Thesis for the degree of Doctor of Philosophy, Östersund 2013

Children’s mental health- with focus on family arrangements

Åsa Carlsund
Supervisors:
Associate Professor E. Sellström
Professor K. Asplund.

Department of Health Science, Mid Sweden University
SE- 831 25 Östersund, Sverige

ISSN 1652-893X
Mid Sweden University Doctoral Thesis 160
Akademisk avhandling som med tillstånd av Mittuniversitetet i Östersund framläggs till offentlig granskning för avläggande av filosofie doktors examen fredag, 13/9, 2013, klockan 10.15 i sal F229, Mittuniversitetet Östersund. Seminariet kommer att hållas på svenska.

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CHILDRENS MENTAL HEALTH
WITH FOCUS ON FAMILY ARRANGEMENTS
Åsa Carlsund

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Department of Health Science
Mid Sweden University, SE-851 70 Sundsvall
Sweden

Telephone: +46 (0) 771-975 000

Printed by Kopieringen Mid Sweden University, Sundsvall, Sweden, 2013
A child is a complex and dynamic whole, characterized by a variety of physical features and conditions, which also over time interact in a unique developmental process. This ongoing interaction between biological, psychological and social conditions of life, outline and broaden the unique individual (Andersson, 2001)

To the love and joy of my life Gustav, Hampus & Matilda
ABSTRACT

The main aim of this thesis was to study children’s mental health with focus on family arrangements. The thesis was based on four studies (I-IV). Study number I, III and IV were quantitative studies with cross sectional design, using the Swedish version of Health behaviour in School-aged children (HBSC), including children aged 11, 13 and 15 years. The data was analysed with multiple linear regression analysis (I) and multivariate logistic regression analysis (III, IV). Study II was of qualitative descriptive design, based on 28 interviews with parents living in shared physical custody with their children. The qualitative study was analysed with inductive latent content analysis.

Study I showed that lower levels of SHC and higher levels of SWB were associated with higher degrees of social capital in the family, school and neighbourhood. Social capital in family, school and neighbourhood had a cumulative influence on children’s SHC and SWB. In study II the participating parents described their own as well as the perceptions of their children and former partners. Parents’ perceptions changed from the beginning of shared physical custody, through the current situation, ending with perception of the future. The fifteen year old boys and girls (III) living in shared physical custody were more at risk of being a smoker or having been drunk compared with children living in two parent families. The results of sex <15 years and conduct problems showed that the risks didn’t differ significantly between these two groups. Study IV showed that children living in shared physical custody with their parents were more likely than children in two parent families to report multiple SHC, and low SWB. The variable of communication did not moderate the SHC and SWB of the children in any of these two groups.
This thesis contributes with new and deeper understanding of the relatively new phenomenon of shared physical custody, and its associations to children’s mental health. The parent’s perceptions were an important complement to the children’s self reported health. In order to influence the decreasing mental health among children and adolescents, their opinions contributes to further understanding. Narratives from children, parents and practitioners are required in order to further study the association between children’s health outcomes and different family arrangements. Additional studies are needed to clarify how children’s mental health and different family arrangements are related to school, neighbourhood, and society.

**Keywords:** Family, mental health, parents, risk behaviours, shared physical custody, social capital, subjective health complaints, subjective well-being
SAMMANFATTNING


Studie I visade att lägre nivåer av SHC (subjektiva hälsobesvär) och högre nivåer av SWB (subjektivt välbefinnande) hade ett samband med högre nivåer av socialt kapital i familjen, skolan och närområdet. Socialt kapital i familjen, skolan och närområdet hade en kumulativ effekt på barnens självrapporterade SHC och SWB.


**Nyckelord:** Familj, föräldrar, mental hälsa, riskbeteenden, socialt kapital, subjektiva hälsobesvär, subjektivt välbefinnande, växelvis boende
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Present thesis is based on the four following studies, which in the text are referred to by their roman numbering. The publications were made with permission from each scientific journal.


INTRODUCTION

The creation of new family arrangements such as single parent families, same sex families or shared physical custody families has increased. Living in shared physical custody has during the last twenty years become increasingly common in Sweden. Shared physical custody implies that the children share their residence an equal amount of time between their parents. There is a lack of scientific research in the case of families living in shared physical custody in relation to children’s mental health outcomes.

BACKGROUND

Exploring the concept of human health seems to be a gigantic challenge for humanity, partly because of the immense number of definitions that are used in various contexts (1). For example, cultural, medical or functional definitions (Whitehead, 1992). The individuals health is constantly under own and others influence (parents, peers, school or society) (Eriksson, 2000). However, according to the World Health Organization (WHO) “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World health organisation, 2011). This definition implies that health does not only concern the absence of disease or weakness, but of complete health. However, critics argue that the WHO definition of health is utopian, and unrealistic. The word “complete” makes it almost impossible for anyone to stay healthy for a longer period of time. It also appears that a state of complete physical mental and social well-being corresponds more to feelings of happiness than to a state of health (Huber, 2011; Ustun & Jakob, 2005). Apparently, there are several ways of conceptualizing health. In the present thesis, and according to Eriksson, a human can feel well and experience health, even though he/she is ill in a medical way (Eriksson, 2000). To illustrate the individuality of health, the health cross can be used. Low well-being may be experienced without being ill in a medical way (area A in figure 1). On the other hand high well-being may be experienced despite medical illness (area D in figure 1) (Eriksson, 2000).
Figure 1. In order to further explain the concept of health, an example of the health cross by Katie Eriksson.
The present thesis involves children and their families in different family arrangements, and in particular children’s self reported mental health. Defining the concept of mental health is a challenge as well. It is extremely difficult to find clear concepts without loaded values, and further to operationalise these concepts (Eriksson, 2000). In present thesis children’s mental health is operationalised as a combined condition i.e. symptoms of emotional, psychological and social factors (Keyes, 2002).

The present thesis illustrates different dimensions of children’s self reported mental health in the contexts of different family arrangements, school and neighborhood. One dimension was measured with the indicator Subjective Health Complaints (SHC) (I, IV). SHC can be explained as self-reported physical as well as psychological symptoms (Currie, Nic G., et al., 2008), including a wide range of symptoms (headache, stomachache, backache, difficulty sleeping, irritability or bad tempered, felt dizzy, felt low or felt nervous) (Hetland, Torsheim, & Aaro, 2002). A second dimension was the one of Subjective Well-being (SWB), in which the children report their own life satisfaction (I, IV) (Cantril, 1966). Potential predictors of decreased mental health in children were used as a third dimension (III) (smoking, been drunk, sex<15 years, conduct problems). A large number of previous studies show that childhood smoking (Chang, Sherritt, & Knight, 2005; Lawrence, Mitrou, & Zubrick, 2009; Pasco et al., 2008), drinking (Chen et al., 2008; Strandheim, Holmen, Coombes, & Bentzen, 2009), early sexual intercourse (unprotected sex, teenage pregnancy, teenage parent) (Avery & Lazard, 2010; Lehrer, Shrier, Gortmaker, & Buka, 2006; Ramrakha, Caspi, Dickson, Moffitt, & Paul, 2000), and conduct problems (Colman et al., 2009; Fergusson, Horwood, & Ridder, 2007) were linked to decreased mental health during childhood and in some cases even later in life. Using personnel interviews, the present thesis also includes parent’s perceptions of the family arrangement of shared physical custody (II).

Previous national as well as international studies on children’s mental health show high levels on several negative health outcomes (Currie, Molcho, et al., 2008; Currie et al., 2012; Danielson, 2006). There are a number of possible explanation factors (family, society, economic, politic or cultural). However, previous studies show diverged results and should therefore be interpreted with caution (Bremberg, Häggman, & Lager, 2006; Currie, et al., 2012; Petersen et al., 2010). Swedish children aged 11-15-year; rate themselves as relatively healthy in a physical respect (Currie, Molcho, et al., 2008; Currie, et al., 2012). Still, paradoxically, in the last decades, it has been a dramatic decrease in Swedish children’s mental health, compared with their counterparts in other countries (Currie, Molcho, et al., 2008; Currie, et al., 2012), additional mental health studies showed similar results as well (Cavallo et al., 2006; Ravens-Sieberer et al., 2009). In Sweden and in some of the other European countries, the children report poorer health, increasingly with age (Proctor, Linley, & Maltby, 2009; Ravens-Sieberer,
et al., 2009; Sweeting & West, 2003; Torsheim et al., 2006). Furthermore, a rising gap between girls and boys as they grow older were shown in previous studies (Proctor, et al., 2009; Ravens-Sieberer, et al., 2009; Sweeting & West, 2003; Torsheim, et al., 2006).

The various environments that children encounter in their day-to-day life have shown to associate to their mental health (Bronfenbrenner, 1979; Evans, 2003; Perna, Bolte, Mayrhofer, Spies, & Mielck, 2010). The neighbourhood area, the school or family environments can either have a positive or negative influence on a child’s mental health (Bronfenbrenner, 1979; Evans, 2003; Perna, et al., 2010). Increasingly with age the neighbourhood becomes a central setting for social development, it becomes a place where children form their networks and learn further social skills (Keyes, 2002; Sellstrom & Bremberg, 2004, 2006). A trustworthy neighbourhood and a sense of belonging to the neighbourhood have in prior studies shown positive effects on children’s mental health and well-being (Keyes, 2002; Sellstrom & Bremberg, 2004, 2006). Further, a considerable part of children’s lives is spent in school settings and their mental health is affected by the different settings (i.e. facilities and furniture), and social relationships (i.e. peers and teachers) within the school. Children satisfied with school reported happiness and better mental health compared to children with less connection to school, which more commonly reported unhealthy behaviors and decreased mental health (Brolin-Låftman, 2009; Eriksson & Sellstrom, 2010; Ford, Goodman, & Meltzer, 2004).

Parents and possible siblings are very important in a child’s life i.e. the family. The family influence children in many ways, including how they act, talk, and the way they function around other people (Ackard, Neumark-Sztainer, Story, & Perry, 2006; Fomby & Cherlin, 2007; Wu, Hou, & Schimmele, 2008). In general children report their family as the most pregnant provider of safety and sense of belonging (Ackard, et al., 2006; Fomby & Cherlin, 2007; Wu, et al., 2008), an essential source of emotional support, comfort and protection (Crittenden & Dallos, 2009; Fomby & Cherlin, 2007; Wu, et al., 2008). During childhood, a well-functioning parent-child relation is correlated to positive mental health outcomes for the children (Ackard, et al., 2006; Teachman, 2002; Wu, et al., 2008) i.e. the social capital of the family. The mechanisms and the role of social capital within the family structures were in the 80ies studied by Coleman (Coleman, 1988). He meant that there are three dimensions of capital within the family, e.g. economical, human and social capital. Even if economical and human capital is needed for the child’s progress, social capital within the family is essential i.e. a stimulating and developing interrelation between the child and the parents. Social capital does not exist in isolated units i.e. if one family member moves out all members get affected. Coleman meant that the reason why divorce represents a risk for the child’s development is that changes such as loss of household income, residential mobility, loss of contact with the non-residential parent lead to loss of social capital (Coleman, 1988; Widmer, 2006).
Previous studies show that family break-up may cause a range of health problems, including psychosomatic complaints, and risk behaviours in exposed children (Amato, 2005; Kelly, 2006; Kelly & Emery, 2003). In 2011, approximately 3% of the Swedish children experienced a parental divorce. Children born outside Sweden were more often involved in parental divorce, compared to children born in Sweden (Statistics Sweden, 2009, 2010). Similarly, children living with cohabiting parents were more often involved in parental divorce than children of married couples (Statistics Sweden, 2013). Prior studies show that children of divorced parents, as a group, were at increased risk of mental health problems compared to children of never-divorced parents (Breivik & Olweus, 2006; Rousit, Chaix, & Chauvin, 2007). These findings have, to a certain extent, been attributed to the lost contact with the absent parent, previously assumed to be the father (Amato, Kane, & James, 2011; Amato & Meyers, 2009; Bastaits, Ponnet, & Mortelmans, 2012; Fabricius & Luecken, 2007).

Earlier, a divorce usually meant that a child would live permanently with one of the parents (typically the mother) (Kelly, 2006; Ringbäck-Weitoft, Hjern, Haglund, & Rosén, 2003). The increased risk for decreased mental health in children living with a single parent has been supported by numerous of studies (Ackard, et al., 2006; Dunlop, Burns, & Bermingham, 2001; Schulte & Petermann, 2011). Twenty years ago shared physical custody was very unusual (Statistics Sweden, 2009, 2010). A recently published study could show that children living in shared physical custody were at somewhat higher risk for excessive alcohol consumption, smoking or drug use than children from two parent families (Jablonska & Lindberg, 2007). However, a wide range of previous studies show that most children benefit from regular contact with both parents, who share responsibility and care for them (Breivik & Olweus, 2006; Brolin-Låftman, 2009; Gähler, Hong, & Bernhardt, 2009). The beneficial aspects of shared physical custody have shown to be reduced by practicalities such as long travel distance between parents and frequent changes of school (Kelly, 2006; Kelly & Emery, 2003; Rousit, et al., 2007). More seriously, it is not uncommon with conflicts between parents, linked to a divorce. It has been shown that, between 8 and 12% of divorced parents continue to have a high degree of conflict 2–3 years after the break-up (Kelly, 2006; Kelly & Emery, 2003).

As written earlier, shared physical custody becomes more and more common in Western societies. However, there is very modest empirical research on the impact of shared physical custody on children’s health and well-being and also a gap in the knowledge of individuals living in shared physical custody. Nor do we know if there is a possible association between different forms of family arrangements and children’s mental health and well-being.
Theoretical framework

Family systems theory and Bronfenbrenner's ecological systems theory

To understand how different family arrangements and the surrounding society are linked together, and how they can affect children’s mental health, a theoretical framework is necessary. The individual (child) is linked to a family, which in turn is linked to a greater system of culture and society (Friedman, 1998).

Family systems theory enables a better understanding of the family inner dynamics and its impact on children’s mental health (Bowen, 1976; Minuchin, 1974). Yet, according to Bronfenbrenner’s ecological theory the family is not an isolated unit, but among others involved in a dynamic interaction with the surrounding society of school, neighborhood and community (Bronfenbrenner, 1974, 1979, 2005).

According to family systems theory individuals in a family are emotionally connected to each other, and affected of one another, in positive as well as negative ways (Bowen, 1976; Minuchin, 1974). The child and the family is irrespective affected by a parent’s possible alcohol abuse, illness or on the other hand their well-being. In case of family split up, all parts of the family system are immediately affected i.e. if one parent moves out, the child could possibly react with anger, anxiety, and guilt or sadness on the new family situation, and this in turn affect the other family members.

Family systems theory may be interpreted as, even though the family members no longer live at the same place, families in shared physical custody can be seen as a system (Minuchin, 1995, 1999a, 1999b). However, if the parents are stuck in cooperation problems, the system may become unbalanced for a shorter or longer period of time (Figure 2, model B) (Bowen, 1978; Minuchin, 1995, 1999b; Riley Sagar, 1997; Steinglass, 1987). Families with unsatisfying custody arrangement can be seen as stained in bad interactions i.e. unstable system (Figure 2, model B) (Amato, 2005; Amato & Gilbreth, 1999).

Conflicts concerning leaving and retrieving routines, economical concerns, or children’s housing issues may possibly create imbalance in the system. This may also occur when the number of family members decrease as well as increase, i.e. one parent moves out or new family members moves in (Mackay, 2005; Minuchin, 1995, 1999b). Previous studies on divorce show diverged results, therefore, it is still unclear how divorce may affect children’s mental health in short as well as long terms (Amato, 2000; Angarne-Lindberg & Wadsby, 2009; Bjarnason et al., 2010).
Families usually draw invisible boundaries between what is included in the family system and what is external to the particular system (Lundsbye, 2002; Schwartz, 1995). These boundaries influence the movement of people into and out of the system. Some families have very open boundaries, while others have tight restrictions of who may be brought in to the family system (Lundsbye, 2002; Schwartz, 1995). Families living in shared physical custody are forced to revise their rules and boundaries. Difficulties may arise with the new family arrangement, the children may have a hard time facing the home without one parent, and in some cases an entirely new family.

In Bronfenbrenner’s ecological systems theory the child and the family are located in an even broader perspective compared to the family systems theory. Bronfenbrenner’s ecological systems theory refers to the individual (the child) and their interaction to the family, environment and the surrounding social conditions (Bronfenbrenner, 1974, 1979, 2005). The child’s participation in relation to the environment is central (Midst, figure 3). The theory is based on the assumption that all humans constantly are under development, naturally active, that they create their own environment, and that they in addition need interaction with others to continue their own development (Bronfenbrenner, 1974, 1979, 2005).

The child’s relationship to family members (Central in Fig. 3) (child blue, parents orange), is located in the micro system, and look different in different family structures, i.e. for a child to live with one parent in two separate homes after a divorce, compared with the family arrangement pre divorce, when still living in one home together with both parents (Andersson, 1986; Bronfenbrenner, 1979; Kerr & Bowen, 1988). According to Klefbeck and Ogden (2003), the parents supportive attitude to each other, may possibly be as important for the child’s development, as the child’s continuing contact with both parents. However, the most important indicator of health and well-being in the family micro system, is the emotional climate i.e. regardless of in which home the child stay, parents ought to have a well functioning cooperation for the best of the child (Garbarino, 1999; Klefbeck & Ogden, 2003).
Figure 3. Four different levels are included, the micro system were relations closest to the child take place, the meso system were the child and family interact with the immediate environment, the exo system includes among all, socio economical standard in the society and at last the makro system with the ideology of the society, which in various ways affect and envelop each other (Bronfenbrenner, 1979, 2005).

At a transition from one micro system to another e.g. change of residence or school every other week, feelings of marginalization and vulnerability may arise in the child (Bronfenbrenner, 1979; Klefbeck & Ogden, 2003). Multiple micro systems interrelate with each other and develop into meso systems (Second circle Fig. 3). The meso system includes relations between two or more contexts (Andersson, 1986; Bronfenbrenner, 1979; Kerr & Bowen, 1988), i.e. between the family and school or communication between school and the child’s two homes (Bronfenbrenner, 1979; Klefbeck & Ogden, 2003).

In the exo system (third circle Fig. 3) the child has no direct role in determining the settings, thus, the settings have a direct influence on the child, for example school and neighbourhood standard. Shared physical custody may change the parents economy e.g. in form of smaller living area or reduced capital to spend on clothes and activities for the entire family. In turn, such change of living conditions may possibly lead to decreased child mental health (Andersson, 1986; Bronfenbrenner, 1979; Kerr & Bowen, 1988). In the macro system (Furthest circle Fig. 3) the ideology or culture in the society, influences the child directly as well as indirectly, vice versa the child or family influence on the society are less likely (Andersson, 1986; Bronfenbrenner, 1979; Kerr & Bowen, 1988).

Motive for the Thesis

The family context play a crucial role during the child’s upbringing compared to contexts further away from the child i.e. neighbourhood and society (Avison, Ali, & Walters, 2007; Levin & Currie, 2010; Mackay, 2005). Change of family arrangements may affect the family climate, which in turn may affect the entire family system (Bowen, 1976; Mackay, 2005; Minuchin, 1995; Steinglass, 1987). In spite of the fact that shared physical custody after a parental divorce has increased in Sweden for the last 20-years, there are still few studies on how children are affected by living in shared physical custody. According to previous studies, the burden on single parents (almost solely the mother) are huge, possibly due to that she solely carries the largest part of the family responsibility (Bjarnason, et al., 2010; Bull, 2009; Jablonska & Lindberg, 2007). Childhood family conditions differ widely between different parts of the world. Nevertheless, childhood family conditions seem to vary considerably in
the Swedish society today, and there is a large gap in our knowledge regarding different family arrangements and children’s mental health (Statistics Sweden, 2010, 2013).

AIM

To study children’s mental health with special focus on family arrangements.

I. To explore to which extent Swedish children’s perceptions of family, school and neighbourhood social capital may predict health complaints and well-being.

II. By individual interviews, describe parent’s perceptions of living in shared physical custody with their children.

III. To examine, if family structure predict children’s risk behaviours.

IV. To examine the associations between family structure and children’s health and well-being, and if any such associations were modified by parental communication.

METHODS

The thesis includes four separate studies, which are presented in an equal number of research articles. Study II were of qualitative nature, including individual interviews with an open ended question (Patton, 2002). Study I, III and IV were quantitative studies with cross-sectional design (Patton, 2002). Overview of all studies included, aim, participants, methods and analyses, can be found in Table 1.

Table 1. Studies Included.

<table>
<thead>
<tr>
<th>Aim</th>
<th>Participants</th>
<th>Method</th>
<th>Analysis</th>
</tr>
</thead>
</table>
**II.** Gain knowledge regarding the parents’ perceptions of living in shared physical custody with their children.

<table>
<thead>
<tr>
<th>Parents of children aged 11-15 years (n=28).</th>
<th>Qualitative interviews with open ended question. During February and March 2012.</th>
<th>Qualitative content analysis with an inductive approach.</th>
</tr>
</thead>
</table>

**III.** Does family structure predict risk behaviours (smoking, been drunk, sexual intercourse <15 years, conduct disorder) in Swedish school children?


**IV.** Examine the relation between different family structures and SHC, SWB and if such relation is modified by communication with parents.


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**The qualitative study**

**Study design**

In study II, a qualitative descriptive design was used to illustrate parent’s perceptions of living in shared physical custody, with their children.

**Procedure and data collection**

Potential participants were identified through the students records at five randomly selected grade 1-9 schools (pupils n=1570) in a county located in the northern part of Sweden. All parents of children with two home addresses received a written invitation to participate in the study. Four hundred and twenty-eight letters were sent out. The student records contain no information about the children’s living conditions, except that school announcements should be sent to both of the child’s parents. It is therefore possible that although both parents require information from school, their living arrangements do not qualify as shared physical custody, i.e. in the present thesis shared physical custody implies that the parents each lives with the child 50% of the time. Parents who agreed to participate were asked to sign a letter of consent and return to Å.C. These parents were then contacted, to arrange the location and time for the interview. All of the interviews except three (at home of the participants) were conducted in a meeting room at Å.C.s workplace.

Individual, narrative interviews were conducted. The participants were by one open question asked to describe their perception of shared physical custody. Attempts were made not to influence their answers, but rather to allow participants to talk freely about their perceptions (Patton, 2002). However, further questions were asked if clarification was needed. The interviews were tape recorded, and lasted 30-90 minutes (average 50 minutes).
Ethical considerations
Before the parents were included in the study they were given verbal as well as written information. They were also informed on the guaranteed confidentiality, their voluntary participation, and the right to discontinue the interview at any time (Polit & Beck, 2012). The participants signed an informed consent to participate in the study, and they agreed to have the interviews tape-recorded. In case of the participants felt a need for support due to the interview situation, information on how to make contact with Å.C. where provided.

Participants
The inclusion criterion for the study were that the participants should be a parent to a child/children aged between 11 and 15 years, with whom they were living in shared physical custody approximately every other week, and had done so for at least one year. The participating parent and the child should also live within the county and speak Swedish. Thirty-three individuals matched the criteria and agreed to participate. Five individuals subsequently declined participation because of time limitations or illness. In all, 28 interviews were conducted, 10 of the participants were men, and 18 were women.

Qualitative analysis
The recordings were listened at several times before transcribing them verbatim. Inductive latent content analysis was conducted (Patton, 2002). To grasp a sense of the whole, the entire text of the transcribed interviews was read through several times (Patton, 2002). The narratives from each interview were entered on a template, with the headings Id, meaning unit, condensed meaning unit, subtheme, and theme. The heading “Id” was used to enter an identity number for each interview (Graneheim & Lundman, 2004). Under the heading “meaning unit” were entered extracts of the text similar in content. These meaning units were refined under two columns headed “condensed meaning unit,” first to condense the extract to its most salient words and phrases, and next to abstract it with the aim of the study constantly in focus (Graneheim & Lundman, 2004). An example of the analysis process is presented in table 2.

<table>
<thead>
<tr>
<th>Id</th>
<th>Meaning unit</th>
<th>Condensed meaning unit</th>
<th>Condensed meaning unit</th>
<th>Subtheme</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Yeah, we have lived in shared physical custody, let’s see I’m trying to figure it out, ehh since 2005, when we separated, and in the beginning of course it was very hard, to realize that you somewhat couldn’t see your child every day, as you used to…</td>
<td>Description close to the text</td>
<td>Interpretation of the underlying meaning</td>
<td>Disappointment and hope in the new situation</td>
<td>Perceptions of living in shared physical custody</td>
</tr>
</tbody>
</table>

After this all authors discussed and reflected on the meaning units, the condensed meaning units, descriptions close to the text and interpretation of the underlying meaning in the narratives. The
meaning units then were abstracted and this resulted in agreement of how to label the codes (not shown). The underlying meaning revealed perceptions regarding the participants themselves, their children, and their former partner, which were grouped into subthemes, from which the theme then were further abstracted (Graneheim & Lundman, 2004).

**The quantitative studies**

**The Database**

Study I, III-IV employed data from the Swedish Health Behaviour in School-Aged Children (HBSC), which is performed every fourth year and has a cross-sectional design. The Swedish survey is a part of the international WHO project, in which 43 countries in Europe, North America, Israel and Armenia at present collaborate in. The research project started in the early eighties and Sweden have participated since the 1985/1986 data collection. Since 1993/1994, the Swedish National Board of Health and Welfare conduct the data collection. The study is addressed to schools in the entire country, headed for children in grade 5, 7 och 9 (11,13 and 15 years). The sampling procedure was carried out with a two-step cluster design. First, a randomized sample of schools was carried out for each grade. In the second step, one class per grade were selected for participation, all individuals in each sampled class were then invited to participate. The self completed questionnaires were administered in the classroom, and the children were informed that participation was voluntary and that the response would be treated anonymously. Children who were not present at the day of the survey, were not followed up.

**Measures**

**Variables (I)**

The first study (I) employed data from the 2001/2002 datacollection with 3926 children participating. The outcome variables of Subjective Health Complaints (SHC) and Subjective Well-being (SWB) were used. SHC were measured with HBSC Symptom Checklist (HBSC-SCL), consisting of eight sub queries. The children were asked how often the last six months they had suffered from headache, stomach ache, backache, felt low, difficulty sleeping, irritability or bad tempered, felt dizzy, or felt nervous.

Five response options with variation from almost every day (=4), too seldom or never (=0), were used. The scale were kept continuous and ranged from 0-32, with higher values indicating higher levels of SHC i.e. more complaints (Holstein et al., 2009; Ravens-Sieberer, et al., 2009). SWB was measured, using Cantrils ladder (Cantril, 1966), on which children rated their current life situation. SWB, cover the psychological and social parts of health and well-being (Currie, Nic G., et al., 2008; Danielson, 2006). On the ladder, 10 indicated the best possible life and 0 the worst possible life, with higher figures indicating increased well-being (Cantril, 1966).
Family social capital was measured with two items; “How easy is it for you to talk to mother/father, about things that rely bother you?” (very easy=4, easy =3, difficult=2, very difficult=1). The total score ranged from 2-8, with higher values indicating higher family social capital degrees (Cronbachs alpha: 0.65). The children's perceptions of school social capital were evaluated with the assumptions; “Our school is a nice place to be”, “I feel I belong at this school” and “I feel safe at this school”, with higher values indicating higher degrees of school social capital (Cronbachs alpha: 0.84). The children’s perceptions of social capital in the neighbourhood were quantified by summing the assumptions; “People say hallo” and often stop to talk to each other in the street”, “It is safe for younger children to play outside during the day”, “You can trust people around here” and “I could ask for help or for a favour from neighbours”, higher values indicating higher degrees of neighbourhood social capital (Cronbachs alpha: 0.71). In present thesis social capital is seen as the individuals participation in social networks and the norms of trust and mutuality that these interactions arise, for example supportive neighbors, safe school environments or well-working child-parent relations (Coleman, 1988).

In study I family structure were measured by a control variable; living with none/one parent (=1) or to live with cohabiting parent/parents (=0). The background variable of gender (boy=0, girl=1), and grade (5, 7, 9) were used. Residential area was measured with; rural areas=0, and urban areas, =1 (larger city, suburban of larger city, town or smaller community) =1.

**Variables (III)**
Study III-IV were based on 2005/2006 and 2009/2010 data collection. In studies III - IV a variable that further could reflect different family structures were conducted.

In study III the children were grouped in three different family subgroups: Living in a two parent family, living in shared physical custody and living in a single parent family. These categories were based on the answers to four questions; Which persons the children lives with, in the household where (s)he live most of the time or always (mother, father, other), If the child had another, (a second) home (yes, no), how frequent the child stayed in the second home (half the time, regularly but less than half the time, sometimes, and almost never), with whom the child lived in the second home (mother, father, other person). Living in a “two parent family” refers to children living with both parents in the same household. “Shared physical custody” refers to children who lived half the time with one parent and half time with the other parent in a second home, for example every second week. “Single parent family” refers to children living with one parent in a single household and those who stay with the non-resident parent regularly but, less than half time or lesser.

In study III 3699 15-year old (grade 9) children participated (n=1531 from 2005/2006 and n=2170 from 2009/2010). Three outcome variables measuring risk behaviour and one variable measuring conduct problems were used. Whether the 15-year-olds were a smoker (cigarettes, cigars, or pipe) was based
on the question: “How often do you smoke nowadays, more than a puff?” The participants were regarded as smokers if they responded smoking every day, at least once a week, or less than once a week (=1), and as no smoker if they were not smoking at all (=0). Been drunk; was based on the question: “Have you ever had so much alcohol that you became really drunk?” Responses were coded as never=0 and yes=1. Sexual debut was based on the question; “Have you ever had sex going all the way?” with response options no (=0) and yes (=1). Conduct problems were measured with a modified commonly used and validated instrument, the Strengths and Difficulties Questionnaire (Goodman, 1997). One of five subscales refers to conduct problems, including five items: “I get very angry and often lose my temper”, “I usually do as I am told”, “I fight a lot”, “I can make other people do what I want”, “I am often accused of lying or cheating”, “I take things that are not mine from school or elsewhere”. The response options (not true=3, somewhat true=2, certainly true=1), were compiled into a sum score, ranging from 5-15 (Goodman, 1997). The sum score was then dichotomized into no problems=0 and problems=1, with a cut off set at eight (Crone, Vogels, Hoekstra, Treffers, & Reijneveld, 2008; Goodman, 1997, 2000).

The background variable of gender (boy=0, girl=1), and grade nine were used (III). The family’s economical position was measured with the questions; does your mother/father have a job? (Yes=1 and No=0). Foreign background were measured by the question “Where were your parents born?”, and then dichotomized into both parents born in Sweden (=0) or at least one parent born outside Sweden (=1). Communication with parents; was in study III measured with the questions: “How easy is it for you to talk to mother/father, about things that really bother you?” The answers were the dichotomized into not difficult =0 (easy, very easy) and difficult=1 (hard, very hard) (Bjarnason, et al., 2010).

Variables (IV)
Also in study IV the children were grouped in three different family subgroups: Living in a two parent family, living in shared physical custody and living in a single parent family. These categories were based on the answers to four questions; Which persons the children lives with, in the household where (s)he live most of the time or always (mother, father, other), If the child had another, (a second) home (yes, no), how frequent the child stayed in the second home (half the time, regularly but less than half the time, sometimes, and almost never), with whom the child lived in the second home (mother, father, other person). Living in a “two parent family” refers to children living with both parents in the same household. “Shared physical custody” refers to children who lived half the time with one parent and half time with the other parent in a second home, for example every second week. “Single parent family” refers to children living with one parent in a single household and those who stay with the non-resident parent regularly but, less than half time or lesser. Children who indicated other living arrangements or answered inconsistently were excluded (n=362, 9.8%).
In study IV subjective health complaints (SHC) were measured with HBSC Symptom Checklist (HBSC-SCL) consisting of eight sub queries. The children were asked how often the last six months they had suffered from headache, stomachache, backache, difficulty sleeping, irritability or bad tempered, felt dizzy, felt low or felt nervous. Five response options with variation from almost every day (=4), too seldom or never (=0) were used. The instrument were categorized into multiple complaints=1 (Two or more symptoms several times a week, or daily) and none/one complaint =0 (Haugland & Wold, 2001; Ravens-Sieberer, et al., 2009; Torsheim, et al., 2006). Subjective well-being (SWB) was measured, using Cantrils ladder (Cantril, 1966), on which children rated their current life situation. On the ladder, 10 indicated the best possible life and 0 the worst possible life. The variable were dichotomized into low SWB (score 0-6)=1 and high SWB (score 7-10)=0 (Cantril, 1966; Proctor, et al., 2009). In study IV, 11294 children were included (n=3524, grade 5, n=3432, grade 7, n=3330 grade 9). An equal number of boys and girls participated in the study. Those children who chose not to participate were able to do something else, meanwhile.

The background variable of gender (boy=0, girl=1), grade (5, 7, 9), and year of cohort were used. Foreign background were measured by the question “Where were your parents born?” and then dichotomized into one or both parents born in Sweden (=0) or both parents born outside Sweden (=1) (Levin & Currie, 2010). The family’s economical position was measured with the questions, “does your mother/father have a job?” These questions were combined into “Parental employment” where yes=0, (both parents have work) and, no= 1, (at least one parent doesn’t have work) were the response options. Family economy were measured with the question “How well off is your family?”, the answers were dichotomized into satisfactory=0 (average, good, very good) and unsatisfactory=1 (poor, very poor).

Communication with parents; was in study IV a potentially modifying variable, and were measured with the questions: “How easy is it for you to talk to mother/father, about things that really bother you?” The answers were then dichotomized into no difficulties =0 (easy, very easy) and difficulties=1(hard, very hard) (Bjarnason, et al., 2010).

Statistical analyses
All statistical analyses were carried out in SPSS (Statistical Package for Social Sciences, version 15-18 (Pallant, 2007).

Multiple linear regression analyses with a stepwise method were used in study I. The outcome variables (SHC and SWB) were kept continuous in the linear regression of study I (Hair, Black, Babin, Anderson, &
Background variables and determinants were divided into different blocks, and then stepwise added to the model in four blocks (Polit & Beck, 2012). In the first step all background variables were entered in the model (gender, grade, family structure and residential area), in the second step the family social capital were included (Bronfenbrenner & Ceci, 1994). In step three the school social capital were included and in the fourth and last step the neighbourhood social capital were included. This model was chosen to illustrate the possible influence of the three different contexts on children’s health and well-being.

In study III multivariate logistic regression analyzes were carried out for all dependent variables (being a smoker, been drunk, sex <15, conduct problems). To enable multivariate logistic regression analyzes in study III, the outcome variables were binary categorized (being a smoker- no smoker, been drunk – not been drunk, sex<15-no sex <15, conduct problems –no conduct problems). In study IV logistic regression analyses were also made on the two outcome variables (SHC and SWB), the variables were categorized as single or multiple subjective health complaints and high or low subjective well-being, i.e. binary. In study III and IV also the independent variables were binary divided (Hair, et al., 2006; Polit & Beck, 2012).

**Ethical Considerations**

All studies included were conducted in agreement with existing laws (Polit & Beck, 2012) and regulations (Polit & Beck, 2012; SFS, 2010) covering ethical principles (Vetenskapsrådet, 2009). Study I: The local Research Ethics Committee of the Mid Sweden University reviewed the study and raised no objections from an ethical point of view (MIUN 2011/498). Study II: The regional Research Ethics Committee of Umeå reviewed and found no reason to objection (2011-425-31Ö). Study III, IV: The local Research Ethics Committee of the Mid Sweden University reviewed the study and raised no objections from an ethical point of view (MIUN 2009: 71273). For study I, III and IV the Swedish National Institute of Public Health (SNIPH) approved access to certain parts of The Swedish Health Behavior in School-aged Children (HBSC) material. Several of the questions may be considered as
sensitive (Polit & Beck, 2012), however, as it is only anonymous register data in the material, they are not considered as personal data. According to the Swedish National Institute of Public Health who is responsible for the data collection, the participating children got written as well as oral information, regarding voluntary and anonymous participation. The Swedish National Institute of Public Health recommended school principals to collect informed consent from the parents of participating children i.e. parents who did not want their children to participate where asked to send back a written refusal. As mentioned above, the regional ethical committee of Umeå didn’t find study II covered by laws covering ethical issues. According to existing ethical principles the participants were as well oral as written informed regarding study aim, confidentiality and voluntariness.

**Author Contribution**

Å.C. is the first author of study II-IV, and in study I contributed with comments on the study design, and participated in discussions regarding the analysis and interpretation of data. Further, Å.C. contributed to the drafting of the manuscript and thereby supplied constructive criticism. As a co-author Å.C., in accordance with “Uniform Requirements for Manuscripts Submitted to Biomedical journals: writing and editing for biomedical publication”, approved the final version of the manuscript.

**RESULTS**

**Study I: Health outcomes among Swedish children: The role of social capital in the family, school, and neighbourhood**

The results showed that lower levels of SHC and higher levels of SWB were associated with higher degrees of social capital in the family, school, and neighbourhood. The variables (gender, grade, family structure, and residential area) were included in the first step, showing that children living with one/neither parent reported higher levels of SHC and lower levels of SWB compared to children living with cohabiting parents. In step two, the variable of family social capital was entered, showing that lower levels of SHC and higher levels of SWB were associated with higher degrees of family social capital. The school social capital variable was entered in step three, lower levels of SHC and higher levels of SWB were associated with higher degrees of school social capital. In the fourth and final step, the variable of neighbourhood social capital was entered. As in the two previous steps, lower levels of SHC and higher levels of SWB were associated with higher degrees of neighbourhood social capital. Furthermore, the analyses showed that social capital in the family, school, and neighbourhood had a cumulative influence on children’s SHC and SWB.
Study II: New family arrangements: Parents’ perceptions of living in shared physical custody with their children

A qualitative analysis of interviews with parents who lived in shared custody with their 11- to 15-year-old children revealed that, the parents remembered their own perceptions as well as perceptions regarding their children and their former partner. The analysis also illustrated that the parents’ perceptions changed from the beginning of shared physical custody, through the current situation, ending with perceptions of the future. The results are presented in four sub-themes and one theme.

The theme “Parents’ perceptions of living in shared physical custody” was formulated in the analysis process. During the content analysis, four sub-themes were identified: “Disappointment and hope in the new situation”, “Self-accusation and emotional concerns of the children”, “Encouraging and appreciating each other”, and “Avoiding unsolvable conflicts”.

Disappointment and hope in the new situation

The first period of shared physical custody was expressed as a shock, including tumultuous feelings of sadness, disappointment, bodily pain, and lack of control. The parents indicated grief over losing parts of their children’s everyday lives. The parents also felt they were shirking their responsibility even though the children were being cared for by the other parent. Furthermore, the parents commonly described feelings of betraying their children.

I was scared to death in the beginning because I thought I would die if I couldn’t see them every week. (Id 5)

… the most important part of his life – one of the most important – that his life has been so divided, will it affect him? Maybe (sigh) that’s what you are worried about, of course! Have I done this to him? If his life goes to hell, I will never forgive myself. (Id 1)

Feelings of constant cravings to have their children nearby and difficulty relaxing and enjoying life were revealed. Parents valued the time spent with their children even more than before the divorce. Those who found it difficult to cope without their children were forced to find a way to handle the situation. They had to find new ways to stay active with friends, a new partner, or by working extra hours. Some parents indicated anger and bitterness over how the situation of shared physical custody had been solved.

If the kids want to know, I just tell them, ‘Ask Daddy, because he was the one who wanted to divorce’. (Id 8)

Although most parents had been divorced for a couple of years, the nuclear family was described as the ideal family. However, under the circumstances, the participants described satisfaction with the solution of shared physical custody and spoke warmly about childhood closeness, safety, and the child’s trust in both parents.
I try to make the best out of a situation that’s not quite satisfying. It’s not like you walk around and advise others to move apart. Sometimes it feels (…) weird, especially when you have no plans for your spare time. (Id 12)

**Self-accusation and emotional concerns of the children**

At the beginning of shared physical custody, the children’s desire to be close to the absent parent was described as very challenging. The actual moves between parents, the packing and unpacking, were presented as painful for the children, even though the distance between the two homes was not geographically far. Most parents accused themselves of exposing their children to this situation.

She told me she felt like a ‘thing’ being moved around, although the distance was not so far in our case. But she felt bad about it, in the beginning anyway. (Id 25)

In general, the parents perceived their children as satisfied with the arrangement of shared physical custody. They illustrated that the children quickly grew accustomed to the new situation and rarely made any complaints. As the children grew older, they appeared to be considerably less affected by the actual move between parents compared with the beginning of shared physical custody.

They are rather grown up now…. And now they think it’s all right. Sometimes they think it’s a bore to pack and unpack their bags, and that it’s hard to keep track of their stuff. (Id 8)

**To encourage and appreciate each other**

At first, shared physical custody was described as unstable and painful in the relationship with the former partner. Every discussion was emotional and was complicated by sorrow, disagreements, economic problems, or unsolved conflicts. Communication, flexibility, and mutual support were the most prominent elements of a satisfying situation. Parents with a satisfying relationship with their former partner described receiving a great deal of support and encouragement from the former partner in raising the children.

Like regular parents who can talk to each other at the dinner table, you need to call the other parent and check things out. Do you know where they are? Yes, check it out. (Id 12)

The parent role is forever, and you will have to maintain it your entire life. You still must be able to communicate and have a relationship, but on a different level. (Id 3)

**To avoid unsolvable conflicts**

Some participants described how they were stuck in unsolvable conflicts with their former partners, mainly because of money issues, leaving and retrieving routines, or the allocation of holidays. Some of the parents chose to obtain help from society (municipal family counselling or family court) to handle the emotional, economic, and practical aspects of the new situation.

…kind of too much, too uncomfortable, then. Then I thought it was a proper way to deal with it, to contact the family counselling then. Because the children get hurt in conflicts like this. (Id 10)
Participants with established contact with municipal family counselling or family court expressed satisfaction, the involvement of a third part made the discussion more organised and structured as well as less emotional.

**Study III: Risk behaviours in Swedish adolescents: Is shared physical custody after divorce a risk or a protective factor?**

The results showed that adolescents living in shared physical custody had increased odds of risk behaviours compared to their counterparts in two-parent families. Furthermore, the 15-year-olds living in single-parent families had significantly higher odds of risk behaviours compared to those living in two-parent families.

Table 3 displays the increased odds of being a smoker among 15-year-olds living in shared physical custody and those living in single-parent families compared with those living in two-parent families. Fifteen-year-olds living in shared physical custody and those in single-parent families showed increased odds of having been drunk compared to their counterparts in two-parent families. When controlling for sexual debut before the age of 15, the odds for 15-year-olds living in shared physical custody were not significantly higher than for those living in two-parent families. However, 15-year-olds living in single-parent families were nearly twice as likely to have had their sexual debut before the age of 15 compared to those living in two-parent families. The variable of conduct problems showed that 15-year-olds living in shared physical custody had no significant difference in odds for conduct problems compared to those living in two-parent families. In contrast, 15-year-olds living in single-parent families had higher odds of conduct problems in comparison with those living in two-parent families.

**Table 3.** Illustration of family structures association to risk behaviors and conduct problems. Models adjusted for socio-economy, gender, grade and parental communication, adapted from study III.

<table>
<thead>
<tr>
<th>Family structure</th>
<th>Being a smoker (95% CI)</th>
<th>Been drunk (95% CI)</th>
<th>Sex &lt;15 (95% CI)</th>
<th>Conduct problems (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two parent</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Single parent</td>
<td>1.80** (1.40-2.32)</td>
<td>1.79** (1.47-2.19)</td>
<td>1.89*** (1.54-2.32)</td>
<td>1.33* (1.04-1.72)</td>
</tr>
<tr>
<td>Shared custody</td>
<td>1.60*** (1.13-2.27)</td>
<td>1.50** (1.15-1.96)</td>
<td>1.23 ns (0.92-1.63)</td>
<td>1.06 ns (0.74-1.52)</td>
</tr>
</tbody>
</table>

**Study IV: Shared physical custody after family split up: implications for health and well-being in Swedish schoolchildren**

Table 4 illustrates the odds ratio of reporting multiple SHC and low SHC. Children living in shared physical custody with their parents were more likely than children living in two-parent families to
report multiple SHC and low SWB. Children in single-parent families reported increased odds of multiple SHC and low SWB compared with children in two-parent families. When socio-economic variables were entered (not shown in table), the odds of multiple SHC and low SWB did not change for children living in shared physical custody. In addition, for children living in single-parent families, the odds decreased slightly for multiple SHC and substantially for low SWB compared to children living in two-parent families. The variable of communication was entered to examine whether the variable moderated the SHC and SWB of the children. The influence was minor in all examined groups except one: good father-child communication reported by children in single-parent families seemed to lower the risks of reporting low SWB.

**Table 4.** Illustration of family structures association to multiple SHC and low SWB. Models adjusted for socio-economy, gender, grade and parental communication, adapted from study IV.

<table>
<thead>
<tr>
<th>Family structure</th>
<th>Multiple SHC (95% CI)</th>
<th>Low SWB (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two parent</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Single parent</td>
<td>1.42** (1.24-1.62)</td>
<td>1.68*** (1.42-2.10)</td>
</tr>
<tr>
<td>Shared custody</td>
<td>1.23* (1.04-1.46)</td>
<td>1.70*** (1.36-2.13)</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The main aim of this thesis was to study the influence of different contexts on children’s mental health, with a special focus on family arrangements. To clarify the dimensions of the aim, both qualitative and quantitative methods were used. In the discussions first part, the results will be considered, followed by methodological considerations and implications for further research.

**Discussion of the results**

A modern family structure can vary considerably. In Sweden, the most common family structure consists of one or several children and two parents (Statistics Sweden, 2009, 2010). Within the family, the emotional climate previously has shown major impact on family health outcomes (Ackard, et al., 2006; Bremberg, et al., 2006; Fomby & Cherlin, 2007). In study I, the family climate was operationalised as family social capital. Coleman’s concept of social capital was used, although it has been severely
criticised (Morrow, 1999, 2002). Despite these criticisms, Coleman’s concept also has benefits, such as the multi-dimensional perspective on family, school, and society, which are closely related to the contexts in studies I-IV (Dufur, Parcel, & McKune, 2008; McKenzie & Harpman, 2006; Parcel, Dufur, & Cornell Zito, 2010). Not surprisingly, social capital in the family explained most of the variation in SHC and SWB. Children’s perceptions of social capital in school explained an additional part of the variation in the outcome variables (I). Neighbourhood social capital explained a modest part of the variation in SHC and SWB (I). In line with previous results our results indicate that family, school, and neighbourhood social capital were associated with SHC and SWB and that the explained variance in SHC and SWB was accumulated as each context was added (I) (De Clercq et al., 2012; Dufur, et al., 2008; Elgar et al., 2011).

Although, a family with two parents living in the same location is most common in our society, in the last decades, divorce has become increasingly common (Kelly, 2006; Kelly & Emery, 2003; Rousit, et al., 2007). The increased number of divorces results in an increased number of children living with divorced parents (Statistics Sweden, 2010, 2012, 2013). Previous studies on families and divorce have shown that children benefit from regular contact with both parents (Bastaits, et al., 2012; Breivik & Olweus, 2006; Brolin- Låftman, 2009). Similarly, the theory of family systems and Bronfenbrenner’s ecological systems theory assert that mothers and fathers play vital roles in their children’s social, emotional, physical, and economical development (Amato, 2001; Amato, et al., 2011; Amato & Meyers, 2009). In studies III and IV, approximately 30% of the children reported living in some type of reconstructed family, this finding is in line with recent statistics (Statistics Sweden, 2010, 2013). Lost or impaired contact with a parent due to a divorce has been suggested as one of several possible explanations for decreased mental health in children (Amato, 2000, 2001, 2005; Bastaits, et al., 2012). The effect of different family arrangements on children’s outcomes cannot be separated from the effects of divorce and possible family conflicts related to divorce (III, IV).

In previous studies, closeness and stimulating relationships with both parents have been related to improved mental health in children. In Sweden, the family arrangement of shared physical custody has emerged as a way for children to maintain close relations with both parents (Ministry of Justice, 2010; Statistics Sweden, 2009, 2012). Studies III and IV examine whether there is an elevated risk for children living in shared physical custody to experience negative health outcomes. In studies III and IV, children living in shared physical custody showed slightly decreased mental health (SHC, SWB, and risk behaviours) compared with children living in two-parent families. In contrast, Amato’s results showed that children who in some way continued to have close relationships with both parents were less likely to experience a wide range of cognitive, emotional, and social problems, not only throughout childhood but also in adulthood (Amato, 2000, 2005; Amato, et al., 2011; Amato & Meyers,
Interpreting our results using family systems theory indicates that living in shared physical custody disrupts the conditions of family collaboration for shorter or longer periods of time. How the family addresses these types of changes has been found to be a key element in children’s mental health. In fact, families living in shared physical custody are forced to redefine their original system as well as their day-to-day functions. Thus, it is plausible that children may reflect such transitions in their self-reported health (i.e., decreased health compared with children living in two-parent families). It can be assumed that these circumstances may be associated with parents’ perceptions of their children’s health.

The parents described the initial period of shared physical custody as extremely challenging, and they confirmed the importance of continuously building stable family relations after a divorce. At first, shared physical custody implied a family imbalance in a number of aspects (Amato, 2005; Amato, et al., 2011; Amato & Meyers, 2009), the entire family situation was described as turned inside out (II). However, family communication was described as essential. Straightforward family communication made it easier to prevent misunderstandings and family conflicts. Family systems theory suggests that high-quality communication and avoidance of arguing help to stabilise the family system, allowing the family to more easily adapt to the new living situation of shared physical custody. In line with Stafford-Markham, Eyman, and Coleman, our results (II) showed that unresolved conflicts and communication problems complicated family relationships; children suffered from unnecessary parental quarrels and communication problems.

Our findings on parent-child communication (IV) showed no differences between children living in shared physical custody and their counterparts in two-parent families. Previous studies assert that it is possible for parents living in shared physical custody to sustain close relationships with their children (Barrett & Turner, 2005; Bastait, et al., 2012; Bauserman, 2002). First, parents live half of the time with their children and share family life and day-to-day experiences (Bastait, et al., 2012; Bauserman, 2002; Sobolewski & King, 2005). Second, despite living in their second home, parents can support their children in sporting events, leisure activities, or homework (Ahrons, 2006; Kelly & Emery, 2003; Sobolewski & King, 2005). These findings are worth consideration because the results of study II showed that in some families, the parents were very rigid about dividing time spent with their child/ren. In conclusion, the results of our studies and other previous studies confirm the importance of continuing to see the family as an entire system even though all members are not located in the same household (Bastait, et al., 2012; Minuchin, 1974, 1999b).

In line with our findings (II), previous studies have found co-parenting problems, such as leaving and retrieving routines, allocation of holidays, or economic issues, to be the most common areas of disagreement (Goodman, Bonds, Sandler, & Braver, 2004; Owen & Rhoades, 2012). A number of
parents described being enmeshed in unresolvable conflicts (II). In some cases, disagreements between the parents were impossible to solve without external help, which the parents received from municipal family counselling or family court. Disagreements and other areas of conflict were interpreted in study II as underlying feelings of shame and guilt and as feelings of self-accusation and disappointment in the current situation. Unresolved parental conflicts may be reflected in the mental health of children living in shared physical custody.

Children’s mental health and risk behaviours are closely related, according to previous studies (Avery & Lazdane, 2010; Boden, Fergusson, & Horwood, 2010; Colman, et al., 2009; Strandheim, et al., 2009). The results of study III showed that 15-year-old boys and girls living in shared physical custody were more at risk of being smokers or having been drunk compared with children living in two-parent families. The results of sex <15 years and conduct problems showed that the risks of children living in shared physical custody did not differ significantly compared with 15-year-olds living in two-parent families. Our results correspond with the only other available study on the relationship between family arrangements and risk behaviour: Jablonska found a somewhat increased risk of unhealthy lifestyles in children living in shared physical custody (Jablonska & Lindberg, 2007). However, the interpretation of these findings requires considerable caution. An additional consideration is that previous studies have found that the establishment of risk behaviours, such as smoking, extensive alcohol consumption, and unsafe sexual activity, has a tendency to cluster in adolescence (Connell, Gilreath, & Hansen, 2009; Hurrelmann & Richter, 2006; van Nieuwenhuijzen et al., 2009) and is related to increased long-term risks (Andersen, Holstein, & Due, 2006, 2008; Madkour, Farhat, Halpern, Godeau, & Nic Gabhainn, 2010; Paul, Blizzard, Patton, Dwyer, & Venn, 2008). Thus, according to Bronfenbrenner’s ecological systems theory, these risk behaviours may also be associated with the surrounding society (Bronfenbrenner, 1974, 1979, 2005). Bronfenbrenner suggested that processes operating in these different settings were interdependent, for example, events at home (i.e., the actual move between two homes) may affect a child’s progress in school and vice versa. Another issue is that contexts outside the family become increasingly important as the child ages, which may be interpreted to mean that segregated neighbourhoods increase the odds of establishing early risk behaviours (Bronfenbrenner, 2005).

In spite of the shared custody family results, our studies also revealed results on other family arrangements. Our results on children living in single-parent families confirmed what we know from prior studies. First, children living in single-parent families showed greater odds of risk behaviours and conduct problems compared to children living in two-parent families (Amato & Meyers, 2009; Bellis et al., 2009; Heard, 2007; Spencer, 2005). Second, in studies I and IV, children living in single-parent families reported low SWB and multiple SHC to a considerably higher degree than children in
two-parent families (Bull, 2009; Currie, et al., 2012; K. Levin, Van der Sluijs, Todd, & Currie, 2009). Based on family systems theory and Bronfenbrenner’s ecological systems theory, a family consisting of a sole parent is unstable until new and functional rules and boundaries have been made. The area of single parenting has previously been extensively studied (Ackard, et al., 2006; Schulte & Petermann, 2011; Stafford-Markham & Coleman, 2012). Nevertheless, prior studies on children’s mental health when living with a single parent have shown very divergent results (Dunlop, et al., 2001; Sobolewski & King, 2005; Stafford-Markham & Coleman, 2012) depending on which variables were included and how they were measured. In the last decades, Amato has attempted to demonstrate that close relationships with both parents are beneficial for children regardless of whether the parents live together or not (Amato & Fowler, 2002; Amato, et al., 2011; Amato & Meyers, 2009).

In sum, our overall results on the phenomenon of shared physical custody showed that lower levels of SHC and higher levels of SWB were associated with higher degrees of social capital in the family, school, and neighbourhood. Children living in shared physical custody with their parents were slightly more likely than children in two-parent families to report multiple SHC and low SWB. The variable of communication did not moderate the SHC and SWB of children living in shared physical custody. Fifteen-year-old boys and girls living in shared physical custody were more at risk of being smokers or having been drunk compared with children living in two-parent families. The individual interviews with parents revealed the parents’ perceptions regarding their children and former partners. The parents’ perceptions changed from the beginning of shared physical custody and through the current situation, ending with perceptions of the future.

**Methodological considerations**

In each scientific study there are as well positive as negative aspects of that should be considered in the interpretation and further use of the results. In this thesis, both qualitative and quantitative methods were used, which means that the phenomenon of shared physical custody was examined from different approaches.

**The qualitative study**

The main methodological strength in the qualitative study was the in-depth knowledge that the parents presented in their narratives. The qualitative study was conducted in an interactive process between the interviewer and the participating parent (Benzein, Hagberg, & Saveman, 2012; Benzein & Saveman, 2008; Bronfenbrenner, 2005). As shown in the results of study II, the interviews provided important knowledge about the diverse dimensions of the phenomenon of shared physical custody.

In order to include a broad range of participants, parents of different gender, ethnicities, socioeconomic background, and experiences were required to participate in study II. According to
Polit and Beck (2012), incorporating different types of participants increases the chance of shedding light on the research question from a variety of perspectives.

The participants were self-selected into the study by responding directly to Å.C. when receiving the invitation letter. Those who chose to participate, may well have been those most influenced, negatively or positively, by their experience of shared physical custody, and therefore with the most committed interest in, and opinions about the topic. Although this may be the case, the strong and reflective narratives revealed valuable, rare, and important information about parents’ experiences of shared physical custody.

It is possible that families who function better prior to the divorce are more likely to have shared custody than highly conflicted families; to our knowledge no such associations have been shown. It is possible that some participants were former partners, but we had no access to that information. If that were the case, some participants might have been unwilling to open up entirely because of a fear that their information would not be treated confidentially. In an effort to avoid this possibility, the participants were thoroughly informed about the confidentiality guarantee, voluntary participation, and their right to discontinue at any time.

The quantitative studies
The quantitative studies provided results from a large randomised sample that is generalisable to Swedish children’s conditions. The survey is well established, and has during the years showed high response rates. The sampling procedure was carried out with a two-step cluster design. Despite these strengths some methodological considerations have to be attended to. The cross-sectional design implies that reversed causality cannot be ruled out; that is, children with decreased mental health outcomes may increase the likelihood of their parents’ marital breakdown and subsequent change in family arrangements. However, the existing literature does not support such an interpretation (Kelly, 2006; Kelly & Emery, 2003).

It is possible that the children who did not attend school on the day of survey were those who may have reported increased risk behaviours and decreased mental health to a higher degree than other children. If these children lived in reconstructed families, our results would be underestimated.

The truthfulness of the children’s responses to the survey questions can be disputed. If the children chose to answer in a socially acceptable way, the health outcomes and risks may be underestimated. If children living in shared physical custody or single-parent families underreported to a higher degree than their counterparts in two-parent families, this situation may create a systematic error. We have no reason to believe that any of the groups underreported more than the others, on the contrary,
previous studies on children’s self-reports show high reliability and validity (Lintonen, Ahlstrom, & Metso, 2004).

The questionnaire was developed nationally as well as internationally over a number of years, which can be seen as positive for studies I, III, and IV. The questionnaire is still being continuously developed and has shown high reliability and validity over the years (Ravens-Sieberer et al., 2008; Ravens-Sieberer, et al., 2009; Torsheim, et al., 2006). Certain methodological aspects of the included variables should be addressed. An important indicator of health is the self-rated health measurement, which has been found to be a reliable indicator of children’s health and well being (Danielson, 2006; Scheidt, Overpeck, Wyatt, & Azmann, 2000) and has been shown in previous studies to have high reliability and validity (Hagquist & Andrich, 2004; Ravens-Sieberer, et al., 2008; Roberts et al., 2007).

In study I, the variable of family structure was dichotomous and was measured as a background variable (i.e., cohabiting or neither/lone parent). Because the family context emerged as the most important factor for the social support of children’s mental health, it would be interesting to examine how different family structures might be associated with children’s mental health outcomes. The Swedish Health Behaviour in School-aged Children (HBSC) survey has measured questions on family structure in the same way for the last three surveys. Children were asked how often they lived in each home (half the time, regularly but less than half the time, or sometimes/almost never). Our intention was to identify the specific group of children who divided their time equally between their father and mother. This means that there is a possibility that children who rate themselves as living “regularly but less than half the time” live almost half time in each home. Nevertheless, there is a possibility that children in this group stay at one home only every other weekend, which is far less than half time with each parent. In conclusion, there is a possibility that the children’s answers in this group might be underestimated, which may cause a biased result.

The instrument measuring SHC has been shown in earlier studies to have satisfactory reliability and validity (Haugland & Wold, 2001). The instrument was used in studies I and IV to measure subjective health complaints (Haugland & Wold, 2001; Ravens-Sieberer, et al., 2008; Ravens-Sieberer, et al., 2009). According to earlier studies, SHC reflects psychological as well as physical areas of health (Haugland & Wold, 2001; Haugland, Wold, Stevenson, Aaroe, & Woynarowska, 2001). Subjective well-being was measured with the widely used and well-validated ladder of Cantril (I, IV) (Cantril, 1966; Muldon, Levin, van der Sluijs, & Currie, 2010; Ravens-Sieberer, et al., 2009).

Three variables measuring risk behaviour and one variable measuring conduct problems were used in study III: whether the 15-year-olds were smokers, had been drunk, had sex <15 years, or had conduct problems (Goodman, 1997). In the four models of study IV, between 62% and 85% were correctly
classified. Because studies I, III, and IV were cluster sampled, it is possible that the individuals in the cluster (i.e., the school classes) were interconnected with each other.

Some specific issues require further examination. First, the variable of communication with parents (I, III, IV) has in several different approaches been used in HBSC studies for many years in Europe as well as North America (Currie, Molcho, et al., 2008; Currie, et al., 2012; Levin & Currie, 2010). Second, the survey question on geographical context has been slightly changed over the years; thus, the categorisation remains broad and, to some extent, imprecise. Perceptions of geographical context (I) may differ from person to person, which, in turn, may lead to misclassification and measurement errors for the variable. The foreign background question was also changed from 2005/06 to 2009/10. However, this cannot be seen as affecting our results because we consider the variable dichotomous, therefore, it cannot be seen as broad and imprecise. If family difficulties (for instance, parental conflicts) and involvement with friends who engage in reckless activities were considered, the regression models might have explained substantially more of the variance in risk behaviours. No information was however provided on those issues.

Additional information on family, peer, neighbourhood, and cultural contexts would increase our understanding of which children are most at risk. To avoid the onset of post-divorce crisis and conflicts in the family, one year was set as the inclusion criterion for the participants in study II. Unfortunately, this variable was not included in the Swedish Health Behaviour in School-aged Children (HBSC) survey. Therefore, it is possible that the children included in studies I, II, or IV may have been in the midst of a divorce. No information was provided on this issue.

**Conclusion**

Overall, children living in shared physical custody were slightly more at risk of negative health outcomes compared with children living in two parent families. The fifteen year old adolescents living in shared physical custody reported being a smoker or having been drunk to a slightly higher degree in comparison with their counterparts living in two parent families. The results of sex <15 years and conduct problems showed that the risks didn’t differ significantly between these two groups.

Our results showed that lower levels of SHC and higher levels of SWB were associated with higher degrees of social capital, particularly in the family. Social capital in family, school and neighbourhood each had a cumulative influence on children’s SHC and SWB.

Children living in shared physical custody with their parents were more likely than children living in two parent families to report multiple SHC, and low SWB. The variable of communication did not moderate the SHC and SWB of the children, except in one group; a good father-child communication
reported from children living in single parent families. Thus, children living in single parent families reported decreased mental health on all studied outcomes.

The participating parents illustrated the first period of shared physical custody as challenging, the current situation as more stable and predictable, and after some time they described their children as considerably less affected of the shared custody arrangement compared with the first period.

**Implications for further studies**

This thesis contributes new and deeper understanding of a relatively new phenomenon: shared physical custody and its associations with children’s mental health. The parent’s perceptions were an important complement to the children’s self reported health. In order to influence the decreasing mental health among children and adolescents, their opinions contributes to further understanding. Narratives from children, parents, and practitioners would be helpful when studying the association between children’s health outcomes and different family arrangements. Further studies are needed to clarify how children’s mental health and different family arrangements are related to school, neighbourhood, and society. School intervention programmes with family health care as a working tool may catch the initial concerns of families living in shared physical custody. Additional studies are needed to advance knowledge of shared physical custody, including the examination of the impact of shared physical custody on different family members. We have found no recent intervention studies focused on families living in shared physical custody. The implementation and evaluation of intervention studies would also increase our understanding in this area. Qualitative longitudinal studies on shared physical custody should be undertaken among children as well as their parents.
ACKNOWLEDGEMENTS

First of all, I want to thank the children who during the years have participated in the HBSC survey and then the participating parents for charring their valuable time and experiences, without you this thesis would be nothing! I would also like to say thank you to all children that I now and also those I don’t know, you are the inspiration and for sure the joy of life!

I would like to express my deep gratitude to my main supervisor Eva Sellström and my assistant supervisor Kenneth Asplund, for their patient guidance, encouragement and useful critiques of this research work.

I would like to express my very great appreciation to Ulrika Eriksson, my co writer, best supervisor ever, psychologist and a precious friend. For real, I had not made it without you!

Thanks also to Katja Gillander Gådin for valuable opinions during my process with present thesis, Marianne Svedlund who encouraged me in further studies, in the first place!

I am thankful to my colleagues and friends who supported me in many different ways. First, doctoral colleagues, thank you for interesting and inspiring discussions during the doctoral seminars. Second, my colleagues at the department of nursing, thank you for your encouragement and friendship. I would specifically like to thank: Lena, for your reliable shoulder, your nice hugs and for your humour. Linda, for fun trips, great laughs and my guardswomen in the English language. Kerstin, for being so supportive when I most needed it. Emma and Maria, for support, and for reading earlier drafts of my work. Last but not least Stefan, my own technical support guy! I am also very grateful to Christina at the copy central in Sundsvall, for your professional and valuable help during the last days of my research process.

And then, a special thank you to some special friends of mine. Just the thought of you makes me inspired and full of energy. A lot of hugs to all of you! Carina, Johanna, Nicke, Ebba, Axel, Ulrika and Chrille, Sara S, and Ulrika D.

I am grateful to my siblings, (Susanne and Ninni for all the crazy phone calls), nieces and nephews, my father, Kristina and Lasse for the support and interest in my doctoral work. I would also like to send love and precious thoughts to my mother, my Emma and little Kerstin in heaven. “Love never, ever dies”

Finally, I am forever grateful, speechless (read not common) and full of love for my husband Gustav and our children Hampus and Matilda, thank you for your understanding, endless patience and encouragement when it was most required. I love you from the bottom of my heart! <3
REFERENCES


