQ, parental satisfaction (PSOC), and stress-related health problems (SPSQ) were statistically significant for the mean of the intervention group compared to the mean of the comparison group suggesting that PTP enhances parental well-being, even for non-referred parents.

Please note the difference between study groups and PTP-method. The internal differences between the groups did not reveal any group as particularly bad or good at a statistically significant level (F [42] = 0.87). However, there is a difference seen in figures 3, 6a and 6b, 7a and 7b, and 8a and 8b between the methods. It is, however, beyond the scope of this thesis to compare or rank these differences.

5.1.1 Paper I

In the mental health study (page 75), the GHQ score improvement was only detected in the intervention group (F [979] = 19.0, p <0.01). There was also an interesting finding with the GHQ scale, where the mean of the intervention group was slightly above the threshold of mental illness prior to the intervention and dropped below the threshold after the intervention (Figure 2a and 2b).

Closer analysis revealed that more than half of the parents (59) individually dropped below the thresholds indicative of having a mental illness at T1.
**Figure 2a and 2b.** The distribution curves of GHQ scores at T1 (left) and T2 (right). The solid black vertical line is the threshold of mental illness in the GHQ, and the dashed black line is the mean of the intervention group. The y-scales are different in the figures.

**Figure 3.** The mean group difference in GHQ change between T1 and T2. A negative value is considered an improvement. 1 = COPE, 2 = Active parenting, 3 = Family Workshop, 4 = Family Lab, 5 = “I Love You But You Drive Me Nuts”, 6 = Comparison group. Error bars show the 95% confidence interval.
5.1.2 Paper II

The most significant ANOVA result in the parental role (PSOC) was the long-term increase in satisfaction ($t [207] = 2.49, p < 0.01$) (page 30). The short-term difference between T1 and T2 in the Satisfaction subscale is shown in figure 4.

![Distribution curve of both the intervention group (green/left) and the comparison group (red/right) showing the difference between T1 and T2 in the Satisfaction subscale. The farther the curve is from zero on the y-axis is an indication of a greater difference, and movement of the curve above zero indicates a positive result of the intervention and movement of the curve below zero indicates a negative result of the intervention.](image)

**Figure 4.** Distribution curve of both the intervention group (green/left) and the comparison group (red/right) showing the difference between T1 and T2 in the Satisfaction subscale. The farther the curve is from zero on the y-axis is an indication of a greater difference, and movement of the curve above zero indicates a positive result of the intervention and movement of the curve below zero indicates a negative result of the intervention.

Some results were inconclusive; for example, the Efficacy subscale of the PSOC had a significant t-test result, but this became insignificant in the ANOVA.

The most predictable variable was the pre-intervention scores as shown in all ANOVA measures. For example, the pre-score impact of the Satisfaction subscale of the PSOC is shown in figure 5, where the Satisfaction difference between T1 and T2 is high for those with low pre-scores and is low for those with high pre-scores.

An interesting finding is the suggestion that there was no gain in satisfaction as a result of the PTPs if the pre-score was above 44.5 points, which is where the y-axis zero intercepts the intervention regression line.
Figure 5. Regression line of the Satisfaction subscale for the intervention group (green line) and the comparison group (red line). The higher points on the y-axis indicate greater differences. Positive differences indicate an improvement as a result of the intervention.

Figure 6a and 6b. The mean group difference in satisfaction (left) and efficacy (right) change between T1 and T2. A positive value is considered an improvement. 1 = COPE, 2 = Active Parenting, 3 = Family Workshop, 4 = Family Lab, 5 = I Love You But You Drive Me Nuts, 6 = Comparison group. Error bars show the 95% confidence intervals.
Figure 7a and 7b. The mean group difference in satisfaction (left) and efficacy (right) change between T1 and T3. A positive value indicates an improvement. 1 = COPE, 2 = Active Parenting, 3 = Family Workshop, 4 = Family Lab, 5 = I Love You But You Drive Me Nuts, 6 = Comparison group. Error bars show the 95% confidence intervals.

5.1.3 Paper III

The result of the parenting stress study (SPSQ) showed a decrease in health problems (F [78] = 3.88, p = 0.03) in the intervention group compared with the comparison group. There was also a significant change in the SPSQ subscales of Role restriction and Social isolation over time with a p-value <0.01 (page 711). Like in the parent satisfaction scale, the intervention group showed a short-term improvement in the parenting stress study in all subscales as measured by the t-test, but when controlling for confounding variables there were no significant changes in the Incompetence or Spousal problems subscales or in the total stress scale, so the null hypothesis must be accepted.

Initially the Spousal problem subscale of the SPSQ was the only one in which the intervention group had lower T1 scores than the comparison group.
Figure 8a and 8b. The mean group differences in total change on the SPSQ between T1 and T2 (left) and between T1 and T3 (right). A negative score indicates an improvement. 1 = COPE, 2 = Active Parenting, 3 = Family Workshop, 4 = Family Lab, 5 = I Love You But You Drive Me Nuts, 6 = Comparison group. Error bars show the 95% confidence intervals.

The intervention and comparison group differed in some sociodemographic data such as marital status, where there were more married parents in the comparison group, and employment, where there were fewer full-time workers in the comparison group (table 2). Compared to the national demographics, there were older parents, fewer one-child families, higher education, and more Swedish-born parents in both groups.

Table 2. Demographic variables.

<table>
<thead>
<tr>
<th>Baseline variable</th>
<th>Intervention group (n = 279)</th>
<th>Comparison group (n = 702)</th>
<th>Parents in Seden 2011 (n = 4,709,057)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parent/family characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of the father M (SD)</td>
<td>20 to 63 years 38.3 (6.8)</td>
<td>39.2 (6.8)</td>
<td>35.3 b</td>
</tr>
<tr>
<td>Age of the mother M (SD)</td>
<td>20 to 60 years 36.3 (6.3)</td>
<td>37.0 (6.4)</td>
<td>32.9 b</td>
</tr>
<tr>
<td>Marital status %</td>
<td>Married/partner 83.6 *</td>
<td>92.7 *</td>
<td>92.9</td>
</tr>
<tr>
<td>Sex of the respondent %</td>
<td>Female 79.9 *</td>
<td>87.5 *</td>
<td>51.9</td>
</tr>
<tr>
<td>Family size %</td>
<td>One-child families 15.1</td>
<td>18.5</td>
<td>38.1</td>
</tr>
<tr>
<td>Father’s education % a</td>
<td>&gt; 12 years 57.1</td>
<td>62.9</td>
<td>33.8</td>
</tr>
<tr>
<td>Mother’s education % a</td>
<td>&gt; 12 years 73.9</td>
<td>83.2</td>
<td>43.5</td>
</tr>
<tr>
<td>Employment %</td>
<td>Full time work 81.4 *</td>
<td>70.9 *</td>
<td>75.5</td>
</tr>
<tr>
<td>Origin of the father %</td>
<td>In Sweden 93.4</td>
<td>93.2</td>
<td>84.0</td>
</tr>
<tr>
<td>Origin of the mother %</td>
<td>In Sweden 93.3</td>
<td>94.1</td>
<td>83.1</td>
</tr>
<tr>
<td><strong>Child characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of the child M (SD)</td>
<td>1 to 17 years 6.6 (4.4)</td>
<td>5.9 (4.4)</td>
<td>Figure 9</td>
</tr>
<tr>
<td>Sex of the child %</td>
<td>Boy 57.4 *</td>
<td>48.3 *</td>
<td>53.2</td>
</tr>
<tr>
<td>Origin of the child %</td>
<td>In Sweden 98.5</td>
<td>98.0</td>
<td>81.4</td>
</tr>
</tbody>
</table>

Note: Missing data are subtracted. M = mean, SD = standard deviation. * Pearson’s chi² or t-test shows a significant (p <0.05) difference between the intervention and comparison group. a Spouse’s education reported. b The mean age of the parents at the first child’s birth plus the mean age of the child in the study. National data from SCB 2011.

The result of this study may be compared to other studies in tables 3 and 4.

Table 3. Standardised mean differences (SMD) and confidence intervals (CI) at T2 between the targeted intervention group and the control group of prior studies and the current study.

<table>
<thead>
<tr>
<th>Scale (total)</th>
<th>Researcher</th>
<th>Year</th>
<th>N</th>
<th>SMD, [CI]</th>
<th>Sample inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHQ</td>
<td>Patterson</td>
<td>2002</td>
<td>45+50</td>
<td>-0.10 [-0.51, 0.30]</td>
<td>Behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Löfgren</td>
<td>2017</td>
<td>279+702</td>
<td>-0.35 [-0.48, -0.21]</td>
<td>Universal</td>
</tr>
<tr>
<td>PSOC</td>
<td>Cunningham **</td>
<td>1995</td>
<td>36+42</td>
<td>0.03 [-0.42, 0.47]</td>
<td>Behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Odom</td>
<td>1996</td>
<td>10+10</td>
<td>-0.43 [-1.32, 0.46]</td>
<td>ADHD</td>
</tr>
<tr>
<td></td>
<td>Gardner</td>
<td>2006</td>
<td>37+28</td>
<td>-0.40 [-0.90, 0.10]</td>
<td>Conduct problems</td>
</tr>
<tr>
<td></td>
<td>Löfgren</td>
<td>2017</td>
<td>115+115</td>
<td>-0.71 [-0.99, -0.43]</td>
<td>Universal</td>
</tr>
<tr>
<td>PSI*</td>
<td>Webster-Stratton</td>
<td>1988</td>
<td>27+27</td>
<td>-0.33 [-0.87, 0.20]</td>
<td>Conduct Disorder</td>
</tr>
<tr>
<td></td>
<td>Pisterman</td>
<td>1992 a</td>
<td>46+45</td>
<td>-0.58 [-1.00, -0.16]</td>
<td>ADHD</td>
</tr>
<tr>
<td></td>
<td>Gross</td>
<td>1995</td>
<td>10+6</td>
<td>-1.00 [-2.09, 0.09]</td>
<td>Behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Greaves</td>
<td>1997</td>
<td>21+16</td>
<td>-0.19 [-0.84, 0.47]</td>
<td>Downs syndrome</td>
</tr>
<tr>
<td></td>
<td>Nicholson</td>
<td>2002</td>
<td>13+13</td>
<td>-0.02 [-0.79, 0.75]</td>
<td>Parent abuse</td>
</tr>
<tr>
<td></td>
<td>Patterson</td>
<td>2002</td>
<td>45+50</td>
<td>-0.19 [-0.59, 0.21]</td>
<td>Behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Treacy</td>
<td>2005</td>
<td>15+17</td>
<td>-0.08 [-0.78, 0.61]</td>
<td>ADHD</td>
</tr>
<tr>
<td></td>
<td>Wang</td>
<td>2005</td>
<td>15+12</td>
<td>-0.38 [-1.15, 0.38]</td>
<td>Autism</td>
</tr>
<tr>
<td></td>
<td>Gutierrez</td>
<td>2007</td>
<td>17+17</td>
<td>-1.13 [-1.86, -0.40]</td>
<td>Behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Hutchings</td>
<td>2007</td>
<td>104+49</td>
<td>-0.54 [-0.89, -0.20]</td>
<td>Socially disadvantaged</td>
</tr>
<tr>
<td></td>
<td>van den Hoofdakker *</td>
<td>2007</td>
<td>47+47</td>
<td>0.04 [0.37, 0.44]</td>
<td>ADHD</td>
</tr>
<tr>
<td></td>
<td>Larsson</td>
<td>2009</td>
<td>43+28</td>
<td>-0.72 [-1.21, -0.23]</td>
<td>Conduct problems</td>
</tr>
<tr>
<td></td>
<td>Löfgren</td>
<td>2017</td>
<td>83+83</td>
<td>-0.34 [-0.65, -0.04]</td>
<td>Universal</td>
</tr>
</tbody>
</table>

Note: * SMD in favour of control group. ** SMD in favour of control group at T2 but changed at T3. I = intervention, C = control or comparison. # In Löfgren the SPSQ was used.

Data collected from the Cochrane Database of Systematic Reviews (Barlow 2014) except for the Löfgren data, which were calculated with the Practical Meta-Analysis Effect Size Calculator, George Mason University (https://www.campbellcollaboration.org/escalc/html/EffectSizeCalculator-SMD2.php)
### Table 4. Standardised mean differences (SMD) and confidence intervals (CI) at T2 between the universal intervention groups and the control group of studies prior to the current study.

<table>
<thead>
<tr>
<th>Scale (total)</th>
<th>Researcher</th>
<th>Year</th>
<th>N (I + C)</th>
<th>SMD, CI</th>
<th>Sample inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAI</td>
<td>Joyce</td>
<td>1995</td>
<td>32+16</td>
<td>-0.58 [-1.19, 0.03]</td>
<td>Universal</td>
</tr>
<tr>
<td>PSI</td>
<td>Wolfe</td>
<td>2003</td>
<td>11+14</td>
<td>-0.88 [-1.71, -0.04]</td>
<td>Universal</td>
</tr>
<tr>
<td>PSI</td>
<td>Farrar *</td>
<td>2005</td>
<td>31+31</td>
<td>0.38 [-0.12, 0.88] *</td>
<td>Universal</td>
</tr>
<tr>
<td>KPSS</td>
<td>Farrar</td>
<td>2005</td>
<td>31+31</td>
<td>-0.14 [-0.64, 0.36]</td>
<td>Universal</td>
</tr>
<tr>
<td>ACRQ</td>
<td>Fanning</td>
<td>2007</td>
<td>10+9</td>
<td>-1.49 [-2.53, -0.44]</td>
<td>Universal</td>
</tr>
<tr>
<td>UHS</td>
<td>Fantuzzo</td>
<td>2007</td>
<td>39+37</td>
<td>-0.59 [-1.05, -0.13]</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (D)</td>
<td>Matsumoto</td>
<td>2007</td>
<td>25+25</td>
<td>-0.12 [-0.67, 0.44]</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (A)</td>
<td>Matsumoto</td>
<td>2007</td>
<td>25+25</td>
<td>-0.33 [-0.89, 0.23]</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (S)</td>
<td>Matsumoto</td>
<td>2007</td>
<td>25+25</td>
<td>-0.30 [-0.85, 0.26]</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (D)</td>
<td>Hiscock *</td>
<td>2008</td>
<td>296+373</td>
<td>0.12 [-0.04, 0.27] *</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (A)</td>
<td>Hiscock *</td>
<td>2008</td>
<td>297+373</td>
<td>0.03 [-0.12, 0.18] *</td>
<td>Universal</td>
</tr>
<tr>
<td>DASS (S)</td>
<td>Hiscock *</td>
<td>2008</td>
<td>298+373</td>
<td>0.08 [-0.07, 0.24] *</td>
<td>Universal</td>
</tr>
</tbody>
</table>

Note: * SMD in favour of the control group. I = intervention, C = control or comparison.

Data collected from the Cochrane Database of Systematic Reviews (Barlow 2014) STAI = State-Trait Anxiety Inventory, KPSS = Kansas Parental Satisfaction Scale, ACRQ = Ability and Confidence Rating Questionnaire, UHS = Uplifts and Hassles Scales, DASS = Depression Anxiety Stress Scale.

### 5.1.4 Results of the Open Questions

The content analysis of the open questions regarding the parents’ personal opinion of the result of the PTP identified the following themes.

- **Sharing** – Talking and listening and sharing mutual experiences with other parents in the group (42 hits).

- **Tools** – Getting comprehensive advice about parental attitude or parenting style (41 hits).

- **Parental esteem** – Increased satisfaction or efficacy in the parental role (36 hits).

- **Conflict handling** – An outspoken improvement in conflict handling (29 hits).

- **Child’s perspective** – An outspoken concern about the child’s point of view and/or a new understanding of the child’s social, physical, or psychological situation (25 hits).

- **Therapeutic effect** – A change in the parent’s personality, not just in the parental role (23 hits).

- **Dialog** – Increased talking or listening to family members (21 hits).
- Relation – Improvement in the relation with the child or spouse due directly to the PTP (20 hits).
- Hints – Getting minor advice about specific situations (16 hits).
- No change – An outspoken statement that PTP did not contribute to any substantial change (6 hits).
- Time – More or better quality time spent with their child (2 hits).

A word map (figure 10) illustrates the most common words in the answers to the open question regarding the parents’ own opinion of the result of the PTP. The most common words were children, parents, different, take, good, tools, got, and way, and these can be combined into the rather poetic “It’s good for parents to get tools to take the children a different way”.

![Word map of the answers to the open questions. The more frequently the words occur, the larger the word is displayed.](image-url)
In the additional question of whether the parent thought that “the focus child had more psychological problems than what they think is normal”, the answer “yes” was divided into the following three categories: “yes, but not so much that we sought help”, “yes, we sought help but have not yet received it”, and “yes, and we have received help”.

A small number (n = 10) in the intervention group had sought help, and half had received help and half had not. In the comparison group there were even fewer parents who had sought help for psychological problems in the focus child.

The answers to the perceptual questions about the parents’ concerns of the focus child were measured by a paired-sample t-test. The result was a decline in concern from 3.3 to 2.5 (t [11] = 3.46, p = 0.05); however, this must be interpreted with caution because the additional questions were not part of a validated instrument, and only a few respondents answered the additional questions.

The same limitation applies to the question about their concerns about their ability as a parent, which declined from 3.08 to 2.17 (t [11] = 3.53, p = 0.05). The concerns about the relationship to the focus child declined from 2.69 to 2.17 (t [28] = 2.93, p = 0.01). For the comparison group, these questions have not yet been analysed.

5.2 School Study

5.2.1 Paper IV

In the school intervention study, there was a short-term decline in depression symptoms with the CHAT intervention (F [2] = 5.33, p = 0.006) and a short-term decline in social problems with the Life-Skills intervention (F [2] = 6.19, p = 0.003). There was no change in SOC or CDI.

In the t-test for T1 vs. T2, significant results were found for CHAT in the total YSR scale and the subscales of Anxious/Depressed, Social problems, and Internalisation (table 5).
Table 5. Change between T1 and T2 in all scales for the intervention (CHAT).

<table>
<thead>
<tr>
<th>Group</th>
<th>Scale</th>
<th>Mean diff</th>
<th>Std. Err.</th>
<th>lower 95% CI</th>
<th>upper 95% CI</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAT</td>
<td>SOC</td>
<td>1.77</td>
<td>2.43</td>
<td>-3.05</td>
<td>6.58</td>
<td>0.73</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>CDI</td>
<td>-1.37</td>
<td>0.89</td>
<td>-3.13</td>
<td>0.38</td>
<td>-1.55</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>YSR Total</td>
<td>-6.75 *</td>
<td>2.41</td>
<td>-11.53</td>
<td>-1.96</td>
<td>-2.80</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>YSR Anxious/Depressed</td>
<td>-1.87 *</td>
<td>0.73</td>
<td>-2.90</td>
<td>-0.84</td>
<td>-3.59</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>YSR Withdrawn/Depressed</td>
<td>-0.54</td>
<td>0.41</td>
<td>-1.36</td>
<td>0.28</td>
<td>-1.30</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>YSR Somatic Complains</td>
<td>-0.67</td>
<td>0.40</td>
<td>-1.46</td>
<td>0.13</td>
<td>-1.67</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>YSR Social Problems</td>
<td>-0.95 *</td>
<td>0.33</td>
<td>-1.61</td>
<td>0.30</td>
<td>-2.88</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>YSR Thought Problems</td>
<td>-0.79</td>
<td>0.41</td>
<td>-1.61</td>
<td>0.03</td>
<td>-1.91</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>YSR Anxious/Depressed</td>
<td>-0.32</td>
<td>0.46</td>
<td>-1.23</td>
<td>0.58</td>
<td>-0.71</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td>YSR Withdrawn/Depressed</td>
<td>-0.66</td>
<td>0.49</td>
<td>-1.64</td>
<td>0.32</td>
<td>-1.34</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td>YSR Somatic Complains</td>
<td>-0.95</td>
<td>0.48</td>
<td>-1.91</td>
<td>0.01</td>
<td>-1.96</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>YSR Social Problems</td>
<td>-3.07 *</td>
<td>1.02</td>
<td>-5.01</td>
<td>1.05</td>
<td>-3.01</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>YSR Thought Problems</td>
<td>-1.61</td>
<td>0.83</td>
<td>-3.25</td>
<td>0.03</td>
<td>-1.94</td>
<td>0.05</td>
</tr>
</tbody>
</table>

* Significant change between baseline and post-intervention.

For Life-Skills, the only significant result was found for the Social problems subscale (table 6). No measures were significant at T3 for either group.

Table 6. Change between T1 and T2 in all scales for the comparison (Life-Skills) group.

<table>
<thead>
<tr>
<th>Group</th>
<th>Scale</th>
<th>Mean diff</th>
<th>Std. Err.</th>
<th>lower 95% CI</th>
<th>upper 95% CI</th>
<th>t-value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life-Skills</td>
<td>SOC</td>
<td>5.30</td>
<td>3.37</td>
<td>-1.38</td>
<td>11.98</td>
<td>1.57</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>CDI</td>
<td>-1.02</td>
<td>1.30</td>
<td>-3.59</td>
<td>1.56</td>
<td>-0.78</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>YSR Total</td>
<td>-4.31</td>
<td>3.36</td>
<td>-10.97</td>
<td>2.35</td>
<td>-1.28</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>YSR Anxious/Depressed</td>
<td>-0.48</td>
<td>0.72</td>
<td>-1.92</td>
<td>0.95</td>
<td>-0.67</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>YSR Withdrawn/Depressed</td>
<td>0.36</td>
<td>0.58</td>
<td>-0.78</td>
<td>1.50</td>
<td>0.62</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>YSR Somatic Complains</td>
<td>-0.44</td>
<td>0.56</td>
<td>-1.54</td>
<td>0.66</td>
<td>-0.79</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>YSR Social Problems</td>
<td>-1.00 *</td>
<td>0.46</td>
<td>-1.92</td>
<td>0.91</td>
<td>-2.18</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>YSR Thought Problems</td>
<td>0.68</td>
<td>0.57</td>
<td>-1.82</td>
<td>0.46</td>
<td>-1.18</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>YSR Attention Problems</td>
<td>0.08</td>
<td>0.64</td>
<td>-0.98</td>
<td>0.82</td>
<td>0.12</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>YSR Rule Breaking Behaviour</td>
<td>-1.01</td>
<td>0.69</td>
<td>-2.36</td>
<td>0.35</td>
<td>-1.47</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>YSR Aggressive Behaviour</td>
<td>-0.98</td>
<td>0.67</td>
<td>-2.31</td>
<td>0.36</td>
<td>-1.45</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>YSR Internalisation</td>
<td>-0.57</td>
<td>1.42</td>
<td>-3.38</td>
<td>0.48</td>
<td>-0.40</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>YSR Externalisation</td>
<td>-1.98</td>
<td>1.15</td>
<td>-4.27</td>
<td>0.30</td>
<td>-1.72</td>
<td>0.08</td>
</tr>
</tbody>
</table>

* Significant change between baseline and post-intervention.

No differences were seen between the boys and girls (table 7), and no differences were seen between the programmes when calculated with ANOVA at T2 and T3.
Table 7. ANOVA of the CDI scores of the intervention and time by gender.

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Time</th>
<th>Intervention * Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Boys</td>
<td>1</td>
<td>1.16</td>
<td>0.29</td>
</tr>
<tr>
<td>Girls</td>
<td>1</td>
<td>0.07</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Figure 11 shows the difference between T1 and T2 in the YSR Anxious/Depressed subscale. Lower frequency on the y-axis indicates a greater reduction in symptoms of anxiety and depression, and the horizontal black line indicates no difference between T1 and T2. The farther the curve is from zero on the y-axis is an indication of a greater differences, and movement of the curve below zero indicates a symptom reduction and positive result of the intervention and movement of the curve above zero indicates a negative result of the intervention.

Figure 12 shows the difference in pre-intervention scores for the YSR total scale between the Life-Skills group and the CHAT group. The a-value of the green line is negative (-1.69), which means that the Life-Skills group had an intercept value that was lower than the CHAT group. Because the scale measures symptoms, this
means that the CHAT group had more symptoms to start with, but the regression line of the CHAT group had a greater negative inclination (-0.33) meaning a greater effect. Subjects below the horizontal zero line had an improvement (fewer symptoms) in their total YSR score.

**Figure 12.** Regression line of the YSR total scale for the CHAT group (green line (5.09-0.33*X)) and the Life-Skills group (red line (-1.69-0.08*X)). Zero on the y-axis indicates no difference. A negative slope is preferred.
6. DISCUSSION

The design of the studies for this thesis was quasi-experimental, with both cross-sectional and longitudinal quantitative data, and with a minor qualitative part including open questions as part of the parental study. The results of current study showed that PTPs do improve parental health and satisfaction when implemented in a general population where the parents themselves seek out programmes that focus on the parental role.

The findings support the decrease in health problems in the GHQ through a significant decrease in the Health problems sub-scale in the SPSQ. This study is an example of the preventive theory in figure 2 (a and b) where the population mean was at the threshold for mental illness before the intervention and below the threshold after the intervention. This shows that the parents who sought PTP might be in need of help and that the intervention reduces the score for mental health problems. It is established knowledge that PTPs improve parental health and parental competence when parents are referred to PTPs (Gardner et al., 2006; Hutchings et al., 2007; Nicholson et al., 2002; Odom, 1996; Stattin, 2014), and a comparison with referred samples in prior studies that used the same instruments as the current study can be made as in table 3.

This study adds to this knowledge by showing that the same goes for parents who are not referred to PTPs (table 4). However, those studies in the table did not use the same instruments as in current study, except for the studies by Wolfe and Farrar (Farrar, 2005; Wolfe et al., 2003).

A common component in the PTPs used in this study is the development of the monitoring skills of the parent in order to help them to observe and react against risk factors that might impact negatively on their child, for example, negative social interactions in school. If risk factors consist of behaviours in the individual or the environment, the risk factors are generally difficult to measure objectively, even though science and social services have come a long way in clinical work. Generally, changes in behaviour are measured by self-rated scales instead of observations due to cost constraints.

With regard to research on lifestyle and behavioural changes, it is difficult to control for conditions that might affect such changes. There are examples of research with controlled evaluations in studies seeking to determine how social interventions in society occur, but these studies are rare because they are difficult to perform and are very expensive (Behrman et al., 2005; Kling et al., 2004; Livingstone, 2009).

Preventive measures need to involve a large proportion of society because this is necessary in order to have a measurable effect on the tail ends of normal distribution. However, it is difficult to prove the effectiveness of public
interventions due to inconclusive results or small effect sizes (Sarkadi et al., 2014), even if it is possible to measure the effect on health gains by overlapping the distribution curves of a) pre- and post-measures, b) the intervention and control groups, or c) the difference of pre- and post-measures of both the intervention and control groups. For detailed information, please see Appendix A in Sarkadi et al. (2014).

In this study, the effect of c) can be seen in figures 4 and 11 if the two sides are put together. By flipping the right side over to the left, there will be the difference between the distribution curve of the intervention and the comparison. The area that differs will be the health gain.

As Rose (2008) concluded, if the negative consequences come at the end-point of the normal distribution curve, it takes a large number of subjects to detect the positive effect of prevention. Now that this study has detected the positive effect of PTP and school intervention in a rather normal-sized population, one might think that the preventive factor of PTPs might make a significant difference in society as a whole. Also according to the theory, the question arises as to whether a high-risk strategy that – like the strategies that were applied in the studies in table 3 - includes individuals who are judged most likely to develop dysfunctional parental habits is effective or not. This strategy of prevention implies the segregation of the majority who are regarded as normal and not needing attention away from a minority with special problems.

Concerns for the welfare of the children of those high-risk parents might be a good strategy, but concerns for the welfare of all children points to a different direction. It is possible (and this is mere supposition) that it might be difficulties that many parents have in developing a fully functional or protective attachment to their children in times of stress that leads to a risk factor and decreased mental health status for the children, and we only see this as a tail of normal distribution of mental problems.

A similar theory is seen on the cover of this thesis, where the risk of being swept down the waterfall is prevented in every step down to the final disease (or negative consequence), and each step further down requires more resources. Treating individual diseases is important and necessary, but the big challenge is to find the methods we need to reduce the risk factors. These risk factors might be a dysfunctional parent-child interaction because a small, but increasing, proportion of our youth are suffering from poorer mental health.

The increase in mental health issues among children is a serious problem. As stated earlier, the WHO ranks depression as the top cause of illness and disability among adolescents, and suicide is the third highest cause of death in this population (WHO, 2014). It is not difficult to convince the staff who work with young people that this is an important issue. The problem lies in persuading the rest of society. Many widespread social problems are piling up, both nationally and internationally, where the economy always seems to be the major obstacle.
The problem lies in persuading those with power over the economy to integrate the children's perspective and the effects on society of economic decisions. In the question of depression among children and adolescents, there are few who would accept poor mental health for some and good mental health for the rest. However, taking action to improve mental health for all collides with the need to apply resources to other important health domains.

Authorities have begun to look at risk factors, and "early detection" is now seen as important and necessary in terms of both depression and rule-breaking behaviour. A longitudinal study from Uppsala, Sweden, showed that 75% of the risk group normalised, by definition, so there was obviously a problem group remaining, but there has to be an equal share (75%) that was recruited from the general population (Bremberg, 2004). It is therefore essential to continue research on how to help parents in the general population to deal with risk factors (Lynch & Cicchetti, 1998). Besides economical and statistical (benefit-to-risk-ratio) arguments, there are some strengths of the high-risk preventive strategy, that is, that the population besides the high-risk population will not be the target of screening and interventions. It is, however, my strong opinion that those well-functioning parents contribute significantly to the positive effect of PTPs by sharing their experiences.

The school study was originally designed as a feasibility study, but it showed significant results in several areas that were worth reporting. If one major part of children’s’ lives is at home with the parents, the other is in school. Both areas include both protective and risk factors (Dryfoos, 1990), and it is therefore important to investigate both areas from the perspective of mental health. In the school study, the results indicate that it might be favourable to have some kind of intervention, compared with no intervention. One component of CHAT is a non-stigmatisation process where the pupils are asked to discuss the situation shown in the video, not their own situation. In most other school intervention programmes, the pupil's personal problems are often up for discussion either according to the programme’s curriculum, the teacher’s initiative, or the pupil’s own wish. This might make the children vulnerable to negative social interactions.

The CHAT programme showed positive results in the YSR total scale and the Internalisation and Anxious/Depression subscales, but even if the reduction in CDI was substantial there was no reduction in the Aggressive behaviour or Thought problems subscales, and we thus could not reject the null hypothesis. Both programmes showed positive results in reduced social problems, but the smaller group taking the Life-Skills intervention might have affected the result, and an equal-sized sample with equal variances might have given a different result. The absence of a control group might have hampered an ANOVA analysis, but the ANOVA still showed a significant change from T1 to T2. An interesting result was that the lowest t-value in both groups was in the Attention problems
subscale, indicating that neither programme is sufficient for preventing such problems.

Randomised controlled trials are considered the gold standard. While there are many benefits of randomised, highly controlled studies, there are also drawbacks (Semb, 2011), especially when the trial ignores the empirical obstacles of a real-world setting and therefore lowers the ecological validity of the study (Smedslund, 2009).

The following view of methodological reflections is inspired by Levitt and List’s (2007) theory on experimental versus real-world studies. The difference between a PTP study in the lab and, as in this case, the real world can be divided into three themes.

First are the moral and ethical considerations for the different stakeholders involved. There was resistance to letting the researchers perform a randomisation of the parents and programmes, and there was resistance to certain questions on different instruments. The reason for this was a thoughtful non-harming approach, and a positive side to this might have been that the parents did not have any objections about the style of the PTP or the questions in the surveys. A negative side, however, was a loss of the ability to generalise the results. This loss of generalisation was handled by choosing a comparison group with the same age range as the children in the intervention group.

Second is the nature and existence of scrutiny of one’s action by others. In this case, the presence of the researchers might make a difference between the study situation and the normal situation of a PTP, although the researchers’ presence was at a minimum level. The impact of normal scrutiny by others on the effect measurement, which might be absent in a laboratory setting, is therefore present in the current real-world setting.

Third is the context in which the phenomenon is embedded. Here lies the greatest gain because this context is impacted by large numbers of background systems, not only those directly in the study, but also by circumstances far beyond the control of any researcher. To identify and measure these items that the “context” consists of is the purpose of science, but in itself this context impacts the findings. It is also here that the real-world setting has such an impact imbedded within it, for instance, the variables identified by the implementation research field (Westerlund et al., 2016). However, such research about the context of parenting falls beyond the scope of this thesis.

There are some ethical considerations that should be discussed in relation to the studies performed for this thesis. The first concerns equality, and if there are only well-functioning parents who have the interest or ability to participate in PTPs, will there be a gap in health between those in need and those who are not in need but can readily make use of society’s resources? Or is the gap a logical preconception? Might it be that the interest in PTPs might increase if more parents participate in the PTPs? Are there some circumstances in the
arrangement of the PTPs that will disqualify some parents, for example, foreigners or single parents? Another question arose about the benefit of prevention. History has shown that all preventive recommendations have not always been beneficial, for example, the increase in sudden infant death syndrome in response to the recommendation to allow infants to sleep on their bellies (Markestad et al., 1995).

A opposing viewpoint is that a negative behaviouristic psychological approach might not be good and might not support a relation-based attachment between the parent and the child. The debate reached a turning point in 2009 when the Swedish National Institute of Public Health declared that time-out is suitable when a parent takes a child away from a stressful situation but does not leave the child alone, but it is not suitable to isolate the child alone in a different room. Ignoring the child can be suitable when the child is repeatedly asking for something inappropriate, despite the parent having answered clearly. But ignoring is not suitable when ignoring the child as a person, as in ostracism. There is a clear indication that all five PTPs in the current study are responsive to such criticism, and all claim to have abandoned the “time-outs” and instead have open discussions about alternatives.

A minor ethical question is about the passive or active delivery of feedback regarding the results of the study to the subjects of the studies. Passive delivery could be by publishing the results in press releases or web sites, while active delivery might involve giving every individual subject their own data in a format that allows such data to be compared to the whole study population, which seldom or never occurs. This lack of feed-back might result in an increasing lack of interest in research and increasing drop-out rates, such as have been seen in an increasingly large number of studies. All the way from the application for grants to perform this study, the aim was to publish in open access journals for accessibility for those who are interested. For the researchers, there was feedback from the Swedish National Institute of Public Health in the form of domestic workshops and conferences. The feedback to practitioners, peer-researchers, and co-workers was given through workshops and conferences mostly arranged by the project team. The feedback to parents was through press releases, newspaper articles, and the Familjepeppen web site (2011). There was also a consensus decision among the researchers that help might be needed if alarming data emerged or if subjects of the studies asked for help. In both the preventive PTP study and in the preventive school intervention study there was one such occasion each, and help was provided as planned. None of the authors had any economic interests or patents or copyrights, whether pending, issued, or licensed, or received royalties from a third party other than what was disclosed in the papers.
6.1 Validity

The dropout rates of 53% at T2 and 79.5% at T3 would cause a major problem if the study was experimental and the participating subjects consisted of a random or clustered sample. However, this study was undertaken in a real-life naturalistic setting as a total population survey, and therefore different questions of validity appear. The first question is whether the quantitative validity of the study really measures the effect of PTPs and if the result is valid even with the huge numbers of drop-outs. The answer is probably yes considering the similarity to other studies and the similarity in background variables between the drop-out group and the intervention group, but one might not be able to reject the null-hypothesis if the study design were an “intention to treat” where all those drop-outs would have been estimated to have experienced a zero or negative effect from the intervention. Second, there is a question of qualitative validity where the effect is valid according to the intention of the PTPs. If those who willingly participate in the programme experience any effect and those who willingly drop out are of no concern, then the validity is high. The final question is political in nature and involves whether PTPs in general, or specific types of PTPs, are cost effective, preventive, and feasible.

A limitation of the validity in this study is that the subjects were not traceable for long-term follow-up due to their relative anonymity. Another limitation is the fact that all of the data came from single source. There was no possibility to assess the parent’s competence by an outside second opinion or to have their mental health and stress levels examined by professionals. The validity of the data would be greater if there were a second source of information. This could have been done in the school study with the YSR in which there is both a parent questionnaire and a teacher questionnaire. However, the school study was designed for feasibility, not to confirm validity.

6.2 Reliability

The internal consistency was measured by Cronbach’s alpha, which ranged from 0.78 for the Satisfaction subscale for mothers at T1 up to 0.90 in the GHQ for the intervention group at T2, indicating acceptable reliability.

In the school intervention study, the most extensive instrument was the YSR, where we calculated the estimation of the variability in the composite scores of the combined scores of the (sub-)scales’ internally consistent and reliable variance using Cronbach’s alpha to determine if it is justifiable to interpret the items that had been aggregated together (table 1), and all values were over 0.70 (Ferketich, 1991). The “Cronbach’s alpha based on a standardised item” is calculated on the assumption that the items all have the same variance. If an item is deleted, this could artificially increase the alpha value. In the three subscales of the YSR, the alpha value increased by 10%, as exemplified in table 1 in the Somatic problems sub-scale where the question about eye problems (56d) seems to lower
the alpha value and if deleted increases the alpha value to 0.706. The limitation of self-ratings scales lies in the range of the scales. For scales that measure protective factors, like in the PSOC scale, there is a ceiling where the subject, for instance, might respond with top scores for the questions if such scores are accurate, but their situation might improve even more after intervention in which case there would be no room in the questionnaire to improve on the top score. The same goes for scales that measure risk factors, such as the measurement of mental symptoms in the school intervention study, e.g. CDI, where there is a floor where if the subject sets very low pre-intervention scores and their condition is aggravated after the intervention there would be no way to detect this because no lower scores could be given.

We failed to observe any long-term effect for either intervention in any of our studies. Only in paper II, on page 29, is there a long-term-up effect seen in the t-test. Both the pairwise t-test between T1 and T3 and the independent t-test between the intervention and comparison group were significant for the intervention group. Even the comparison group had a significant change at T3 in both Satisfaction and Efficacy (but not at T2!). However, only Satisfaction was significant in the ANOVA test. This might be the strong pre-score impact in variance – which is an important confounder. The same effect appears in paper III, where the intervention factor is significant only in Role Restriction and Health Problems subscales at T3. One possible explanation for these results might be that there is no booster session in PTP where the parents can get an update and reminder of what works. Nor is there a prolonged time between the sessions towards the end like there is in psychotherapy where the sessions become more and more infrequent. It might be that the meetings for the PTP or the lessons for the school study were too close in time, and the result might be different with a different intervention design. The time of T3, six months after the end of the intervention for the parental studies and a year after the end of the intervention for the school study, might be too long. New troubles and difficulties (which were not discussed in the PTP) might develop. Certainly one year is a very long time for schoolchildren in the adolescent period. Despite that, one might think that the school interventions could give the pupils tools for dealing with troubles to come.

6.3 Experiences of the Implementation Process

There were discrepancies in the perceived levels of importance for the researchers compared to the views of the municipality regarding several factors. These factors included detailed plans for carrying out the study and the decisions’ clarity, time and resources, communication and information, plan of action, follow-ups, and external and internal collaborations (Westerlund et al., 2016). In the current studies, the decisions were described in detail and clarified in the applications for funding, and most decisions were made based on fundamental scientific demands. However, it is unknown if the decisions were clear and understandable
because there was no feedback regarding the understanding of the decisions, probably due to the numerous links (both sideways and bottom-up) between the groups in the organisation of Familjepappen. In the preventive school study, there was an ongoing dialogue at every step where decisions could be clarified and agreed upon. A great advantage in the preventive school study was a support team (who actually initiated the implementation of the programme) and the close and frequent contact between the stakeholders (the researcher, practitioners, headmaster, and support team) where processes, implications, and presumed obstacles could be discussed. The project team described in the chapter Study Context supported the preventive parenting study.

There might also be a tendency to withdraw the agreement to some decisions when the consequences of the decisions emerge. The experience of this was that political considerations led to the withdrawal of agreed funding in the school study. This situation highlighted the problem of participating delegates at the planning session having more enthusiasm than mandate when decisions were confirmed. The headmaster handled the problem of withdrawn funding.

In the parental study there were suddenly objections that some questions in the instruments were too private and could upset the parents. This obstacle was handled by informing the opponents about the complicated development of an instrument and how removing one or more questions from an instrument affects the validity and reliability of the whole study. There was also a signal from the researchers that there was a lack of data flow in the first half of the established study period because too few parental support groups had started. This was handled by the project team through increased advertisement and by employing a public relations staff.

In this study, the practitioners were already well educated in the Life-Skills interventions and had only to keep the intervention on track, except for the education of the CHAT intervention was given by with support from McMaster University, which developed the programme. In both the parental and the school study, the practitioners were willing and enthusiastic to perform their tasks in the study according to plan, and they had a positive spirit. The joy of performing the study was to a great extent thanks to the spirit from the practitioners.

The data collection process was briefly explained in workshops and consisted only of scheduling time for the data collection because this was not done by the practitioners but by the researchers. The researchers also informed parents (parental study) and pupils, teachers, and parents (school study) about the study.

The funding of the parental study was divided between the municipality and the university, where some institutions needed little and some institutions needed a lot. The project team provided the private, social services, and adult educational association practitioners’ needs for resources. The repayment was the same for all practitioners.
The resources of the school study were scarce, with a lot of voluntary work. The headmaster, teachers, health care centre, and social services put in whatever they could to keep the work going. Many of the resources were “loaned” temporarily from existing agencies, and the support team took care of urgent needs ad hoc.
7. CONCLUSIONS AND IMPLICATIONS

Some conclusions can be drawn from the preventive PTP study. Paper I concluded that the improvement in general mental health was statistically significant in the intervention group compared to the comparison group. The group of parents that was self-selected had a mean score above the thresholds of indicated problems before the PTP, but their mean scores were below the thresholds after PTP.

Paper II measured a positive factor, not a risk factor, and concluded that the feelings of parental satisfaction were increased after participating in the PTP. In addition, the low-scoring parents at T1 in the comparison group increased in parental efficacy as seen in figure 5, either by the Hawthorne effect or by a questionnaire learning effect.

Paper III confirmed the findings in paper I that the PTP had positive effects on health in the Health problem subscale of the SPSQ. The limitation of this study was that the instrument was only validated for parents to children up to ten years of age, which drastically decreased the sample size.

Based on the preventive school interventions study in paper IV, which examined the results for two school programmes, one for prevention of depression and one for increased social skills, the findings confirmed that both programmes had a positive effect in their respective objectives. The small study was designed as a feasibility study, but it produced promising results for the CHAT intervention and confirmed earlier findings for SET where social problems decreased (Kimber, 2011).

The preventive methods that were investigated in this study have shown their value through the easy recruitment procedure, the observation of positive effects and apparent lack of negative effects, the simple administration, the high feasibility, and their manageability for the practitioners.

The major theory behind this study is Geoffrey Rose’s preventive theory where there is more gain in preventing risk factors than in curing the effects of the risk factors. The implication is clear; when the general population themselves choose the offered actions – they works.

Further studies need to explore the mental health of children whose parents participate in PTPs, and these should include quantitative longitudinal studies in real-word settings as well as RCT designs. There also need to be studies of how children’s health develops naturally in the population.
The preventive parental programme study was funded by the Swedish National Institute of Public Health, grant numbers HFÅ2009/192 (NKC2009/20) and HFÅ2010/95 (NKC2010/44). I would like to express my sincere gratitude to Lena Grundberg for her excellent cooperation in data collection. Also to the project team lead by Lennart Andersson and project coordinator Kerstin Rörsch, communicator Anna-Lena Püschel, and employee Sari Vihtari. The joy and spirit from all the practitioners, especially Maria Klein, Ulla Nilsson, and Erica Sjöström. All parents that willingly filled in the terrible user-names and passwords on the tablets. All the anonymous comparison groups that were often very keen and careful to get the data right, including the little girl who drew the fox on the children's questionnaire. The Division of Child and Adolescent Psychiatry, Institution of Clinical Science, Umeå University; the Swedish National Association for Social and Mental Health (RSMH), and the J. C. Kempe memorial fund funded the preventive school study.

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Most of all, thanks to my family and my wife Jeanette who always encouraged me and proofread my work.
9. REFERENCES


StataCorp. (Released 2013). Stata Statistical Software. In R. 13 (Ed.). College Station, TX: StataCorp LP.


## 10. APPENDIX A

List of preventive school programmes.

<table>
<thead>
<tr>
<th>Name in English</th>
<th>Note</th>
<th>Abbreviation</th>
<th>Name in Swedish</th>
<th>Specific prevention</th>
<th>Value-based</th>
<th>Conflict resolution</th>
<th>Peer-support</th>
<th>Remedial programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life skills (social and emotional learning)</td>
<td>+</td>
<td>SET</td>
<td>Socio-emotionell träning</td>
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<tr>
<td>Pal-chat</td>
<td>+</td>
<td></td>
<td>Kompissamtal</td>
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<tr>
<td>Farsta programme</td>
<td>+</td>
<td></td>
<td>Farstaprogrammet</td>
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<tr>
<td>Friend's peer-support</td>
<td>+</td>
<td></td>
<td>Friends kamratstöd</td>
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<tr>
<td>Forum-play</td>
<td>+</td>
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<td>Forum-spel</td>
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<tr>
<td>Emotional intelligence</td>
<td>+</td>
<td>EQ</td>
<td>Emotionell intelligens</td>
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<td>Lions Quest</td>
<td>+</td>
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<td>Lions quest</td>
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<tr>
<td>Projekt Charlie</td>
<td>+</td>
<td></td>
<td>Project Charlie</td>
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<tr>
<td>Boulding Value Policies</td>
<td>+</td>
<td></td>
<td>Bygga Värdegrund</td>
<td>*</td>
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<tr>
<td>International Child Development Programme</td>
<td>+</td>
<td>ICDP</td>
<td>Vägledande Samtal</td>
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<tr>
<td>Olweus programme</td>
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<td>Olweusprogrammet</td>
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<tr>
<td>Second step</td>
<td>+</td>
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<td>Steg-Vis</td>
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<tr>
<td>Comet for teachers.</td>
<td>+</td>
<td></td>
<td>Lärar-KOMET (Pedagogic programme for teachers)</td>
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<tr>
<td>Diversity and Dialogue</td>
<td>+</td>
<td>MOD</td>
<td>Mängfalt och Dialog</td>
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<tr>
<td>Peer-pal</td>
<td>+</td>
<td></td>
<td>Medkompis</td>
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<tr>
<td>Nonviolent Communication</td>
<td>+</td>
<td>NVC</td>
<td>Nonviolent Communication</td>
<td>*</td>
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<tr>
<td>Hassela peer-support</td>
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<td></td>
<td>Hassela kamratstöd</td>
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<tr>
<td>Bullying Ombudsman</td>
<td>+</td>
<td></td>
<td>Mobbingombudsman</td>
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<tr>
<td>Dare to meet</td>
<td>+</td>
<td></td>
<td>Våga Mötas</td>
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<tr>
<td>Children Are People</td>
<td>+</td>
<td>CAP</td>
<td>Children Are People (Unspecific prevention)</td>
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<tr>
<td>Islands model</td>
<td>+</td>
<td></td>
<td>Islandsmodellen</td>
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<tr>
<td>Common Concerns</td>
<td>+</td>
<td>GBm</td>
<td>Gemensamma Bekymmermetoden</td>
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<tr>
<td>Youth Aware of Mental health</td>
<td>□</td>
<td>YAM</td>
<td>Youth Aware of Mental health</td>
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<tr>
<td>Depression in Swedish Adolescents</td>
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<td>DISA</td>
<td>Din Inre Stycka Aktiveras</td>
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<tr>
<td>Choosing Healthy Actions and Thoughts</td>
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<td>CHAT</td>
<td>Choosing Healthy Actions and Thoughts</td>
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<tr>
<td>Prevention in School</td>
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<td>PS</td>
<td>Skolprevention</td>
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